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Statistical manual for the use of institutions for the insane

American
Psychiatric
Association, ...

James S. Davenport
112
American psychiatric association

STATISTICAL MANUAL

FOR THE USE OF
INSTITUTIONS FOR THE INSANE

616.52
A 512

PREPARED BY THE
COMMITTEE ON STATISTICS
OF THE
AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION
IN COLLABORATION WITH THE
BUREAU OF STATISTICS
OF THE
NATIONAL COMMITTEE FOR MENTAL HYGIENE
50 UNION SQUARE, NEW YORK CITY

NEW YORK

1918



✓ 616.85
A512.

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7-6-1934

FOREWORD

The American Medico-Psychological Association at its meeting held in New York, in May 1917, adopted the report of its Committee on Statistics which provided for a system of uniform statistics in institutions for mental diseases, and appointed a standing Committee on Statistics to promote the introduction of the system throughout the country. This committee met in New York City on February 7, 1918, and in cooperation with the National Committee for Mental Hygiene outlined a plan of procedure.

The National Committee has established a Bureau of Uniform Statistics and has received a special gift to defray the initial expenses of the work of collecting statistics from institutions for the insane. As close relationships have always existed between the American Medico-Psychological Association and the National Committee, it was thought wise for the Committee on Statistics to become an advisory committee to the Bureau of Uniform Statistics of the National Committee and to have the work of introducing the new system and of collecting statistics from the institutions carried out by the Bureau.

In accordance with this arrangement the Bureau, with the assistance of the Committee on Statistics of the American Medico-Psychological Association, has prepared this manual to assist the institutions in compiling their annual statistics and has printed a series of forms to be used in preparing statistical reports. The manual and duplicate forms will be furnished free to all cooperating institutions, and it is earnestly hoped that they will be generally adopted, so that a national system of statistics of mental diseases may become an actuality.

It is recommended that the standardized tables be used in the annual reports of the institutions so far as possible and that a duplicate copy of the tables be sent to the Bureau of Uniform Statistics of the National Committee for Mental Hygiene as soon as possible after the end of the fiscal year of the institution.

ALBERT M. BARRETT, *Chairman*

E. STANLEY ABBOT

OWEN COPP

GEORGE H. KIRBY

JAMES V. MAY

FRANKWOOD E. WILLIAMS

*Committee on Statistics, American
Medico-Psychological Association*

THOMAS W. SALMON

*Medical Director, National Com-
mittee for Mental Hygiene*

EDITH M. FURBUSH, *Statistician,*

HORATIO M. POLLOCK,

*Consulting Statistician,
Bureau of Statistics, National Com-
mittee for Mental Hygiene*

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STATISTICAL MANUAL FOR THE USE OF INSTITUTIONS FOR THE INSANE

SUGGESTIONS FOR THE PREPARATION OF STATISTICS IN A STATE HOSPITAL FOR THE INSANE

Statistics of mental disease, to be trustworthy, must be based on accurate original data. If the facts first ascertained concerning the patients are recorded in a haphazard way without a clear understanding of the purposes to be attained, the statistics compiled therefrom will probably be very defective, if not absolutely worthless.

As a first step in preparing statistics of patients in an institution for the insane it is necessary to formulate statistical data cards with the essential captions arranged in convenient form. Such cards call for the same items of information concerning every patient, and if properly designed and filled out, will furnish data that may be classified in various ways and tabulated so as to give clear summaries of important facts concerning the patients and their diseases and the results of treatment.

To facilitate tabulation and filing, it is recommended that four distinct statistical cards be used, viz.:

1. A **first admission card**, to be filled out for every insane patient admitted for the first time to any hospital for the treatment of mental diseases, except institutions for temporary care only.
2. A **readmission card**, to be filled out for every insane patient admitted who has been previously under treatment in a hospital for mental diseases, excepting transfers and those who have received treatment only in institutions for temporary care.
3. A **discharge card**, to be filled out for every insane patient discharged, except transfers.
4. A **death card**, to be filled out for every insane patient who dies in the hospital.

It is suggested that first admission cards be printed on *white* cardboard, readmission cards on *yellow*, discharge

cards on *salmon*, and death cards on *blue*, and that in each instance cards for male patients be printed with *black* ink and cards for female patients with *red*.

Sample forms for the cards are submitted herewith:

FIRST ADMISSION		MALE (or female)																																																																																																	
..... State Hospital																																																																																																			
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Presented at staff meeting	19	By Dr.																																																																																																	

Hospital number for the year

Note—This card for First Admission to any hospital for the insane.

[Size of card 5 in. x 8 in.]

READMISSION CARD

MALE (or female)

State Hospital

Committed

Name Identification No. Legal status—Voluntary

Psychosis—No. Group Type
 Nativity (state or country) of patient of father of mother Date of arrival in U. S.

Citizenship of patient—American foreign of father—American foreign

Race Marital condition—Single married widowed divorced separated

Education—None reads only reads and writes common school high school collegiate

Occupation Religion (denomination)

Environment—Urban rural Economic condition—Dependent marginal comfortable

Actual residence—County P. O.

Time in state

Etiological factors other than heredity

Mental make-up { Temperamentally normal, abnormal (specify)
 { Intellectually normal, abnormal (specify)

Family history of mental diseases

Family history of nervous diseases

Family history of mental deficiency

Family history of inebriety (alcohol or drugs) (specify)

Alcoholic habits of patient { Abstinent
 { Moderate (specify)
 { Intemperate (specify)

Accompanying physical diseases not an integral part of the psychosis

Duration of present attack before admission yrs. mos. das.

Number of previous attacks

No. of previous admissions Date and duration of each previous hospital residence (exclusive of parole)

Condition at last discharge Date Hosp.

Date of readmission 19 Age on readmission yrs.

Presented at staff meeting 19 By Dr.

Hospital number for the year

Note—This card for cases previously admitted to any hospital for the insane.

[Size of card 5 in. x 8 in.]

DISCHARGE CARD

MALE (or female)

State Hospital

Committed

Name	Identification No.	Legal status—Voluntary
------	--------------------	------------------------

Psychosis—No.	Group	Type
Nativity (state or country) of patient		of father of mother
Citizenship of patient—American foreign		of father—American foreign
Age on discharge	years	
Residence when admitted —County		P. O.
No. of previous attacks		
No. of previous admissions		Date of last admission
Date and duration of each previous hospital residence (exclusive of parole)		
Duration of last psychosis before admission	years months days	
Duration of last hospital residence (exclusive of parole)	years months days	
Total duration of hospital life (all admissions, exclusive of paroles)	years months days	
Condition on discharge —Recovered much improved improved unimproved		
Not insane: Epilepsy alcoholism drug addiction constitutional inferiority		
mental deficiency dotage others (specify)		
Date of parole		19
Date of discharge		19
Patient was discharged to the custody of		

Address

Hospital discharge number for the year

[Size of card 5 in. x 8 in.]

DEATH CARD

MALE (or female)

State Hospital

Committed

Name	Identification No.	Legal status—Voluntary
------	--------------------	------------------------

Psychosis—No.	Group	Type		
Nativity (state or country) of patient		of father	of mother	
Citizenship of patient—American	foreign	of father—American	foreign	
Age at death		years		
No. of previous attacks		No. of previous admissions		
Date and duration of each previous hospital residence (exclusive of parole)				
Duration of last psychosis before admission		years	months	days
Date of last admission				
Period of last hospital residence		years	months	days
Total duration of hospital life (all admissions, exclusive of paroles)				years
	months		days	
Cause of death (Follow international list of causes and underline principal lesion)				
Autopsy	No	yes	Findings of autopsy	
Residence when admitted —County			city or village	
Date of death		19		

Hospital discharge number for the year

[Size of card 5 in. x 8 in.]

The facts needed to fill out the admission cards are obtained from (a) the relatives and friends of the patient, (b) the patient himself, (c) the commitment papers, (d) the family physician, (e) official documents and records, and (f) the mental and physical examination of the patient.

The nurse or attendant sent from the hospital to bring in a patient should be provided with a *history* blank and should note thereon all of the important facts concerning the patient and his family history that can be obtained from relatives and friends. Additional data should be secured when friends come to the hospital to visit the patient.

The data required to fill out the discharge and death cards are obtained from the hospital records. These cards should always be consistent with the admission cards.

It is advisable to have a statistical data sheet, similar to the first admission card, filled out and incorporated in the case record of the patient.

At the close of the fiscal year when all the cards are filled out and checked up, the statistical tables should be made therefrom. The tabulation can be easily and accurately done by sorting the cards into groups corresponding to the table headings and then counting the several groups. The totals should be made after each count is completed, and mistakes rectified before the cards are regrouped.

When the tables for the year are finished, the cards should be systematically filed according to patients' identification numbers, all of the cards relating to one patient being brought together.

FILLING IN CARDS

Fill in every caption on each card; if full or accurate information can not possibly be obtained, enter "U" (symbol for "facts unascertained").

If the information is negative, enter "none" or "no".

Do not use the interrogation point (?).

Do not use the dash (—) for "unascertained" or for "negative".

Do not use the term "several"; as "several years"; enter rather "less than 1 yr.," "between 1 and 5 yrs.," or "over 10 yrs.," if exact figures can not be obtained.

Avoid round numbers; accept figures ending with 5 or with 0 with skepticism and only after close questioning. Avoid,

e. g., "1 yr." for 11 mos., 12½ mos., etc., and "1 mo." for 35 days, etc. Avoid "60 yrs." for 59 or 61 yrs.

Avoid ambiguous abbreviations; as "lob. pneu." (lobar or lobular?), "par." (paranoic or paralytic?), etc., and use only standard abbreviations.

If the place assigned to any caption of the schedule is too limited to enter all ascertained data, mark the blank "over", and enter the data on the back of the card.

Entries on all cards should be typewritten. Designate items on the cards, by underscoring; as, single. Do not cross out items or use check marks.

CLASSIFICATION OF MENTAL DISEASES

Explanatory notes of the various groups and clinical types follow the classification.

1. **Traumatic psychoses**

- (a) Traumatic delirium
- (b) Traumatic constitution
- (c) Post-traumatic mental enfeeblement (dementia)

2. **Senile psychoses**

- (a) Simple deterioration
- (b) Presbyophrenic type
- (c) Delirious and confused types
- (d) Depressed and agitated states in addition to deterioration
- (e) Paranoid types
- (f) Pre-senile types

3. **Psychoses with cerebral arteriosclerosis**

4. **General paralysis**

5. **Psychoses with cerebral syphilis**

6. **Psychoses with Huntington's chorea**

7. **Psychoses with brain tumor**

8. **Psychoses with other brain or nervous diseases**

The following are the more frequent affections and should be specified in the diagnosis.

Cerebral embolism

Paralysis agitans

Meningitis, tubercular or other forms (to be specified)

Multiple sclerosis

Tabes

Acute chorea

Other conditions (to be specified)

9. **Alcoholic psychoses**
 - (a) Pathological intoxication
 - (b) Delirium tremens
 - (c) Korsakow's psychosis
 - (d) Acute hallucinosis
 - (e) Chronic hallucinosis
 - (f) Acute paranoid type
 - (g) Chronic paranoid type
 - (h) Alcoholic deterioration
 - (i) Other types, acute or chronic
10. **Psychoses due to drugs and other exogenous toxins**
 - (a) Opium (and derivatives), cocaine, bromides, chloral, etc., alone or combined (to be specified)
 - (b) Metals, as lead, arsenic, etc. (to be specified)
 - (c) Gases (to be specified)
 - (d) Other exogenous toxins (to be specified)
11. **Psychoses with pellagra**
12. **Psychoses with other somatic diseases**
 - (a) Delirium with infectious diseases
 - (b) Post-infectious psychosis
 - (c) Exhaustion-delirium
 - (d) Delirium of unknown origin
 - (e) Cardio-renal diseases
 - (f) Diseases of the ductless glands
 - (g) Other diseases or conditions (to be specified)
13. **Manic-depressive psychoses**
 - (a) Manic type
 - (b) Depressive type
 - (c) Stupor
 - (d) Mixed type
 - (e) Circular type
14. **Involution melancholia**
15. **Dementia praecox**
 - (a) Paranoid type
 - (b) Catatonic type
 - (c) Hebephrenic type
 - (d) Simple type
16. **Paranoia or paranoic conditions**
17. **Epileptic psychoses**
 - (a) Deterioration
 - (b) Clouded states
 - (c) Other conditions (to be specified)

18. **Psychoneuroses and neuroses**
 - (a) Hysterical type
 - (b) Psychasthenic type
 - (c) Neurasthenic type
 - (d) Anxiety neuroses
19. **Psychoses with constitutional psychopathic inferiority**
20. **Psychoses with mental deficiency**
21. **Undiagnosed psychoses**
22. **Not insane**
 - (a) Epilepsy without psychosis
 - (b) Alcoholism without psychosis
 - (c) Drug addiction without psychosis
 - (d) Constitutional psychopathic inferiority without psychosis
 - (e) Mental deficiency without psychosis
 - (f) Others (to be specified)

DEFINITIONS AND EXPLANATORY NOTES

The following explanatory notes and definitions of the various clinical groups were prepared for the Committee by Dr. George H. Kirby, Director, Psychiatric Institute, Ward's Island, New York City.

1. **Traumatic Psychoses**

The diagnosis should be restricted to mental disorders arising as a direct or obvious consequence of a brain (or head) injury producing psychotic symptoms of a fairly characteristic kind. The amount of damage to the brain may vary from an extensive destruction of tissue to simple concussion or physical shock with or without fracture of the skull.

Manic-depressive psychoses, general paralysis, dementia praecox, and other mental disorders in which trauma may act as a contributory or precipitating cause, should not be included in this group.

The following are the most common clinical types of traumatic psychosis and should be specified in the statistical record of the hospital:

- (a) **Traumatic delirium:** This may take the form of an acute delirium (concussion delirium), or a more protracted delirium resembling the Korsakow mental complex.
- (b) **Traumatic constitution:** Characterized by a gradual post-traumatic change in disposition with vasomotor instability, headaches, fatigability, irritability or explosive emo-

tional reactions; usually hyper-sensitiveness to alcohol, and in some cases development of paranoid, hysteroid, or epileptoid symptoms.

(c) Post-traumatic mental enfeeblement (dementia): Varying degrees of mental reduction with or without aphasic symptoms, epileptiform attacks or development of a cerebral arteriosclerosis.

2. Senile Psychoses

A well defined type of psychosis which as a rule develops gradually and is characterized by the following symptoms: Impairment of retention (forgetfulness) and general failure of memory more marked for recent experiences; defects in orientation and a general reduction of mental capacity; the attention, concentration and thinking processes are interfered with; there is self-centering of interests, often irritability and stubborn opposition; a tendency to reminiscences and fabrications. Accompanying this deterioration there may occur paranoid trends, depressions, confused states, etc. Certain clinical types should therefore be specified, but these often overlap:

(a) Simple deterioration: Retention and memory defects, reduction in intellectual capacity and narrowing of interests; usually also suspiciousness, irritability and restlessness, the latter particularly at night.

(b) Presbyophrenic type: Severe memory and retention defects with complete disorientation; but at the same time preservation of mental alertness and attentiveness with ability to grasp immediate impressions and conversation quite well. Forgetfulness leads to absurd contradictions and repetitions; suggestibility and free fabrication are prominent symptoms. (The general picture resembles the Korsakow mental complex.)

(c) Delirious and confused types: Often in the early stages of the psychosis and for a long period the picture is one of deep confusion or of a delirious condition.

(d) Depressed and agitated types: In addition to the underlying deterioration there may be a pronounced depression and persistent agitation.

(e) Paranoid types: Well marked delusional trends, chiefly persecutory or expansive ideas, often accompany the deterioration and in the early stages may make the diagnosis difficult if the defect symptoms are mild.

(f) Pre-senile types: The so-called "Alzheimer's disease." An early senile deterioration which usually leads rapidly to a deep dementia. Reported to occur as early as the fortieth year. Most cases show an irritable or anxious depressive mood with aphasic or apractic symptoms. There is apt to be general resistiveness and sometimes spasticity.

3. Psychoses with Cerebral Arteriosclerosis

The clinical symptoms, both mental and physical, are varied depending in the first place on the distribution and severity of the vascular cerebral disease and probably to some extent on the mental make-up of the person.

Cerebral physical symptoms, headaches, dizziness, fainting attacks, etc., are nearly always present, and usually signs of focal brain disease appear sooner or later (aphasia, paralysis, etc.).

The most important mental symptoms (particularly if the arteriosclerotic disease is diffuse) are impairment of mental tension, i. e., interference with the capacity to think quickly and accurately, to concentrate and to fix the attention; fatigability and lack of emotional control (alternate weeping and laughing), often a tendency to irritability is marked; the retention is impaired and with it there is more or less general defect of memory, especially in the advanced stages of the disease, or after some large destructive lesion occurs.

Pronounced psychotic symptoms may appear in the form of depression (often of the anxious type), suspicions or paranoid ideas, or episodes of marked confusion.

To be included in this group are the psychoses following cerebral softening or hemorrhage, if due to arterial disease. (Autopsies in state hospitals show that in arteriosclerotic cases softening is relatively much more frequent than hemorrhage.)

Differentiation from senile psychosis is sometimes difficult particularly if the arteriosclerotic disease manifests itself in the senile period. The two conditions may be associated; when this happens preference should be given in the statistical report to the arteriosclerotic disorder.

High blood pressure, although usually present, is not essential for the diagnosis of cerebral arteriosclerosis.

4. General Paralysis

The range of symptoms encountered in general paralysis is too great to be reviewed here in detail. As to mental symp-

toms, most stress should be laid on the early changes in disposition and character, judgment defects, difficulty about time relations and discrepancies in statements, forgetfulness and later on a diffuse memory impairment. Cases with marked grandiose trends are less likely to be overlooked than cases with depressions, paranoid ideas, alcoholic-like episodes, etc.

Mistakes of diagnosis are most apt to be made in those cases having in the early stages pronounced psychotic symptoms and relatively slight defect symptoms, or cases with few definite physical signs. Lumbar puncture should always be made if there is any doubt about the diagnosis. A Wassermann examination of the blood alone is not sufficient as this does not tell us whether or not the central nervous system is involved.

5. Psychoses with Cerebral Syphilis

Since general paralysis itself is now known to be a parenchymatous form of brain syphilis, the differentiation of the cerebral syphilis cases might on theoretical grounds be regarded as less important than formerly. Practically, however, the separation of the non-parenchymatous forms is very important because the symptoms, the course and therapeutic outlook in most of these cases are different from those of general paralysis.

According to the predominant pathological characteristics, three types of cerebral syphilis may be distinguished, viz.: (a) Meningitic, (b) Endarteritic, and (c) Gummatous. The lines of demarcation between these types are not, however, sharp ones. We practically always find in the endarteritic and gummatous types a certain amount of meningitis.

The acute meningitic form is the most frequent type of cerebral syphilis and gives little trouble in diagnosis; many of these cases do not reach state hospitals. In most cases after prodromal symptoms (headache, dizziness, etc.) there is a rapid development of physical signs, usually cranial nerve involvement, and a mental picture of dullness or confusion with few psychotic symptoms except those related to a delirious or organic reaction.

In the rarer chronic meningitic forms which are apt to occur a long time after the syphilitic infection, usually in the period in which we might expect general paralysis, the diagnostic difficulties may be considerable.

In the endarteritic forms the most characteristic symptoms are those resulting from focal vascular lesions.

In the gummatous forms the slowly developing focal and pressure symptoms are most significant.

In all forms of cerebral syphilis the psychotic manifestations are less prominent than in general paralysis and the personality is much better preserved as shown by the social reactions, ethical sense, judgment and general behavior. The grandiose ideas and absurd trends of the general paralytic are rarely encountered in these cases.

6. Psychoses with Huntington's Chorea

Mental symptoms are a constant accompaniment of this form of chorea and as a rule become more marked as the disease advances. Although the disease is regarded as being hereditary in nature, a diagnosis can be made on the clinical picture in the absence of a family history.

The chief mental symptoms are those of mental inertia and an emotional change, either apathy and silliness or a depressive irritable reaction with a tendency to passionate outbursts. As the disease progresses the memory is affected to some extent, but the patient's ability to recall past events is often found to be surprisingly well preserved when the disinclination to cooperate and give information can be overcome. Likewise the orientation is well retained even when the patient appears very apathetic and listless. Suspicious and paranoid ideas are prominent in some cases.

7. Psychoses with Brain Tumor

A large majority of brain tumor cases show definite mental symptoms. Most frequent are mental dullness, somnolence, hebetude, slowness in thinking, memory failure, irritability and depression, although a tendency to facetiousness is sometimes observed. Episodes of confusion with hallucinations are common; some cases express suspicions and paranoid ideas.

The diagnosis must rest in most cases on the neurological symptoms, and these will depend on the location, size and rate of growth of the tumor. Certain general physical symptoms due to an increased intra-cranial pressure are present in most cases, viz: headache, dizziness, vomiting, slowing of the pulse, choked disc and interlacing of the color fields.

8. Psychoses with other Brain or Nervous Diseases

This division provides a place for grouping a variety of less common mental disorders associated with organic disease of the nervous system and not included in the preceding larger groups. On the card the special type of brain or nervous diseases should be mentioned after the group name. The following are the conditions most frequently met with:

- (a) Cerebral embolism (if an incident in cerebral arteriosclerosis it should be placed in group 3).
- (b) Paralysis agitans.
- (c) Meningitis, tubercular or other forms (to be specified).
- (d) Multiple sclerosis.
- (e) Tabes (paresis to be carefully excluded).
- (f) Acute chorea (Sydenham's type). Hysterical chorea to be excluded.
- (g) Other conditions (to be specified).

9. Alcoholic Psychoses

The diagnosis of alcoholic psychosis should be restricted to those mental disorders arising with few exceptions in connection with *chronic* drinking and presenting fairly well defined symptom-pictures. One must guard against making the alcoholic group too inclusive. Over-indulgence in alcohol is often found to be merely a symptom of another psychosis, or at any rate may be incidental to another psychosis, such as general paralysis, manic-depressive insanity, dementia praecox, epilepsy, etc. The cases to be regarded as alcoholic psychoses which do not result from chronic drinking are the episodic attacks in some psychopathic personalities, the dipsomanias (the true periodic drinkers) and pathological intoxication, any one of which may develop as the result of a single imbibition or a relatively short spree.

The following alcoholic reactions usually present symptoms distinctive enough to allow of clinical differentiation:

- (a) Pathological intoxication: An unusual or abnormal immediate reaction to taking a large or small amount of alcohol. Essentially an acute mental disturbance of short duration characterized usually by an excitement or furor with confusion and hallucinations, followed by amnesia.
- (b) Delirium tremens: An hallucinatory delirium with marked general tremor and toxic symptoms.

(c) Korsakow's psychosis: This occurs with or without polyneuritis. The delirious type is not readily differentiated in the early stages from severe delirium tremens but is more protracted. The non-delirious type presents a characteristic retention defect with disorientation, fabrication, suggestibility and tendency to misidentify persons. Hallucinations are infrequent after the acute phase.

(d) Acute hallucinosis: This is chiefly an auditory hallucinosis of rapid development with clearness of the sensorium, marked fears, and a more or less systematized persecutory trend.

(e) Chronic hallucinosis: This is an infrequent type which may be regarded as the persistence of the symptoms of the acute hallucinosis without change in the character of the symptoms except perhaps a gradual lessening of the emotional reaction accompanying the hallucinations.

(f) Acute paranoid type: Suspicions, misinterpretations, and persecutory ideas, often a jealous trend; hallucinations usually subordinate; clearing up on withdrawal of alcohol.

(g) Chronic paranoid type: Persistence of symptoms of the acute paranoid type with fixed delusions of persecution or jealousy usually not influenced by withdrawal of alcohol; difficult to differentiate from non-alcoholic paranoid states or dementia praecox.

(h) Alcoholic deterioration: A slowly developing moral, volitional and emotional change in the chronic drinker; apparently relatively few cases are committed as the mental symptoms are not usually looked upon as sufficient to justify the diagnosis of a definite psychosis. The chief symptoms are ill humor and irascibility or a jovial, careless, facetious mood; abusiveness to family, unreliability and tendency to prevarication; in some cases definite suspicions and jealousy; there is a general lessening of efficiency and capacity for physical and mental work; memory not seriously impaired. To be excluded are residual defects due to Korsakow's psychosis, or mental reduction due to arteriosclerosis or to traumatic lesions.

(i) Other types to be specified.

10. Psychoses Due to Drugs and other Exogenous Toxins

The clinical pictures produced by drugs and other exogenous poisons are principally deliria or states of confusion;

although sometimes hallucinatory and paranoid reactions are met with. Certain poisons and gases apparently produce special symptoms, e. g., cocaine, lead, illuminating gas, etc. Grouped according to the toxic etiological factors the following are to be differentiated:

- (a) Opium (and derivatives), cocaine, bromides, chloral, etc., alone or combined (to be specified)
- (b) Metals, as arsenic, lead, etc. (to be specified)
- (c) Gases (to be specified)
- (d) Other exogenous toxins (to be specified)

11. Psychoses with Pellagra

The relation which various mental disturbances bear to the disease pellagra is not yet settled. Cases of pellagra occurring during the course of a well established mental disease such as dementia praecox, manic-depressive insanity, senile dementia, etc., should not be included in this group. The mental disturbances which are apparently most intimately connected with pellagra are certain delirious or confused states (toxic-organic-like reactions) arising during the course of a severe pellagra. These are the cases which for the present should be placed in the group of psychoses with pellagra.

12. Psychoses with other Somatic Diseases

Under this heading are brought together those mental disorders which appear to depend directly upon some physical disturbance or somatic disease not already provided for in the foregoing groups.

In the types designated below under (a) to (e) inclusive, we have essentially deliria or states of confusion arising during the course of an infectious disease or in association with a condition of exhaustion or a toxæmia. The mental disturbance is apparently the result of interference with brain nutrition or the unfavorable action of certain deleterious substances, poisons or toxins, on the central nervous system. The clinical pictures met with are extremely varied. The delirium may be marked by severe motor excitement and incoherence of utterance, or by multiform hallucinations with deep confusion or a dazed, bewildered condition; epileptiform attacks, catatonic-like symptoms, stupor, etc. may occur. In classifying these psychoses a difficult problem arises in many cases if attempts are made to distinguish between infection and ex-

haustion as etiological factors. For statistical reports the following differentiations should be made:

Under (a) "Delirium with infectious diseases" place the *initial deliria* which develop during the prodromal or incubation period or before the febrile stage as in some cases of typhoid, small-pox, malaria, etc.; the *febrile deliria* which seem to bear a definite relation to the rise in temperature; the *post-febrile deliria* of the period of defervescence including the so-called "collapse delirium."

Under (b) "Post-infectious psychoses" are to be grouped deliria, the mild forms of mental confusion, or the depressive, irritable, suspicious reactions which occur during the period of convalescence from infectious diseases. Physical asthenia and prostration are undoubtedly important factors in these conditions and differentiation from "exhaustion deliria" must depend chiefly on the history and obvious close relationship to the preceding infectious disease. (Some cases which fail to recover show a peculiar mental enfeeblement.) In this group should be classed the "cerebropathica psychica toxæmica" or the non-alcoholic polyneuritic psychoses following an infectious disease as typhoid, influenza, septicaemia, etc.

Under (c) "Exhaustion deliria" are to be classed psychoses in which physical exhaustion, not associated with or the result of an infectious disease, is the chief precipitating cause of the mental disorder, e. g., hemorrhage, severe physical over-exertion, deprivation of food, prolonged insomnia, debility from wasting disease, etc.

Of the psychoses which occur with diseases of the ductless glands, the best known are the thyroigenous mental disorders. Disturbance of the pituitary or of the thymus function is often associated with mental symptoms.

According to the etiology and symptoms the following types should therefore be specified under "Psychoses with Other Somatic Diseases:"

- (a) Delirium with infectious disease (specify)
- (b) Post-infectious psychosis (specify)
- (c) Exhaustion delirium
- (d) Delirium of unknown origin
- (e) Cardio-renal disease
- (f) Diseases of the ductless glands (specify)
- (g) Other diseases or conditions (to be specified)

13. Manic-Depressive Psychoses

This group comprises the essentially benign affective psychoses, mental disorders which fundamentally are marked by emotional oscillations and a tendency to recurrence. Various psychotic trends, delusions, illusions and hallucinations, clouded states, stupor, etc. may be added. To be distinguished are:

The *manic* reaction with its feeling of well-being (or irascibility), flight of ideas and over-activity.

The *depressive* reaction with its feeling of mental and physical insufficiency, a despondent, sad or hopeless mood and in severe depressions, retardation and inhibition; in some cases the mood is one of uneasiness and anxiety, accompanied by restlessness.

The *mixed* reaction, a combination of manic and depressive symptoms.

The *stupor* reaction with its marked reduction in activity, depression, ideas of death, and often dream-like hallucinations; sometimes mutism, drooling and muscular symptoms suggestive of the catatonic manifestations of dementia praecox, from which, however, these manic-depressive stupors are to be differentiated.

An attack is called *circular* when, as is often the case, one phase is followed immediately by another phase, e. g., a manic reaction passes over into a depressive reaction or vice versa.

Cases formerly classed as allied to manic-depressive should be placed here rather than in the undiagnosed group.

In the statistical reports the following should be specified:

- (a) Manic attack
- (b) Depressive attack
- (c) Stuporous attack
- (d) Mixed attack
- (e) Circular attack

14. Involution Melancholia

These depressions are probably related to the manic-depressive group; nevertheless the symptoms and the course of the involution cases are sufficiently characteristic to justify us in keeping them apart as special forms of emotional reaction.

To be included here are the slowly developing depressions of *middle life and later years* which come on with worry, insomnia, uneasiness, anxiety and agitation, showing usually the unreality and sensory complex, but little or no evidence

of any difficulty in thinking. The tendency is for the course to be a prolonged one. Arteriosclerotic depressions should be excluded.

When agitated depressions of the involution period are clearly superimposed on a manic-depressive foundation with previous attacks (depression or excitement) they should for statistical purposes be classed in the manic-depressive group.

15. **Dementia Praecox**

This group cannot be satisfactorily defined at the present time as there are still too many points at issue as to what constitute the essential clinical features of dementia praecox. A large majority of the cases which should go into this group may, however, be recognized without special difficulty, although there is an important smaller group of doubtful, atypical allied or transitional cases which from the standpoint of symptoms or prognosis occupy an uncertain clinical position.

Cases formerly classed as allied to dementia praecox should be placed here rather than in the undiagnosed group. The term "schizophrenia" is now used by many writers instead of dementia praecox.

The following mentioned features are sufficiently well established to be considered most characteristic of the dementia praecox type of reaction:

A seclusive type of personality or one showing other evidences of abnormality in the development of the instincts and feelings.

Appearance of defects of interest and discrepancies between thought on the one hand and the behavior-emotional reactions on the other.

A gradual blunting of the emotions, indifference or silliness with serious defects of judgment and often hypochondriacal complaints, suspicions or ideas of reference.

Development of peculiar trends, often fantastic ideas, with odd, impulsive or negativistic conduct not accounted for by any acute emotional disturbance or impairment of the sensorium.

Appearance of autistic thinking and dream-like ideas, peculiar feelings of being forced, of interference with the mind, of physical or mystical influences, but with retention of clearness in other fields (orientation, memory, etc.).

According to the prominence of certain symptoms in indi-

vidual cases the following four clinical forms of dementia praecox may be specified, but it should be borne in mind that these are only relative distinctions and that transitions from one clinical form to another are common:

(a) **Paranoid type:** Cases characterized by a prominence of delusions, particularly ideas of persecution or grandeur, often connectedly elaborated, and hallucinations in various fields.

(b) **Catatonic type:** Cases in which there is a prominence of negativistic reactions or various peculiarities of conduct with phases of stupor or excitement, the latter characterized by impulsive, queer or stereotyped behavior and usually hallucinations.

(c) **Hebephrenic type:** Cases showing prominently a tendency to silliness, smiling, laughter, grimacing, mannerisms in speech and action, and numerous peculiar ideas usually absurd, grotesque and changeable in form.

(d) **Simple type:** Cases characterized by defects of interest, gradual development of an apathetic state, often with peculiar behavior, but without expression of delusions or hallucinations.

16. Paranoia or Paranoid Conditions

From this group should be excluded the deteriorating paranoid states and paranoid states symptomatic of other mental disorders or of some damaging factor such as alcohol, organic brain disease, etc.

The group comprises cases which show clinically fixed suspicions, persecutory delusions, dominant ideas or grandiose trends logically elaborated and with due regard for reality after once a false interpretation or premise has been accepted. Further characteristics are formally correct conduct, adequate emotional reactions, clearness and coherence of the train of thought.

17. Epileptic Psychoses

In addition to the epileptic deterioration, transitory psychoses may occur which are usually characterized by a clouded mental state followed by an amnesia for external occurrences during the attack. (The hallucinatory and dream-like experiences of the patient during the attack may be vividly recalled.) Various automatic and secondary states of consciousness may occur.

According to the most prominent clinical features the epileptic mental disorders should therefore be specified as follows:

(a) **Deterioration:** A gradual development of mental dullness, slowness of association and thinking, impairment of memory, irritability or apathy.

(b) **Clouded states:** Usually in the form of dazed reactions with deep confusion, bewilderment and anxiety or excitements with hallucinations, fears and violent outbreaks; instead of fear there may be ecstatic moods with religious exaltation.

(c) **Other conditions** (to be specified).

18. **Psychoneuroses and Neuroses**

The psychoneurosis group includes those disorders in which mental forces or ideas of which the subject is either aware (conscious) or unaware (unconscious) bring about various mental and physical symptoms; in other words these disorders are essentially psychogenic in nature.

The term neurosis is now generally used synonymously with psychoneurosis, although it has been applied to certain disorders in which, while the symptoms are both mental and physical, the primary cause is thought to be essentially physical. In most instances, however, both psychogenic and physical causes are operative and we can assign only a relative weight to the one or the other.

The following types are sufficiently well defined clinically to be specified:

(a) **Hysterical type:** Episodic mental attacks in the form of delirium, stupor or dream states during which repressed wishes, mental conflicts or emotional experiences detached from ordinary consciousness break through and temporarily dominate the mind. The attack is followed by partial or complete amnesia. Various physical disturbances (sensory and motor) occur in hysteria, and these represent a conversion of the affect of the repressed disturbing complexes into bodily symptoms or, according to another formulation, there is a dissociation of consciousness relating to some physical function.

(b) **Psychasthenic type:** This includes the compulsive and obsessional neuroses of some writers. The main

clinical characteristics are phobias, obsessions, morbid doubts and impulsions, feelings of insufficiency, nervous tension and anxiety. Episodes of marked depression and agitation may occur. There is no disturbance of consciousness or amnesia as in hysteria.

(c) Neurasthenic type: This should designate the fatigue neuroses in which physical as well as mental causes evidently figure; characterized essentially by mental and motor fatigability and irritability; also various hyperaesthesias and paraesthesias; hypochondriasis and varying degrees of depression.

(d) Anxiety neuroses: A clinical type in which morbid anxiety or fear is the most prominent feature. A general nervous irritability (or excitability) is regularly associated with the anxious expectation or dread; in addition there are numerous physical symptoms which may be regarded as the bodily accompaniments of fear, particularly cardiac and vasomotor disturbances: the heart's action is increased, often there is irregularity and palpitation; there may be sweating, nausea, vomiting, diarrhea, suffocative feelings, dizziness, trembling, shaking, difficulty in locomotion, etc. Fluctuations occur in the intensity of the symptoms, the acute exacerbations constituting the "anxiety attack."

19. Psychoses with Constitutional Psychopathic Inferiority

Under the designation of constitutional psychopathic inferiority is brought together a large group of pathological personalities whose abnormality of make-up is expressed mainly in the character and intensity of their emotional and volitional reactions. Individuals with an intellectual defect (feeble-mindedness) are not to be included in this group.

Several of the preceding groups, in fact all of the so-called constitutional psychoses, manic-depressive, dementia praecox, paranoia, psychoneuroses, etc., may be considered as arising on a basis of psychopathic inferiority because the previous mental make-up in these conditions shows more or less clearly abnormalities in the emotional and volitional spheres. These reactions are apparently related to special forms of psychopathic make-up now fairly well differentiated, and the associated psychoses also have their own distinctive features.

There remain, however, various other less well differentiated types of psychopathic personalities, and in these the

psychotic reactions (psychoses) also differ from those already specified in the preceding groups.

It is these less well differentiated types of emotional and volitional deviation which are to be designated, at least for statistical purposes, as constitutional psychopathic inferiority. The type of behavior disorder, the social reactions, the trends of interests, etc., which the psychopathic inferior may show give special features to many cases, e. g., criminal traits, moral deficiency, tramp life, sexual perversions and various temperamental peculiarities.

The pronounced mental disturbances or psychoses which develop in psychopathic inferiors and bring about their commitment are varied in their clinical form and are usually of an episodic character. Most frequent are attacks of irritability, excitement, depression, paranoid episodes, transient confused states, etc. True prison psychoses belong in this group.

In accordance with the standpoint developed above, a psychopathic inferior with a manic-depressive attack should be classed in the manic-depressive group, and likewise a psychopathic inferior with a schizophrenic psychosis should go in the dementia praecox group.

Psychopathic inferiors without an episodic mental attack or any psychotic symptoms should be placed in the *not insane* group under the appropriate sub-heading.

20. Psychoses with Mental Deficiency

This group includes the psychoses with various types of intellectual deficiency or feeble-mindedness. The degree of mental deficiency should be determined by the history and the use of standard psychometric tests. The intellectual level may be denoted in the statistics by specifying moron, imbecile, idiot.

Acute, usually transient psychoses of various forms occur in mentally deficient persons and commitment to a hospital for the insane may be necessary. The most common mental disturbances are episodes of excitement or irritability, depressions, paranoid trends, hallucinatory attacks, etc.

Mentally deficient persons may suffer from manic-depressive attacks or from dementia praecox. When this occurs the diagnostic grouping should be manic-depressive or dementia praecox as the case may be.

Mental deficiency cases without psychotic disturbances should go into the group of *not insane* under the appropriate sub-heading.

21. Undiagnosed Psychoses

In this group should be placed the cases in which a satisfactory diagnosis cannot be made and the psychosis must therefore be regarded as an unclassified one. The difficulty may be due to lack of information or inaccessibility of the patient; or the clinical picture may be obscure, the etiology unknown, or the symptoms unusual. Cases placed in this group during the year should be again reviewed before the annual diagnostic tables are completed.

Cases of the type formerly placed in one of the allied groups should not be put in the undiagnosed group except for some special reason. Most of the cases hitherto called allied should be placed in the main group to which they seem most closely related.

22. Not Insane

This group should receive the occasional case which after investigation and observation gives no evidence of having had a psychosis. The only difficulty likely to be encountered in the statistical reports will arise in the grouping of patients who have recovered from a psychosis prior to admission. In such cases, if the history, the commitment papers or the patient's retrospective account shows that a psychosis actually existed immediately before admission, that is, at the time of commitment, then the case should be considered as having suffered from a mental disorder, and classification under the appropriate heading should be made.

If it is determined that no psychosis existed, then the condition which led to admission should be specified. The following come most frequently into consideration :

- (a) Epilepsy without psychosis
- (b) Alcoholism without psychosis
- (c) Drug addiction without psychosis
- (d) Constitutional psychopathic inferiority without psychosis
- (e) Mental deficiency without psychosis
- (f) Other conditions (to be specified)

STATISTICAL TABLES RECOMMENDED

A series of eighteen statistical tables is recommended for the use of all institutions for the insane. These provide for the systematic presentation of the data that should be annually compiled by every such institution and that should be available for use by everyone interested in psychiatry or the treatment of mental diseases. These tables are:

- Table 1. General information.
- Table 2. Financial statement.
- Table 3. Movement of patients.
- Table 4. Nativity and parentage of first admissions.
- Table 5. Citizenship of first admissions.
- Table 6. Psychoses of first admissions, types as well as principal psychoses to be designated.
- Table 7. Race of first admissions classified with reference to principal psychoses.
- Table 8. Age of first admissions classified with reference to principal psychoses.
- Table 9. Degree of education of first admissions classified with reference to principal psychoses.
- Table 10. Environment of first admissions classified with reference to principal psychoses.
- Table 11. Economic condition of first admissions classified with reference to principal psychoses.
- Table 12. Use of alcohol by first admissions classified with reference to principal psychoses.
- Table 13. Marital condition of first admissions classified with reference to principal psychoses.
- Table 14. Psychoses of readmissions, types as well as principal psychoses to be designated.
- Table 15. Discharges of patients classified with reference to principal psychoses and condition on discharge.
- Table 16. Causes of death of patients classified with reference to principal psychoses.
- Table 17. Age of patients at time of death classified with reference to principal psychoses.
- Table 18. Duration of hospital life of patients dying in hospital, classified with reference to principal psychoses.

The National Committee for Mental Hygiene has printed a series of forms to be used in preparing the foregoing tables and will furnish them free to every institution requesting them or that signifies its willingness to cooperate in the general movement for uniform statistics. The forms are numbered to correspond with the tables. In order to secure uniformity in filling out the blanks the following explanations and definitions are submitted:

DIRECTIONS FOR THE PREPARATION OF STATISTICAL TABLES

TABLE 1. GENERAL INFORMATION

The data relative to hospital plant, medical service, employees and patients, called for in this table, should be given as of the last day of the fiscal year of the institution.

Hospital plant: The value of the hospital property should be estimated at cost unless its original value has been diminished by depreciation. In case a considerable amount of depreciation has occurred, a reasonable allowance therefor should be made. As the estimates of the value of hospital property in different institutions will be subject to comparison, the appraisal in each case should be made with care and should represent as nearly as possible the true value of the property.

Medical service: The term "assistant physicians," as used in the table, includes all physicians regularly employed in the hospital in a grade below that of superintendent and above that of medical interne. The term "clinical assistants" includes physicians and medical students who are employed temporarily or permanently in hospital work below the grade of medical interne.

Consulting physicians, eye and ear specialists, dentists, and pharmacists, are not to be included in the report of the medical service.

Employees: The term "graduate nurses" includes only those nurses who have graduated from a school of nursing maintained by a general hospital or a hospital for the insane giving a course covering at least two years.

The term "social workers" refers to persons regularly employed by the hospital to look after the interests of parole and other out-patients. Voluntary workers in this field are not to be included in the table.

TABLE 2. FINANCIAL STATEMENT

The data should be given in accordance with the headings provided in the table so far as possible. If it is impossible to supply the data pertaining to any of the items the total receipts and disbursements should be given and explanations concerning their classification may be submitted in detail on a separate sheet. The various terms in the table are used in the ordinary sense and are self-explanatory.

TABLE 3. MOVEMENT OF INSANE PATIENT POPULATION

This table calls for a report of movement of *insane* patients apart from other patients, who may be cared for in the same institution. As rates of admission, discharge and death will be computed from the data submitted from this table, it is important that the directions included therein, be very carefully followed. For convenience of reference, the principal terms used in this table are herein defined. These terms have the same significance wherever used in the tables described in this manual.

"First admissions" includes all insane patients admitted for the first time to any institution for the insane, public or private, wherever situated, in or outside of state, excepting institutions for temporary care only.

"Readmissions" includes all insane patients admitted who have been previously under treatment in an institution for the insane, excepting transfers and patients who have received treatment only in institutions for temporary care.

"Recovered" indicates the condition of patients who have regained their normal mental health so that they may be considered as having practically the same mental status as they had previous to the onset of the psychosis.

"Improved" denotes any degree of mental gain less than recovery.

A "voluntary patient" is one who is received in an institution upon his own application and without commitment.

TABLE 4. NATIVITY OF FIRST ADMISSIONS AND OF PARENTS OF FIRST ADMISSIONS

Care should be taken to ascertain the country of birth of every first admission. Changes in national boundaries made by the present war should not be recognized until its close and until the new boundary lines, if any, are definitely fixed.

The following is the list of countries to be used in reporting nativity:

Modified Form of United States Census Classification of Nativity

Africa	France	Porto Rico
Asia†	Germany	Portugal
Australia	Greece	Roumania
Austria	Hawaii	Russia
Belgium	Holland	Scotland
Bohemia	Hungary	South America
Canada‡	India	Spain
Central America	Ireland	Sweden
China	Italy	Switzerland
Cuba	Japan	Turkey in Asia
Denmark	Mexico	Turkey in Europe
England	Norway	Wales
Europe†	Philippine Islands	West Indies*
Finland	Poland	Other countries

† Not otherwise specified.

‡ Includes Newfoundland.

* Except Cuba and Porto Rico.

TABLE 5. CITIZENSHIP OF FIRST ADMISSIONS

Accurate data concerning the citizenship of first admissions in the several states is highly important as the matter has a direct bearing on the policy of the United States relative to immigration.

The following notes pertaining to citizenship may be found helpful:

Foreign-born persons (with few exceptions) are aliens unless naturalized and should be so reported if evidence of their naturalization can not be produced.

Aliens may be naturalized in several ways, as follows:

1. By making required declarations and receiving final naturalization papers from a court of competent jurisdiction.
2. A woman, by the naturalization of her husband or by marriage to a citizen.
3. Minors, by the naturalization of their parents.

All persons (with few exceptions) born in the United States are citizens regardless of parentage.

A woman loses her citizenship by marriage to an alien.

A declaration of intention does not confer rights of citizenship; a foreigner is an alien until naturalized. An alien, to be eligible for citizenship, must have resided in the United States continuously for five years.

TABLE 6. PSYCHOSES OF FIRST ADMISSIONS

In diagnosing the mental diseases of patients, the instructions given in this manual (pages 14-29) should be carefully studied and followed so far as possible. In making out the table, give the total for each numbered group and so far as may be determined the number in each subdivision thereof.

TABLE 7. RACE OF FIRST ADMISSIONS CLASSIFIED WITH REFERENCE TO PRINCIPAL PSYCHOSES

The *race* of patients admitted should be designated by the terms given in the following list:

Condensed Form of List of Races Adopted by the United States Immigration Service

African (black)	Greek	Scotch
American Indian	Hebrew	Slavonic*
Armenian	Irish	Spanish
Bulgarian	Italian†	Spanish-American
Chinese	Japanese	Syrian
Cuban	Lithuanian	Turkish
Dutch and Flemish	Magyar	Welsh
East Indian	Mexican	West Indian (except Cuban)
English	Pacific Islander	Other specific races
Finnish	Portuguese	Mixed
French	Roumanian	Race unascertained
German	Scandinavian‡	

† Includes "north" and "south."

‡ Norwegians, Danes and Swedes.

* Includes Bohemian, Bosnian, Croatian, Delmatian, Herzegovinian, Montenegrin, Moravian, Polish, Russian, Ruthenian, Servian, Slovak, Slovenian.

The "Dictionary of Races" prepared by the Immigration Commission should be used as a guide for the determination of race. A pamphlet copy of this excellent manual may be obtained from the Superintendent of Documents, Washington, D. C., for twenty cents.

The following suggestions relative to race classification should be carefully noted:

African. This term should be applied to all negroes of *pure or mixed blood*, whether coming from Africa, Cuba or other West Indian Islands, Europe or North or South America.

Armenian. Care should be taken not to confuse Armenians with Syrians.

Bulgarian. The Bulgarians who come to the United States are all from Bulgaria but, with the readjustment of boundary lines which may follow the present war, it is likely that in the future it will not always be possible to distinguish Bulgarians by their starting place in Europe. The language should identify them in all cases.

Cuban. Care must be taken not to include negroes and Spanish-Americans among "Cubans."

Dutch and Flemish. Nearly all the Dutch who come to the United States come from Holland. They call themselves "Hollanders." The Flemish come principally from Belgium.

East Indian. This term refers to the natives of the East Indies, including Hindus, and is a very loose term, ethnologically. This is a matter of small importance, however, as very few immigrants come to the United States from the East Indies.

English. Care must be taken to exclude Hebrews who are born in England, also English-speaking people of other races.

Finnish. All natives of Finland are not Finns; many of them are Swedes. Of the Finns living in Europe, more than 1,000,000 live outside of Finland.

German. Care must be taken to classify Germans from Russia as Germans.

Hebrew. No difficulty will be experienced in identifying Hebrews and they should be so classified without regard to the country from which they come.

Italian. Very few Italians come to the United States from any country except Italy, although some come from Brazil and the Argentine Republic. Care must be taken not to confuse these with Spanish-Americans.

Lithuanian. Lithuanians in the United States are quite likely to be confused with Poles or Slovaks. They are quite distinct from the "Slavonic" people and should be enumerated separately.

Magyar. Magyars are often called "Hungarians," "Huns" or "Hunyaks" in popular language in this country.

Roumanian. In reporting patients born in Roumania, the only chance for error is the failure to exclude Hebrews and Gypsies. There are about half as many Roumanians in Hungary as there are in Roumania and so it is necessary to consider them in reporting the race of natives of Hungary.

Slavonic. This is a very important racial division as a very large number of Slavonic immigrants have come to the United States in recent years. It is believed that the use of this term will solve a great many difficulties as it makes it unnecessary to distinguish between Poles, Slovaks, etc. The only danger to guard against is that of including Lithuanians, Finns, Magyars or Roumanians.

Spanish. Care should be taken not to apply this term to Spanish-Americans.

Spanish-Americans. This term refers only to "the people of Central and South America of Spanish descent."

Turkish. Armenians and Syrians should not be included under this designation.

West Indian. Care should be taken to exclude negroes, Cubans and Spanish-Americans. Only a very small number of West Indians not negroes, are admitted to the United States.

Mixed. This term should be used to designate the race of a patient whose ancestors were of two or more races.

The terms "American," "Swiss," and "Austrian," should not be used to designate race (see discussion of these terms in the "Dictionary of Races:" American, p. 102; Swiss, p. 138; Austrian, p. 20).

TABLE 8. AGE OF FIRST ADMISSIONS CLASSIFIED WITH REFERENCE TO PRINCIPAL PSYCHOSES

In filling out this table and the other tables in which the principal psychoses are correlated with other items, care should be taken to give the same totals for each group in every table.

Age groups as designated in the headings are inclusive, e. g., 15-19 years includes the years 15, 16, 17, 18 and 19.

TABLE 9. DEGREE OF EDUCATION OF FIRST ADMISSIONS CLASSIFIED WITH REFERENCE TO PRINCIPAL PSYCHOSES

"Illiterate" denotes persons who cannot read and write.

Under "reads and writes" should be included those who have attended a common school but who have not completed the work of the fourth grade. Common school, high school, and college should be interpreted as meaning graduation from such institutions respectively or completion of at least half of the prescribed course. Two years of a course taken in a professional school, such as medicine, dentistry and pharmacy, should be considered as college education. Business schools are principally of common school grade although a few are of high school or college grade.

TABLE 10. ENVIRONMENT OF FIRST ADMISSIONS CLASSIFIED WITH REFERENCE TO PRINCIPAL PSYCHOSES

"Urban" and "rural" are used in this table as in the United States census classification. Places having a population of 2,500 or more are considered as "urban." All other places are considered as "rural."

TABLE 11. ECONOMIC CONDITION OF FIRST ADMISSIONS CLASSIFIED WITH REFERENCE TO PRINCIPAL PSYCHOSES

The term "economic condition" refers to the patients' circumstances before the onset of the psychosis. The terms used in classifying "economic condition" are defined as follows:

Dependent: Lacking in necessities of life or receiving aid from public funds or persons outside the immediate family.

Marginal: Living on daily earnings but accumulating little or nothing; being on the margin between self-support and dependency.

Comfortable: Having accumulated resources sufficient to maintain self and family for at least four months.

Patients should not be classed as "dependent" because they are not able to reimburse the hospital for their maintenance provided they were previously able to maintain themselves. Minors and aged people cared for by their families

should not be classed as "dependent." Their economic condition should be considered as that of their family.

A pensioner who has no accumulated resources should be classed as "marginal."

TABLE 12. USE OF ALCOHOL BY FIRST ADMISSIONS CLASSIFIED WITH REFERENCE TO PRINCIPAL PSYCHOSES

The term "use of alcohol" refers to the alcoholic habits of the patient previous to the onset of the psychosis.

The term "abstinent" should be applied to persons who use no alcoholic liquor whatever. "Temperate" denotes persons who use some liquor but not in sufficient quantities to be classed as intemperate. Intemperate use of liquor should be inferred from (1) repeated intoxication, (2) physical, mental or moral deterioration or any disease due to alcohol, (3) unsocial acts due to alcohol.

TABLE 13. MARITAL CONDITION OF FIRST ADMISSIONS CLASSIFIED WITH REFERENCE TO PRINCIPAL PSYCHOSES

The terms denoting "marital condition" used in the headings are to be applied in accordance with the ordinary usage of the words. "Separated" means living apart through estrangement, whether legal or not, but not divorced.

TABLE 14. PSYCHOSES OF READMISSIONS

The term "readmission," as previously stated, includes all insane patients admitted who have been previously under treatment in an institution for the insane, excepting transfers and patients who have received treatment only in institutions for temporary care.

TABLE 15. DISCHARGES OF PATIENTS CLASSIFIED WITH REFERENCE TO PRINCIPAL PSYCHOSES AND CONDITION ON DISCHARGE

The terms "recovered," "improved," "unimproved," and "not insane," are to be used as in Table 3, and the totals under the respective headings should equal those given in section 3 of that table.

TABLE 16. CAUSES OF DEATH OF PATIENTS CLASSIFIED WITH
REFERENCE TO PRINCIPAL PSYCHOSES

Each institution should procure from the Superintendent of Documents, Washington, D. C., a copy of the "Manual of the International List of Causes of Death" and report the deaths of patients in accordance with the directions contained therein. If this manual is carefully used the death tables from the several institutions will be made comparable.

The following quotations from this Manual will be found helpful:

"1. Select the primary cause, that is, the real or underlying *cause of death*. That is usually

- (a) The cause first in order.
- (b) The cause of longer duration. If the physician writes the cause of shorter duration first, inquiry may be made whether it is not a mere symptom, complication, or terminal condition.
- (c) The cause of which the contributory (secondary) cause is a frequent complication.
- (d) The physician may indicate the relation of the causes by words, although this is a departure from the way in which the blank was intended to be filled out. For example, 'Bronchopneumonia *following* measles' (primary cause last) or Measles *followed by* Bronchopneumonia (primary cause first).

2. If the relation of primary and secondary is not clear, prefer general diseases, and especially dangerous infective or epidemic diseases, to local diseases.

3. Prefer severe or usually fatal diseases to mild diseases.

4. Disregard ill defined causes, and also indefinite and ill defined terms (e. g., 'debility,' 'atrophy'). Neglect mere modes of death (failure of heart or respiration) and terminal symptoms or conditions (e. g., hypostatic congestion of lungs).

5. Select homicide and suicide in preference to any consequences, and severe accidental injuries, sufficient in themselves to cause death, to all ordinary consequences. Tetanus is preferred to any accidental injury, and erysipelas, septicaemia, pyaemia, peritonitis, etc., are preferred to less serious

accidental injuries. Prefer definite means of accidental injury (e. g., railway accident, explosion in coal mine, etc.) to vague statements or statement of the nature of the injury only (e. g., accident, fracture of skull).

6. Physical disease (e. g., tuberculosis of lungs, diabetes) are preferred to mental diseases as causes of death (e. g., manic-depressive psychosis), but *general paralysis of the insane is a preferred term.*

7. Prefer puerperal causes except when a serious disease (e. g., cancer, chronic Bright's disease) was the independent cause.

8. Disregard indefinite terms and titles generally in favor of definite terms and titles."

TABLE 17. AGE OF PATIENTS AT TIME OF DEATH CLASSIFIED
WITH REFERENCE TO PRINCIPAL PSYCHOSES

The remark made with reference to age groups in connection with Table 8 applies to this table and to Table 18.

TABLE 18. TOTAL DURATION OF HOSPITAL LIFE OF PATIENTS
DYING IN HOSPITAL CLASSIFIED ACCORDING TO PRINCIPAL
PSYCHOSES

The term "total duration of hospital life" means the total time spent by the patients in hospitals for the insane wherever located.

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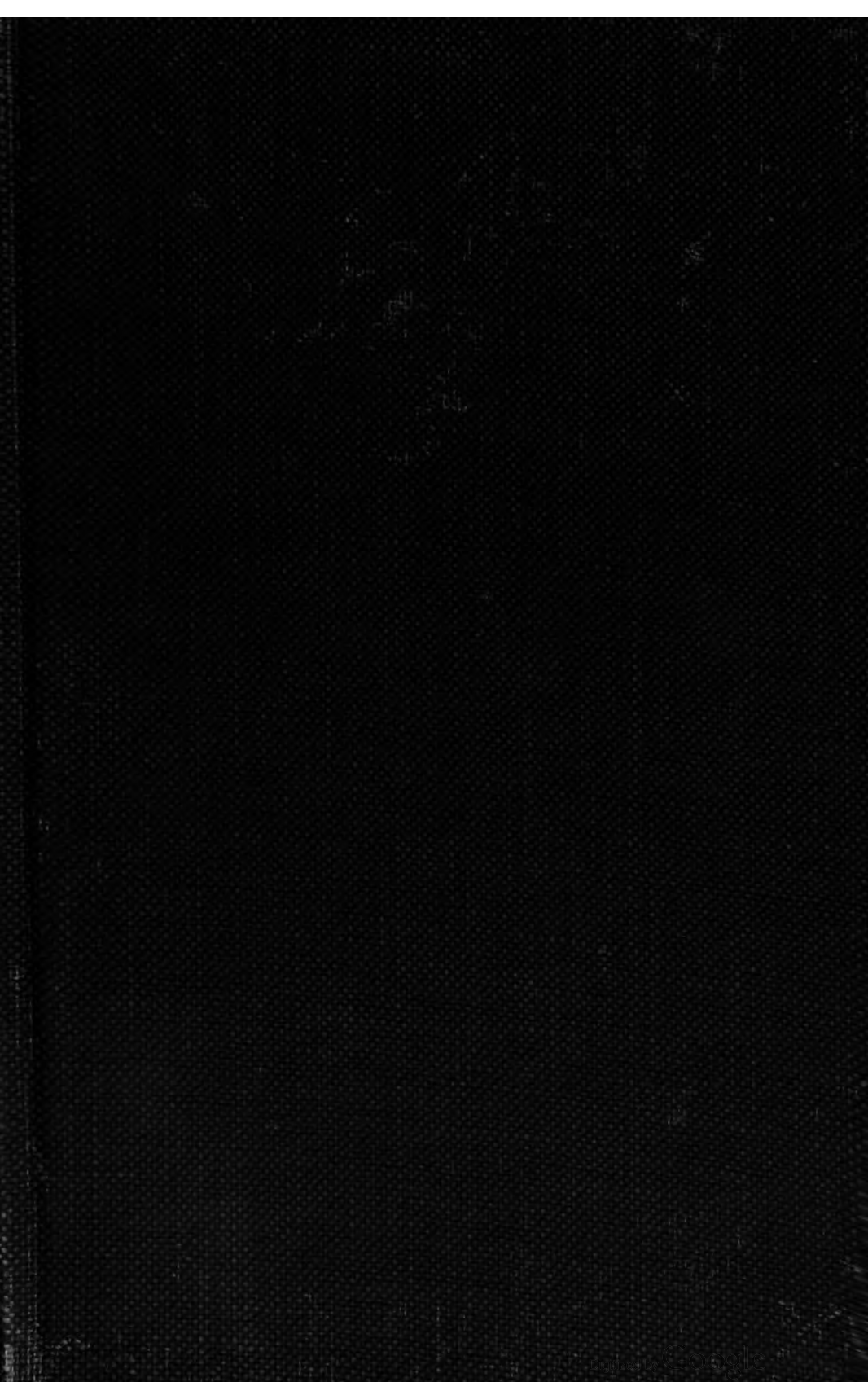
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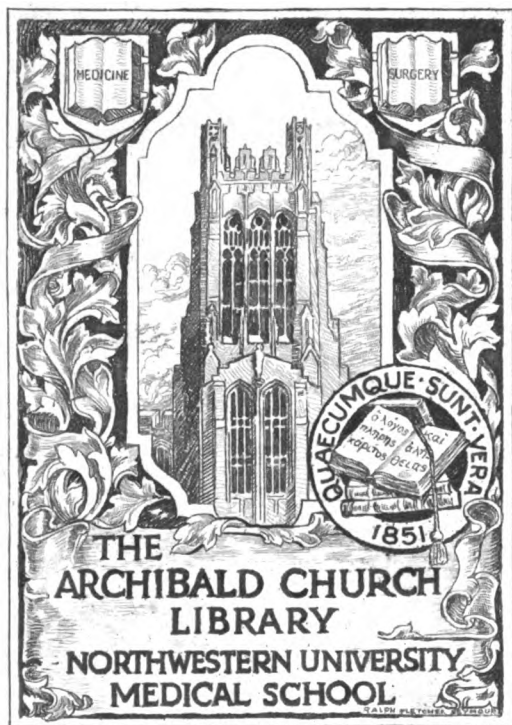
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AMERICAN JOURNAL OF INSANITY

PUBLISHED UNDER THE AUSPICES OF
THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION

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J. Montgomery Mosher, M. D.

Charles Macfie Campbell, M. D.

Charles K. Clarke, M. D.

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Henry M. Hurd, M. D.

Editor Emeritus

G. Alder Blumer, M. D.

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VOLUME LXXV

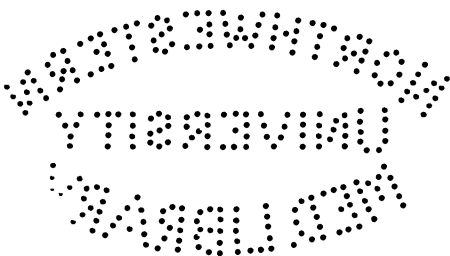
"The care of the human mind is the most noble branch of medicine."—GAOZIUS

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BALTIMORE, MD., U. S. A.



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AMERICAN JOURNAL OF INSANITY

PRESIDENTIAL ADDRESS.*

By JAMES V. ANGLIN, M. D.,

Medical Superintendent, The Provincial Hospital, St. John, New Brunswick.

To this, the seventy-fourth annual meeting of our Association, opened so auspiciously, it is my privilege to welcome you officially.

It was with trepidation that preparations for it were proceeded with in this year of stress, but its carrying on will be justified if our coming together enlarges the common store of useful knowledge; increases our mutual understanding; helps to sweep away obstacles to the advance of the healing art, and quickens us to do our bit in freedom's cause, whose battle-line reaches to our homes, our gardens, and our pockets.

Last year at the closing of the meeting, I took opportunity to thank the members there for selecting me for the presidency of this venerable body, and I now repeat how sincere is my appreciation of this distinction. It is most gratifying to have bestowed on one your best gift, as it expresses what all men covet earnestly—the good-will of one's associates. And yet there wells up in mind the thought, that when in the sunny south I was placed in line for the chair I may now occupy, it was, in part at least, because I was a citizen of no mean country, and the majority of you, holding allegiance to another, sought in some measure to show your younger brother of the north that your heart was with him when he rushed into the fray to fight for the liberty championed by Great Britain, and thrilled that fond mother who had thrown her protecting arms about him from his tenderest years, without other return than his loyalty and love.

Fifty years ago, Canada had her first Dominion Day, when from the position of a group of provinces lying on the banks of a mag-

* Delivered at the Seventy-fourth Annual Meeting of the American Medico-Psychological Association, Chicago, Ill., June 4-7, 1918.

nificent waterway, she stepped into self-conscious nationhood, embracing a territory which now stretches from sea to sea, and from the river, St. Lawrence, to the end of the earth. Britain's tenure of Canada depends neither on the strength of her battalions nor on the might of her fleets. Within her borders there has not been stationed since my earliest recollection a single soldier, nor a single cannon over which Britain claimed control. Yet her influence in her great colony has grown more and more powerful. The Canadian people are animated by the same sentiments of loyalty as are found in the isles of their fathers, and British interests are as secure in their keeping as in the very core of the empire.

I need not recount Canada's contribution to the present conflict. Everywhere in this country you have been generous in the extreme in expressing admiration of the spirit of the Dominion.

Germany did not believe that the lion would be able to obtain effective assistance from its whelps in the event of a European war. This opinion must have been derived from the Victorian era, when knowledge of the colonies was vague.

It is only within recent years that British statesmen have shown any real understanding of their dominions beyond the seas. There was a day when one can imagine their welcoming the news that every colony of the Empire had issued a declaration of independence, fashioned on the model of that with which Washington confounded the politicians who surrounded the King.

Canada got on the British map during the Boer war, appealingly and permanently. Over in England they sat up and took notice then, though many who are fighting with us now were not quite sure we were doing the right or chivalrous thing. But most people outside of Germany and Britain did not realize that the Kaiser's cable to Kruger was the formal shying of his helmet into the ring, and the existence of the British Empire was at stake in South Africa. In the darkest period of the Boer war, Canada had sprung to arms, which should have been an augury to Germany of what the colonies would do when their mother was in trouble.

It is a part of our national creed that what the 19th century was to this great neighboring republic, the 20th will be to my country. Canada's soil is destined to support teeming millions. With boundless acres, enriched by wastefulness while the lone Indian

scoured the plains, capable of providing the world with the finest of the wheat, with mineral stores of wonders untold, with unrivalled natural forces and virgin forests, with a stern yet invigorating climate, one would indeed be bold who would picture the meridian splendor of the nation which possesses such an heritage.

The most important purpose of such an association as ours is the mutual improvement of its members by advancement in knowledge. No class stands in greater need of getting together frequently than do men of our profession. We are called on to decide complicated problems involving the well-being, yea, the very lives of our fellows. The experience of the greatest is limited. It is easy to stray from the narrow path. There is no corrective equal to discussions with others. In this matter our Association has accomplished much. We have a journal to link us together through the year. It gives an account of our meetings which is a boon for those who cannot attend. Experimenters through this medium can convey information as to their hopes, aims and accomplishments directly, without filtering through foreign publications. That man deceives himself, however, who fancies he can derive the same benefit from a perusal of the JOURNAL as he would from coming to our meetings. He misses the second object to be attained in a society like this—the binding together of its members by means of social intercourse.

Ample time should be allowed for interchange of opinion over the tea cups, or any place as congenial. While there is room for reminiscences not purely scientific, mental stimulus is to be derived from contact one with another, quietly discussing problems about our life-work.

“Our discords, quenched by meeting harmonies,
Die in the large and charitable air.”

The present time is for all of us one of deepest anxiety, with a great sense of unrest. The angry clouds of war have hung heavily over us for nearly four years, and show no signs of lifting. Many friends are overseas, to mitigate suffering, liable and ready to give their lives, if need be, in behalf of country, liberty, and our ideals of honor, truth and justice. Some dearer to us than tongue can tell are in the fighting ranks, in jeopardy every hour.

With such distraction it was impossible to focus the mind on such an address as you have usually had from the long line of my

forerunners, even were such timely, and I capable of keeping to the beaten path. The constitution says your president shall prepare an inaugural. He is not to come here, open his mouth and expect the Lord to fill it. In an effort to obey, I shall occupy further time while you become acclimated to this lake-region with an endeavor to discover some silver lining to the leaden clouds on which Mars is riding so recklessly. For myself, I was born beside these waters after they had laved Chicago, and so am quite at home. The horrors of war are so constantly present that there may be some consolation in looking for another side.

I remember how in the first days of the war we stood aghast and said it could not endure more than a few weeks; how David Starr Jordan proved conclusively, we thought, that the bankers would never permit a world war to begin; how Samuel Gompers said that labor would prevent the rupture of international peace; and how that brilliant wielder of the pen, Goldwin Smith, had declared that Canadians would never face a bayonet for England's sake. We have lived to see how far astray were such surmises. The greatest conflict in history not only began but has extended over weary years. Laboring men who had pledged their word to protect their alien brothers flew to the colors of the greatest autocrat of all time, and the best of Canadian youth are over there where they have proved themselves of such stuff that no troops have put greater fear into the hearts of the foe. They have shown invaluable initiative; innate to the new world, and your boys will do the same.

So, though the future may not bear one out in taking the optimist's view-point, no harm can follow "reaching a hand through time to catch the far-off interest of tears."

Every evil thing is followed by some good, and every achievement of good only uncovers some further ill for men to combat. Early in the war, in nearly all the belligerent countries, there was a sudden decrease of crime due to the absorption of many law-breakers into the armies, and fewer idle hands for Satan to get busy with. A few months later, however, juvenile crime increased from lack of parental control, the fathers having gone to war, the mothers to work.

Likewise war found work for everybody. Thousands of families who were never far from the starvation line, now earn

wages they never dreamed they could command. That is a good thing, but it too has its demoralizing side. Money thus unexpectedly possessed threw men and women off their moral balance, and the saloon has flourished.

It is in these contradictory elements in our progress that ammunition is found for optimists and pessimists. The pessimists claim that the evil counterbalances the good. The optimists take the opposite view and history seems to favor the latter.

Medicine itself is likely to gain little from the experience of war. It has taught the surgeons much about the proper application of Listerian principles; physicians, the efficacy of inoculations against diseases which formerly decimated armies; alienists, the effects of shell-shock. But such advances in knowledge, valuable as they are in themselves, have comparatively little application to ordinary life. The practical humanity of the medical officers, shown in so many ways, is indeed a relief to a contest in which angry nations use every means of destruction to exterminate each other. But the blast of war that blows on our ears makes the still small voice of science inaudible.

Some comfort comes from learning that there is no evidence, in Great Britain at least, that since the outbreak of the war the amount of insanity has increased. There has actually been a decrease in hospital admissions, due mainly to the absence of so many men in the army, who are dealt with by the military if they become insane. Among women, the higher wages earned, and the separation allowances regularly received, have relieved domestic uncertainties. Many who had nothing to do previous to the war have forgotten self by throwing their energies into active work for others. Rich and poor alike are now busy all the time. The result is a vast improvement in the nation's mental stability. People whose lives were empty are interested from morning till night. Work is the surest consolation for the grievous sorrow of war.

Even among the soldiers mental disorders have not been as prevalent as expected. The French conclude that with a few exceptions, in which a pre-existent organic taint was always to be found, the war has not been productive of insanity. It were well, quoth the observer, if the opposite could be said, namely, that insanity has not produced the war. What was chiefly feared was

mental disorder among men worn out by the fatigue of the campaign, but such cases have been rare. The circumstances of service in the field react on the mind in so many ways and so differently from the influences of peace that new forms of mental trouble may result.

The experience of the war is certain to lead to better lunacy laws. There has long been complaint that mental disorders have been regarded on a different basis from physical. Though in no department of medicine is the need greater for the earliest treatment, yet the tendency of existing laws is to cause remedial treatment to be postponed. The trouble arises from the fact that the laws governing these matters were framed by lawyers who are concerned in arranging how people are to be protected. But public health asks how mental sufferers are to be best treated so that they may be cured. The lawyer's view-point though important has been allowed to outweigh all others. The war has made it necessary to deal with the problem in a fresh, untrammelled way. Hitherto, the law has hindered early treatment in many cases by making certification necessary for admission to an institution, by inflicting the stigma of pauperism, and by branding the recent case with insanity with all the disastrous consequences that flow therefrom, unjust though they be. The army has brushed these difficulties aside. Numerous cases of recent mental disturbance among the soldiers have been dealt with in special hospitals without being certified insane in the usual way. Out of nearly 4000 such cases among the British troops less than 200 had to be transferred to an insane institution. The soldiers suffer from the stigma neither of insanity nor of pauperism, and there is no obstacle to the earliest and best treatment. A civilian should have the same advantages when a mental breakdown threatens. There is no essential difference between the case of the soldier who becomes insane in the defence of his country, and that of a woman who suffers from mental symptoms brought on by producing her country's defenders.

The maxim that medical science knows no national boundaries has been rudely shaken by the war. The Fatherland has been preparing for isolation from the medical world without its confines. Just as years ago the Kaiser laid his ban on French words in table menus, so as early as 1914 German scientists embarked on a cam-

paign against all words which had been borrowed from an enemy country. A purely German medical nomenclature was the end in view. The rest of the world need not grieve much if they show their puerile hate in this way. It will only help to stop the tendency to Pan-Germanism in medicine which has for some years past been gaining headway.

The Germans excel all other nations in their genius for advertising themselves. They have proved true the French proverb that one is given the standing he claims. On a slender basis of achievement they have contrived to impress themselves as the most scientific nation. Never was there greater imposture. They display the same cleverness in foisting on a gullible world their scientific achievements as their shoddy commercial wares. The two are of much the same value, made for show rather than endurance—in short, made in Germany.

While they were preparing men and munitions for their intended onslaught for world dominion, they were spending millions of dollars to win the admiration of both the working classes and the intellectuals of other nations, extolling the superior conditions of the Fatherland, picturing it a paradise, with model homes, short hours and high wages. This was but a cloak for the sinister plans of Prussian autocracy. But how great has been the disillusionment! The facts are its working classes labored longer hours than in any other country and for starvation wages, the women and children toiled like beasts of burden in most strenuous trades, sweat-shops abounded, many suffered from lack of fuel and food, farmers were oppressed with a rigid caste system so arranged that a peasant child could never become other than a peasant. Instead of the villas embowered with flowers, the general mass of workers lived in barrack tenements, gloomy and foul, lacking baths and heat, but with gaudy exteriors as camouflage.

In the earliest months of the war, it was pointed out that there are tendencies in the evolution of medicine as a pure science as it is developed in Germany which are contributing to the increase of charlatanism of which we should be warned. A medical school has two duties—one to medical science, the other to the public. The latter function is the greater, for out of every graduating class 90 per cent are practitioners and less than 10 per cent are scientists. The conditions in Germany are reversed. There, there were 90 physicians dawdling with science to every 10 in practice.

Of these 90, fully 75 per cent were wasting their time. In Germany, the scientific side is over done and they have little to show for it all, while the human side is neglected. Even in their new institutions, splendid as they are in a material sense, it is easy to be seen that the improved conditions were not for the comfort of the patients.

Out of this war some modicum of good may come if it leads to a revision of the exaggerated estimate that has prevailed in English-speaking countries of the achievements of the Germans in science. We had apparently forgotten the race that had given the world Newton, Faraday, Stephenson, Lister, Hunter, Jenner, Fulton, Morse, Bell, Edison and others of equal worth. German scientists wait till a Pasteur has made the great discovery, on which it is easy for her trained men to work. She shirks getting for herself a child through the gates of sacrifice and pain; but steals a babe, and as it grows bigger under her care, boasts herself as more than equal to the mother who bore it. Realizing her mental sterility, drunk with self-adoration, she makes insane war on the nations who still have the power of creative thought.

Alienists have been infatuated with German pseudo-discoveries. Novelty of terminology has been taken for originality of thought and their works on insanity have been accorded undue authority. We ignored the substance in our own and the Motherland, and chased the mirage on the Continent.

Since the German army was successful in 1870, it has been idolized, and the admiration bestowed on it has extended, so that in spite of the fact that the Germans themselves have gone to other countries for their ideas, we have cultivated a superstition of German pre-eminence in everything, but especially in science. There might be some excuse for this if they had made any discoveries comparable with those of the circulation of the blood, of vaccination, of asepsis; all made by men who speak our language; or if German names were identified with important lesions or diseases, as are those of Colles, Pott, Bright, Addison, Hughlings Jackson, Hutchinson, Argyll-Robertson and others.

But it is especially in mental science that the reputation of the Germans is most exalted and is least deserved. For every philosopher of the first rank that Germany has produced, the English can show at least three. And in psychiatry, while we have

classical writings in the English tongue and men of our own gifted with clinical insight we need seek no foreign guides, and can afford to let the abounding nonsense of Teutonic origin perish from neglect of cultivation.

The Germans are shelling Paris from their Gothas and their new gun. Murdering innocents, to create a panic in the heart of France! With what effect? The French army cries the louder, they shall not pass; Paris glows with pride to be sharing the soldiers' dangers, and increases its output of war material; and the American army sees why it is in France, and is filled with righteous hatred. Panic nowhere. Vengeance everywhere. What does the Hun know of psychology? His most stupid, thick-witted performance was his brutal defiance of the United States with its wealth, resources and energy. That revealed a mental condition both grotesque and pitiable.

After the war a center of medical activity will be found on this side the Atlantic, and those who have watched the progress medical science has made in the United States will have no misgivings as to your qualifications for leadership. If we learn to know ourselves, great good will come out of this war.

Since 1914, there has been an awakening of the public conscience regarding health. An impetus has been given by the wonderful results of sanitation in the armies. In this we are interested because bodily disorder often foreruns mental, and many cases we treat are due to an infectious disease usually avoidable. Long ago, Disraeli declared that public health is the foundation on which rests the happiness of the people and the strength of the nation. Statesmen generally are only now recognizing that not only is the well-being of many millions of workers involved, but that the development of a country is checked if due attention is not given to the many problems associated with the maintenance of health.

In my home province this spring, the government has created a health department to give at least as much attention to human beings as it has done to domestic animals or the moose that attracts sportsmen to the wilderness. The more grave the situation in France becomes, the more vigorously should we strive to shield those who can assist in greater production from preventable disease and lessened efficiency. The war has impressed us with the fact that the childhood of the nation is the second great line of

defence and every child must be saved not alone for its own sake or its parents, but for the continuance of the nation.

This war has shown us the value of developing the bodies of our young people. Wherever soldiers have been in the making there has been demonstrated what a change military training brings about in the recruits, converting youths of poor physique into erect, strapping, ruddy athletes. It is hard to realize they are the same human material, but for the first time in the lives of most of them they have learned how to live. When compelled to endure hardships such as they never knew before, or lie in hospital recovering from wounds, the fitness secured by training is a decided factor in their favor. When the cruel war is over and welcome peace has stilled the stirring drum, shall the call for this physical fitness be no longer made? The need of it will not pass away. The demands of peace make it necessary that every youth be made as perfect as possible. And this applies equally to girls. The country which would produce a hardy race must have strong women as well as strong men.

Nationally, we had almost completely ignored the cultivation of the body. We make it compulsory for every child to submit to years at school for the sake of intellectual training. But its physical development has been left largely to chance and nature, and then when we call for soldiers we find a third of our youth unfit. It must be the state's business to attempt in every possible way to develop the physical life of our young people. Even if it meant the taking of a whole year for necessary training it would be a national boon, adding as it would, 5 or 10 years to the life of the individual. The time for trusting to luck and letting things slide has surely passed. Benjamin Franklin said wars are not paid for in war time. The bill comes later. This is a sad truth, but the bill will be settled the sooner if we make the most of the rising race.

The war will hasten some scheme to provide all who need it with medical care. Often among the working classes disease leads to distress and distress to disease, and charity in some form has been obliged to assist in destroying this vicious circle. Free hospitals have arisen but this condition is not ideal, yet the man with meager income must accept this charity. A better plan appears to be that of an insurance under which all wage-earners are compelled while well to accumulate a reserve which will defray part, at least, of

the expense during periods of disability. Some such plan has just been pressed on the British to provide in case of illness or injury adequate care for all persons whose income is less than \$800 a year. Nine-tenths of the general practitioners in the British Isles have entered into the scheme.

On this Continent, little attention has been given to a measure of this kind, but it seems probable that whether medical men like it or not a similar one will become law on this side of the Atlantic.

The war has brought about a curtailment in the abuse of alcoholic drinks. For some years past there has been a revolution going on in regard to intoxicants. The world-wide attack on liquor at the outbreak of the war was simply the crystallization of an antagonistic sentiment which had been slowly forming based on scientific evidence of the physiological and social effects of alcohol drinking.

There is no reason to suppose that the great temperance wave is a passing thing which will ebb when the excitement of the war is over. Unless all signs fail, it represents a permanent gain whose far-reaching benefits members of this Association will be the first to appreciate. It is not the moral reformers who have brought prohibition to pass. There is now a solid body of educated sentiment behind the law. Business corporations are roused against the liquor traffic as they certainly were not 25 years ago, because they now recognize that whiskey and efficiency make a poor team. The world has traveled a long way since that first teetotalter applied for life insurance and was charged an extra premium because total abstinence was so dangerous to health.

Social standards even in England, which still retains a bad pre-eminence in drunkenness, have marvelously changed since the days of Charles Dickens, who was quite unconscious that intemperance was anything more than an amiable weakness of generous and convivial hearts.

We are abolishing the bar. We still have the bottle. The quack-medicine vendor is busier than ever. Money is plenty and he wants some of it. He uses mental suggestion and interests us. He is a specialist in distortion who probes into the ordinary sensations of healthy people and perverts them into symptoms. Every bill-board, newspaper, fence-rail, barn and rock thrusts out a suggestion of sickness as never before. The only

vulnerable point to attack the vicious traffic is the advertising. If governments forbid that as they should, the next generation will be healthier and richer. If we are going to let imagination play let us exercise it on suggestions and symptoms of health.

The world is moving rapidly in these days and to women is being granted their rightful place. They are being given the ballot, not as a reward for what they had done in the war, but because they possessed the patriotism and the intelligence which entitle them to share in the conduct of public affairs.

We have been struck by the readiness with which our boys have responded to the country's call, and have admired their cheerfulness, but more impressive has been the heroism of the mothers, the wives, the sweethearts and the sisters, who have sent forth the best we breed without a murmur. Theirs is the harder task to go quietly on with the daily routine while the heart is in France with the boys they love. While many talented ones have been prominent in public service, behind them lies a great army of women who are not known outside of their own small circle, and who are yet the nation's richest possession, its most sacred trust, who make life attractive, and freedom possible and worth while. We would never have had such valiant armies in France if it had not been for the brave women at home. The advent of women into political life means purer government and the coming of long overdue reforms in the laws of the land.

Even our religion will be a better brand because of the war. Creeds count for little over there and will never again divide men as they have done. Less and less emphasis is put on the sweet bye and bye, and men's thoughts are turning to the service of their fellows here and now. They are recognizing the practical unity of religion and the square deal all round.

And so it will come to pass,

"That mind and soul, according well
May make one music as before,
But vaster."

The war is teaching us the value of thrift, that exceedingly useful virtue which most men practise only when they must. But unpopular as it has been, stern national necessity is now helping to restore it to its rightful place. On this continent we have not as yet gone far in this direction. But in the Motherland there is another story. For over two years not a single new pleasure

auto has been manufactured. Big social functions are not merely bad form—they have ceased altogether.

The traffic in luxuries in certain cases has been entirely wiped out. Everybody is wearing old clothes and saving the wool for the boys in the trenches, and saving the food that the army may be properly fed. England is practising economy such as she never did before, and the strange thing is that apparently business is better than it was in the days of more luxurious living. One reason for this condition is undoubtedly the fact that everybody is working. The scale of living for the rich has been lowered, but the scale of living for the poor has been raised. This is probably a help to both. The pinch really comes, however, on the middle classes whose salaries have not increased, but whose expenses have gone up by leaps and bounds. And yet there is no grumbling. The men who grumbled at everything in pre-war times are now silent when they have really something to grumble about. England in prosperity may sometimes be hard to put up with, but England in adversity is magnificent.

The war has done much for us if it has done nothing more than to reveal men to us. Before the war, we judged them by their petty virtues or petty faults, and we thought we judged correctly; but now we see that under it all lay a capacity and a willingness for self-denial and cheerful self-sacrifice that we had never suspected. The real nature of men has come to the surface, and we stand amazed at the goodness and grandeur of it. On this side the Atlantic, we have not yet seriously tackled the luxury question, but we shall have to deal with it in radical fashion, before our war debts are paid. Luxuries, whether they be costly or the smaller ones in which poorer men indulge, are not a necessity to national development or to individual happiness, and their abolition does not either ruin trade or make men discontented and unhappy. If the war teaches us this it will mean much for our future national and individual well-being.

Hospital superintendents, who are responsible for maintaining hundreds of lives and the operation of many acres, may be vital factors in both saving and producing, and thus play the game. It may be the only war service some of us can render.

With France all the time within a few days of starving; with Great Britain relying on us for 65 per cent of her essential foods; with the wheat of Argentina and Australia too distant to be avail-

able, Northern America must step into the breach to avert famine for a warring world and the fate that has overwhelmed the greatest empires of the past. A time of food shortage is at the door. It is hard to take it to heart while money is plenty. But money will not take the place of bread. By eating no more than we need, and by stopping waste, a good deal can be done to relieve the situation. At any rate, a good habit will have been formed.

But the common sense way of undertaking to prevent famine is to increase the food supply. This cannot be done in every land. Some nations are cultivating every foot that has not a building on it. But on this Continent the case is different. Here there are yet countless acres waiting for the breaking plow. In Great Britain they are tilling every available plot, and it is of just as vital importance to us that we increase production here as there. We are equally concerned in the outcome of the war.

Recently governments passed a law enacting that every able-bodied adult must be engaged in some useful occupation. If enforced without fear or favor it would set to work the tramp and the pampered son of the foolish rich man alike. Everyone would become a producer of wealth. It would be good for the country and still better for the idler himself. Idleness, whether of the poor or rich, is a crime against the state and is also the fruitful parent of vice and degeneracy. Ideals are changing; the gentleman is now a respectable citizen who toils in his country's service.

Distant though we be from the din and smoke of the battlefields, there is opportunity for us to prove ourselves heroes in the strife. These stars must not be left to do it all.* Each should take to heart that,

"It isn't the task of the few—
The pick of the brave and the strong;
It's he and it's I and it's you
Must drive the good vessel along.
Will you save? Will you work? Will you fight?
Are you ready to take off your coat?
Are you serving the State?
Are you pulling your weight—
Are you pulling your weight in the boat?"

* Referring to the "service flag" behind the speaker's desk with more than 90 stars, representing members of the Association in the army medical service.

There are not a few who, over three years ago, were almost wishing that they had never lived to see such a dire day as was then dawning, but who have come to see through the years that the dark day of tragedy was also a day glorious with opportunity and destiny. It is even now said that had the war been won two years ago, it would have been the worst thing for our nation, as its lessons had not been learned.

A new and better day is coming for this war-wrecked world. The sea before us is uncharted, and there may be much that differs radically from the past, but we can only do as Columbus did—sail on.

A new spirit is moving in the masses of society. Men's ways of thinking are changing more rapidly than at any other time in history. Before the war it was said that to spend 25 millions yearly on social reforms in Great Britain would mean national bankruptcy. Now it is found that more than that can be spent in a day to ensure the national safety. It will be found after the war that great expenditures to improve social conditions will come as a matter of course.

The soldiers will return with enlarged views of democracy and social justice. The rich and the poor, the learned and the ignorant, have together looked death in the face. The sense of brotherhood and comradeship has been immensely strengthened. Those who were less favored under the old social system will be inclined to demand justice and equality. Those who were more favored will be inclined to concede the demand. Artificial distinctions of rank and even distinctions founded on superior capacity and learning, fade away before the proof of the common virtues of manhood. The equality that is sought is the equality of brotherhood and of rights.

Just as in war time, so it must be in time of peace—the good of the country, the well-being of the many, must prevail against the privileges and over the rights of few. This is good politics. It is true patriotism. The world is going to be a better place for the great masses of men. If we can but keep up the habit that we are to-day learning of being world citizens, interested in great enterprises outside of ourselves, then we would be helping to build the democracy of the future, which must more and more become a society in which duties are greater than rights, and to serve a finer thing than to get.

If in these introductory remarks I have not been able to detach myself from the world's most serious business at the present time, perhaps on reflection they may not have gone very far afield from the subject which binds us together in an association. If there is to be a change in the conditions under which we live this must have its effect on the minds of men; whether for good or ill, I will not stop to speculate. We are intensely concerned with environment. This war itself is entangled with it.

England's greatness, her devotion to honor, truth, and fidelity, is due to the environment in which her children are trained and grow to manhood.

The ivy-grown wall, the vine-clad hills and the rose-covered bowers constitute the birth-place of English character.

Gerard tells us the cause of the war is the uncongenial environment in which the German youth is cradled and reared. The leaden skies for which Prussia is noted, its bleak Baltic winds, the continuous cold, dreary rains, the low-lying land and the absence of flowers have tended to harden the spirit and rob it of its virtue, produce a sullen and morose character, curdling the milk of human kindness.

It is a greater pleasure than usual for Canadians to meet with their American cousins in this year when our two countries are joined in the grim but glorious comradeship of war in defence of the heritage and aspirations that belong to us both. Our fathers came from common soil, their veins flow common blood. For over a century we have lived as good neighbors in the friendly rivalries of peace. Through proximity we have adopted more and more your ways without becoming a whit less true to the British flag.

After this war we will be still better friends. We will have been in a fight together and on the same side. We will carry flowers across the seas to lay on mounds in the same clime. The boys who come back will have the same stories to tell of struggles and triumphs. Let us hope that the present is the dark hour that precedes the dawn, and that ere long the sky may be fired with the red glow of the rushing morn; that soon the shot that brings victory—the last one—may be heard, and if it come from an American gun, no Canadian will begrudge you the lucky honor.

The war has achieved much in cementing the two great English-speaking nations of the world as nothing else could possibly have done.

Great Britain and the United States have never before fought shoulder to shoulder, but they are doing it now, and the fact is one ominous to their enemies. A common peril has united them, and a common aim will perpetuate the union. To no group of people will success in the war mean more than to the Anglo-Saxons, and the fact that this great family will in future dwell together in undisguised confidence and good-will is worth in itself all that the war has cost.

The Allies are depending on this land for food and men, for ships and guns, for ammunition and aeroplanes, and this is leading Britain to recast its views of the United States, and is leading the latter to regard Britain in a more favorable light than ever before. The old suspicions and the ancient grudges are being melted away. Years of misunderstanding were trodden underfoot when American boys marched through the streets of an amazed and admiring London.

It had long been a reproach that on this Continent men cared for nothing but the almighty dollar and made gold their hope, but when the call came to sacrifice for the good of the Allies no nation ever responded more gladly or liberally. Britain asked for meat, all you could spare, and you answered with meatless days, with the result that the United States has been able to supply millions of pounds more of bacon and beef than were expected. To-day the British workman has his normal supply of meat, thanks to America's response.

Germany never played more clearly into the hands of her foes than when she scornfully defied the world's greatest republic, in the mistaken conviction that while the United States was of great potential strength she would not dare to challenge the mightiest military machine that ever cursed the world. But Germany's blunder will prove the world's salvation if it succeeds in binding together in friendship, the two great peace-loving, freedom-cherishing, English-speaking democracies, Great Britain and America.

In 1493, a tiny barque, frail and scarred by many a storm, the first craft from America, returned to the shores of Europe. She bore what was then termed the richest freight that ever lay upon the bosom of the deep—the tidings of a new world beyond that vast waste of water which rolled in untamed majesty to the west.

That was a year of good news for the people of Europe. The thirst for gold was as keen in the 15th century as it is to-day and the discovery of Columbus disclosed to monarchs and adventurers alike visions of wealth.

Little could they reckon that in this year infinitely more precious freight would be borne across the same pathway, when ship after ship, leviathans of the deep, would bring from that new world to somewhere in Europe, offspring of the sturdy pioneers from the old land, who in braving the savage forces of nature had found liberty, legions of brave and noble men, in martial array, with the star-spangled banner at the mast-head, to reveal to the war-bound nations visions of something with which those of the wealth of the boundless West or the gorgeous East could not compare—visions of freedom for all mankind.

Thank God! "Our fathers' God, to whom they came in every storm and stress," America did not turn a deaf ear to the laureate's apostrophe:

"Gigantic daughter of the West,
We drink to thee across the flood;
We know thee most, we love thee best,
For art not thou of British blood?
Should War's mad blast again be blown,
Permit not thou the Tyrant Powers
To fight thy mother here alone,
But let thy broadsides roar with ours."

TRAUMATIC AND EMOTIONAL PSYCHOSES. SO-CALLED SHELL SHOCK.¹

By J. ROGUES DE FURSAC, M. D.,
Formerly Chief of Clinic at the Medical Faculty of Paris, Physician-in-Chief of the Public Insane Asylums of the Seine Department.

TRANSLATED BY AARON J. ROSANOFF, M. D.,
*Major, Medical Reserve Corps,
U. S. Army Hospital, Plattsburg Barracks, N. Y.*

"Traumatic psychoses" and "mental disorders supervening at the occasion of traumatism" are not the same.

In the first place, one should not include among traumatic psychoses mental disorders which are brought on by some factor which may be associated with or superadded to a traumatism, as, for instance, an attack of delirium tremens in an alcoholic who has met with an injury, or one of febrile delirium in a wounded man who has developed an infection.

It is proper also to exclude those post-traumatic mental disorders which, by reason of their clinical manifestations or a characteristic morbid anatomy, find their place in a definite pathological group, such as general paralysis, dementia præcox, or a constitutional psychopathic state. In such cases we are dealing not with traumatic psychoses but with general paralysis, dementia præcox, or a constitutional psychopathic state in the etiology of which the traumatism has played a part the importance of which is variable and for the most part merely contributory and indirect.

Thus far all are agreed.

¹ (TRANSLATOR'S NOTE.—The European armies have suffered in the course of the present war a large incidence of mental disorders. It may be predicted that when the American army becomes fully engaged in the struggle many cases will develop for psychiatric study. Therefore any studies of war psychoses that have been made by the medical officers of the European armies cannot fail to be of practical interest to us. One of the most lucid presentations of the subject that have come to my attention is this one, which was published by the author in the form of a new chapter added to the fifth French edition of his *Manual of Psychiatry*. I have translated it in order to bring it within more ready access of medical officers of the American army.)

It has, however, also been customary to include among traumatic psychoses the many cases in which mental disorders have broken out after a traumatism which is in itself but slight, perhaps insignificant, but which is accompanied by an intense emotional shock. This is but an abuse of language. The effectual cause here is the emotional shock. The physical trauma is nothing, the psychic trauma—to use an expression which is more than a mere figure of rhetoric—is everything. This is true to the extent that mental disorders observed in cases of this sort are identical in nature, in severity, and in their course with those known to be produced by a violent emotion acting alone, *i. e.*, independently of any somatic injury. The term “traumatic psychoses” in application to these cases is, therefore, inappropriate and should be replaced by the term “emotional psychoses.”

Thus one is led to distinguish: *a.* traumatic psychoses proper, resulting either from a localized cerebral lesion or from a general concussion of the brain; *b.* emotional psychoses, due to emotional shock with or without a traumatism which is more or less slight and not necessarily involving the brain; to which should be added *c.* the cases of war psychoses or so-called shell shock, which, as we shall see, are nothing but emotional psychoses.

A. TRAUMATIC PSYCHOSES PROPER.

I shall speak but briefly of the psychic manifestations which supervene when an injury results in a localized cerebral lesion.

In one group of cases the cerebral lesion is conditioned by a lesion of the skull—either a compound or a simple fracture. The mental disorders generally consist in psychic paralysis, often beginning with a comatose phase and amounting, in degree, from mere mental dullness to complete stupor or an agitated and delusional state of confusion, depending upon whether or not the psychic paralysis is complicated with exaggeration of mental automatism.

To the mental symptoms are added eventually symptoms of destruction or irritation of the part of the brain affected: paralyses, contractures, focal epilepsy, disorders of speech, etc.

The prognosis *quoad vitam* depends upon the region injured, the extent of the lesion, and ultimate complications.

The prognosis *quoad mentem* depends to a certain extent upon the same factors. A very extensive lesion is almost bound to be followed by a definite mental deficit, more or less pronounced. Nevertheless the relation between the magnitude of the cerebral lesion and the gravity of the mental disorders which are its permanent consequence is far from being absolute. Certain destructive and very extensive lesions, notably of the frontal lobes, are particularly well borne from the psychic as well as the physical standpoint. The present war has furnished numerous instances in point. One of the most celebrated is that of Guépin.³ I have had under my own care a wounded man who had had the greater part of his frontal lobes destroyed by a shell fragment, the case note from the hospital in which he was first treated estimating the loss of cerebral substance at 200 grams. About four months after the injury he showed but slight mental enfeeblement, consisting mainly in weakness of attention and memory, certainly much less marked than one would expect in view of the amount of damage.

In a second group of cases the traumatism likewise produces a localized brain lesion, but the latter is wholly internal without involvement of the skull or integument. The lesion may be a rupture of a blood vessel resulting in hemorrhage. The characteristic symptoms, which generally do not appear until several hours, very exceptionally several days, after the injury—the time in which the effusion of blood takes place—are those of rapidly developing cerebral compression: intense headache, vomiting, slowing of the pulse, confusion, automatic agitation, delirium, finally signs of paralysis ending in death.

The traumatism may also be the starting point of a pathological process of slow development, generally, in such a case, a cerebral neoplasm. The physical and mental symptoms are at first slight or absent, grave symptoms appearing after several weeks or even months. The symptomatology and course are those of brain tumor.

We may dwell at greater length on traumatic psychoses due to concussion of the brain, either by direct violence such as a blow on the head, or by indirect violence such as landing, from a fall, on the feet or on the buttocks.

³ Reported to the Academy of Sciences on March 22, 1915.

I shall submit first a clinical example :

ADRIEN D., mason, aged 35, without abnormal family or personal antecedents, fell from a scaffolding about five meters high upon unpaved but dry and hard ground. He was picked up unconscious and taken to his home.

Externally was found only a small contused wound at the top of the head, without lesion of the bone, which healed in a few days.

After being in coma 18 hours the patient gradually regained consciousness, but for eight days he remained in a state of very marked confusion. He is stupid, dull, completely disoriented as to place and time, and dreams a good deal, especially at night. He reacts to physical stimulation (pricking, pinching), but does so slowly and feebly. He does not respond to questions unless they are very simple. He has become oriented as to place but is still completely disoriented as to time. His attention is difficult to gain and impossible to hold. Recollection of occurrences preceding the accident is labored and inaccurate. He has complete amnesia for the accident and what followed. Actual impressions are fixed in his mind for but a very short time: at the end of five minutes he forgot that he had been visited by the physician. He often brings his hand up to his head without saying anything, and when asked if it hurts him says "Yes, a little." In the day time some illusions are noted, the patient mistaking persons for one another. Sleep is scarce, and the greater part of the night is passed in a dream state, chiefly occupational: he thinks it is time to go to his work, asks for his clothes, gets up and looks for his tools, converses with imaginary persons, complains that the cords have not been properly placed, that the mortar is too thick, etc.

After the first week attention and memory improved a little. The patient retains some few impressions; yet the amnesia of fixation, though no longer complete, as in the preceding period, is still very marked. The disorientation of time persists. A most active and mobile tendency to confabulation has appeared. One month after the accident, when the patient had not yet left his bed, he told of having been eight days before at the fair in X., where his brother-in-law, a cattle dealer, had gone to sell some oxen. In response to leading questions he gives minute details, which vary from one moment to the next and become contradictory. When the contradictions are pointed out to him he admits readily that he may have been mistaken as his memory has failed him. The realization of his abnormal state is, however, but transitory and weak. When told that he is sick and must take care of himself he shows an irritability not previously noted, falls into violent anger, refuses medicine which is offered him, saying he has had enough and wants to go.

He has a vague idea that he has been in an accident, but, although it has been spoken of many times in his presence, cannot tell the exact circumstances of it. Until the sixth week he knew only that he had fallen, but from where, what height, how, he did not know: perhaps from a roof, or a ladder, or a scaffold—such things, he said, happened often in his trade. Sometimes, by way of confabulation, he becomes more specific.

Thus about five weeks after the accident he told how he had fallen from a carriage while he and his master were on their way to see what work there was to be done. Another day he told that a heavy brick had fallen on his head. (In fact he had had a brick fall on his head about two years previously, but from a very low height and without causing any appreciable harm.)

He inquires from time to time if his insurance has been paid, but does not occupy himself effectually with the defense of his rights and does not seem to be interested in the progress of the negotiations concerning this matter.

Physically there is to be noted, aside from the headache mentioned above, only a general muscular weakness and some vertigo. No signs of any localized cerebral lesion. No convulsive manifestations.

The patient's condition remained almost stationary for about three months. After that, gradually, attention improved, memory was restored, the pseudo-reminiscences became more rare and were spontaneously corrected. Finally at the end of six months he could be considered convalescent, there remaining but occasional vertigo, a certain mental and physical fatigability, and an amnesic gap commencing very sharply a few instants before the accident and ending imperceptibly somewhere in the course of the second month by giving place to some fragmentary and vague recollections which grew gradually more complete and more precise.

This case represents a type of traumatic psychoses. In it are found combined the etiological and symptomatological features of the psychopathic states resulting from severe cerebral concussion by violent traumatism: a close chronological relation between the injury and the onset of the symptoms, the latter directly following the former; period of coma, period of marked confusion with dreams, passing by insensible transition into a semi-confused period characterized mainly by weakness of attention, amnesia of fixation, and confabulations; gradual and slow amelioration of the symptoms of the last period and progress toward recovery, the patient retaining only a definite gap of amnesia for the accident itself, the comatose period, and a part of the period of confusion, and an abnormal fatigability which may persist for years.

Within this type the following variations occur:

Variations in symptomatology, depending on predominance of mental dullness (*stuporous form*), of delusions and psycho-sensory disturbances (*delirious form*), or confabulations (*paramnesic form*); also depending on the superaddition to the basic syndrome of various phenomena, such as epileptiform seizures (*convulsive form*), paralyses, Jacksonian convulsions, aphasias (*localized*

forms). The phenomena of cortical inhibition or irritation which characterize the localized forms are generally due to small hemorrhagic foci, for the most part subarachnoid, and lumbar puncture, performed in the beginning, reveals the presence of blood in the cerebrospinal fluid.

Variations in intensity: fulminating form of concussion of the brain, in which the patient dies in the comatose stage, and which is but of forensic interest; *mild form*, in which the comatose period is lacking and the clinical picture is reduced to a transitory mental dullness accompanied by vertigo and ringing in the ears and followed by a brief period of physical fatigue.

Variations in course: demented form, in which a state of psychic deficit establishes itself definitely. It is probable that in cases of this sort the mental disorders are conditioned by permanent lesions, most frequently hemorrhages, sometimes also irritating lesions, necrotic or neoplastic, which are superadded to the concussion but which, not affecting any of the projection areas, at first pass unnoticed. Such demented states belong to the organic psychoses and not to psychoses of concussion proper.

Cerebral concussion, resulting from a physical shaking up, should have its *anatomic lesions*. These are not yet known, doubtless by reason of their minuteness which renders them inaccessible to our means of investigation.

Their *mechanism* has been made the subject of two hypotheses: one, due to Duret, which assumes a sudden displacement of cerebrospinal fluid, the other, due to Koch and Filehne, which assumes a direct shaking up of the nervous tissues by the traumatic shock.

The *prognosis* is generally favorable, excepting, of course, the fulminating and demented forms.

The *treatment* should consist for the entire duration of the acute manifestations—aside from surgical intervention which may be indicated by focal symptoms—in absolute and continuous rest, counter-irritation of the lower extremities, relief of congestion of nervous centers by means of leeches applied to the mastoid processes, and, in cases in which there are signs of general cerebral compression, lumbar puncture or trephining for decompression.

Mental re-education is indicated, at first in moderation, later, upon the disappearance of the confusion, more and more inten-

sively, in the form of exercise designated to stimulate memory and attention.

B. EMOTIONAL (PSEUDO-TRAUMATIC) PSYCHOSES.

Here again the best way to begin is with an example:

FELIX R., aged 40, accountant, was about to step out of an elevator to the first floor of a building. As he started to put his foot on the edge of the landing, the cage of the elevator unexpectedly went down again and carried him down. There does not seem to have been any violent shock, the cage of the elevator being in no way damaged, and two bottles which the patient was carrying in a basket remaining unbroken. R. was able to open the door of the elevator and to walk as far as the janitor's apartment. According to the latter, he appeared wild, terrified, and said only, in a scarcely audible voice, as though choking, "Elevator . . . fell." He was taken to a drug store where he was given some ether to inhale, and from there in a carriage to his home.

A physician who was called found no injury and ordered rest in bed.

For two days the patient remained in a state of prostration interrupted by several attacks of very marked anxiety in which he would sit up in bed and grasp his bed clothes or any person who might be near him, crying, "I fall . . . I fall . . . Help." There is not the least sign of any localized cerebral lesion.

On the third day the patient's condition improved rapidly. At that time was found a slight contusion of the left shoulder; the patient, who until then had felt nothing on that side, began to complain of much suffering there.

Upon his becoming quite lucid again it was found that he had preserved an exact recollection of the accident. He remembered how, at the moment when he was about to leave the elevator, he felt "as though the ground disappeared from under his feet and he saw himself carried down with staggering rapidity"—in reality the elevator must have gone down at no excessive speed—he felt an impact and after that he remembered nothing more.

He continues depressed, psychasthenic, and markedly overemotional. The facial expression is one of fear, the voice low, scarcely audible, speech hesitating; he starts at the least noise, slamming a door causes an attack of trembling; he cannot apply himself to any mental work, not even reading a magazine; old recollections are evoked with difficulty and incompletely; current events impress themselves in a fragmentary fashion and are quickly effaced; but it is to be noted that the patient, discouraged, convinced of his mental helplessness, makes no effort to overcome it.

This condition persisted in its entirety when I saw the patient three months after the accident: speech disorder; very marked weakening of attention which caused the patient, though accustomed to the work of an accountant, to give up an attempt to solve a simple example in arithmetic;

a most marked amnesia of fixation; a heightened emotional state manifested by trembling and tachycardia (pulse up to 120 per minute); undue preoccupation with thoughts of his health and his future: he shall never recover from this shock, "all cells have been shattered," it is all over, he shall no longer be able to work, his wife and two children shall be reduced to poverty. Finally, he awaits with impatience and anxiety the outcome of the negotiations started with the owner of the building in which the accident took place.

At the end of a year and a half the matter was adjusted by an indemnity, much lower than that which the patient had claimed at first, yet reasonable. Little by little the symptoms improved, and two years after the accident the patient could be considered cured. He still remains excitable and emotional, but he had been thus all his life. It is important to note, in fact, that the patient is in make-up emotionally very unstable, becoming uneasy and downcast at the least difficulty, not capable of enduring the slightest sorrow, and—what explains this abnormal psychic constitution—the son of an alcoholic father and a suicide mother.

The appearance, manifestations, and course of the pathological condition in this case may be summarized as follows: bad heredity, an emotionally unstable constitution, an accident producing an insignificant injury and an intense emotion; transient state of confusion with dream manifestations systematized upon the accident of which the patient has preserved an exact recollection; a subsequent prolonged state of heightened emotional tone and psychasthenia; extreme anxiety as to the consequences of the accident; improvement and later rapid disappearance of the psychic symptoms, immediately after the settlement of the question of indemnity.

It will be seen that this picture is very different from and in many respects the opposite of the preceding one.

The differences and the contrasts are in the very nature of the two conditions. In the first case (traumatic psychosis) the symptoms are the expression of a concussion, that is to say, a physical shaking up of the brain, while in the second (emotional psychosis) they are caused not by a traumatism, but by its accompanying emotion; in other words, they are of psychogenic origin: hence their purely psychic character and the influence which psychic factors have on their course—as shown, in the last case, by the cure following closely upon the settlement of the question of payment for damages.

To the purely psychic manifestations which constitute the basis of emotional psychoses are frequently added either neurasthenic

symptoms (headache, pain in the spine, muscular weakness, astasia-abasia, and other neuropathic manifestations which it is customary to connect with neurasthenia) or hysterical ones (paralyses, contractures, anæsthesias, hyperæsthesias, etc.). When such symptoms occupy a preponderating place in the general picture one has to do, as the case might be, either with a traumatic neurasthenia, or hysteria, or, when the two kinds of symptoms are combined, a hysteroneurasthenia. In fact there is no sharp demarcation between these nervous states and the purer forms of emotional psychoses; and it might be of advantage to group them all together under the name *traumatic psychoneuroses*, or, better still, *emotional psychoneuroses (pseudo-traumatic)*.

The *etiology* of emotional psychoses—or, if one prefers it, psychoneuroses—is simple. They require two factors: (1) a predisposed soil, in the shape of an unduly emotional constitution; (2) an emotional shock. As was said in the beginning, the traumatism is nothing, the emotion is everything. If emotional psychoses frequently follow a traumatism, it is because the circumstances producing the emotion can also produce a traumatism; but the latter may be lacking without the psychic and nervous symptoms being thereby modified in the least. Instances of emotional psychoses due solely to an emotion are not rare in the clinic. I can cite one in a young girl who, while imprudently crossing some railroad tracks, just missed being crushed by a train, but escaped without a scratch, and in whom, nevertheless, came on a psychopathic state absolutely fitting that described above. Emotional psychoses have been seen following great catastrophes (serious railroad accidents, the Messina earthquake, the great explosion in Jena, etc.). But it is mainly in the course of the present war that cases of this sort have increased, as we shall see when we come to the consideration of so-called shell shock.

The case which I have cited shows the influence upon the development and persistence of the psychic symptoms of the patient's preoccupations with the damage he thinks he has suffered and its economic and social consequences (diminution of earning capacity). In certain cases, designated *sinister* by Brissaud, this

element dominates the situation. The sinister type has a fairly constant evolution.

The neuro-psychic symptoms immediately following the accident are either absent or slight. The emotional shock which characterizes ordinary emotional psychoses, and the evidences of which were so plain in the above cited case of Felix R., is either not seen at all or seen to be but slight. But little by little, under the influence of idleness, of the depressing effect of the environment, and especially of the desire to obtain from those responsible for the accident or from insurance companies a high indemnity, the patient refuses, as it were, to get well. Far from attempting to overcome the difficulties which he experiences, for instance, in walking if the leg hurts him a little, or in mental work if it is somewhat of a strain for him to fix his attention, he refuses to make any physical or mental effort, and sometimes, in order to make sure that the damage which he has suffered may not be appraised below its importance, he exaggerates the symptoms which he experiences. It is said that the patient often becomes in such a case his own dupe, that is to say, he comes to believe in the gravity of the symptoms which he at first deliberately exaggerated. This is possible, but, in fact, there is no way of fathoming the conscience of a sinister case and to know—at least where gross fraud is not established—when he acts in good faith and when he knowingly exaggerates.

Generally the symptoms keep growing worse or, after attaining a certain degree, remain stationary until the settlement of the indemnity. Thereafter they disappear either suddenly or, more commonly, gradually.

However, in some cases the patient feels that the allowance made to him for damages is insufficient, the symptoms persist, and the fixed idea of having suffered an injustice is installed in his consciousness, giving rise to morbid interpretations more or less abundant and more or less illogical.

We here enter the domain of paranoic conditions with their chronic course and their antisocial reactions.

The question arises, should the original accident be considered the cause of the paranoic condition which eventually develops? Should those responsible for the accident, the employers—or the insurance company representing them—be held financially liable for the loss of working capacity, which is total in

most sinister cases? It is impossible, at least where the patient was not already delusional prior to the accident, to answer this question otherwise than in the affirmative.

However, it would seem unjust not to take account of constitutional predisposition, the part played by which, considerable in the etiology of most psychoses, becomes predominating when we deal with a paranoic condition. The total and permanent incapacity which may result in a sinister case from the development of a paranoic condition, should not be likened to the total and permanent incapacity resulting from the loss of both eyes or both legs. It would be poor medical practice to ignore the abnormal soil upon which delusional states develop. The duty of the medico-legal expert here is to make a deep study of the mental condition of the patient before as well as after the accident, particularly to find out characteristics of paranoic temperament which is the basis of delusional states, and to present to the court the problem in all its complexity.

The *treatment* of emotional psychoses is a matter to be handled cautiously, for the reason that too much therapy (medication, hydrotherapy, electricity, etc.) often results in anchoring more and more firmly in the mind of the patient the idea of a serious illness. These various treatments should therefore be tried with prudence and discontinued as soon as it is found that they fail to bring the desired result, and dependence should be placed chiefly on psychic treatment in the shape of training of the will, encouragement, and dispelling by appeal to reason the hypochondriacal notions which tend to arise. We shall return to the subject of psychic treatment in connection with emotional war psychoses. Finally, wherever the question of indemnity arises its disposition should be expedited as far as possible.

C. EMOTIONAL WAR PSYCHOSES (SO-CALLED SHELL SHOCK).

Explosions of projectiles or mines are capable of producing in subjects, showing outwardly no wounds or only insignificant wounds, neuropsychic symptoms more or less severe and lasting.

The cases of this sort fall into three groups.

In the first group, the soldier is thrown by the explosion with a resulting injury to the brain, either by fracture of the skull or by concussion, direct or indirect. The explosion has simply played

the part of an agent of propulsion. The neuro-psychic symptoms present no special character and vary according to the lesion which has been produced.

In the second group, there is no external violence. The subject presents signs of a cerebral or spinal lesion, generally a paralysis (hemiplegia, monoplegia, paraplegia). Lumbar puncture reveals the presence of blood in the cerebrospinal fluid. One deals here with a hemorrhage in the central nervous system, which must be considered a direct effect of the explosion, that is to say, of the changes of atmospheric pressure resulting from the enormous liberation of gases produced by the instantaneous combustion of the explosive substance.

Hemorrhages of this kind may be single or multiple. They are often associated with other internal hemorrhages (pulmonary, plural, visceral, etc.) or with external ones (auricular, nasal) produced by the same cause.* Here again all the observed symptoms are to be accounted for by an anatomic lesion and correspond to the localization and extent of the lesion.

It is not the same with cases in the third group, which is by far the largest. Here there is no external violence, no hemorrhage, no sign whatever of any organic lesion. The victim of the explosion, generally an excessively emotional subject, exhausted by hardships of the campaign, perhaps just recovered from a more or less severe illness, loses consciousness. For two or three days he remains in a state of confusion most often accompanied by dreams. Then he becomes lucid, but remains asthenic, emotional, living over again in his dreams his past terrors, and complaining of headaches and dizziness. This state may disappear in a few days, or it may persist for weeks or months, with or without complicating functional symptoms centering upon some organ, region or function (deaf-mutism, paralyses, contractures).

These conditions, of which some have tried to make a sort of psychosis peculiar to war, were at first attributed to cerebral or cerebrospinal concussion: hence the expression Shell Shock by which they have been designated. This interpretation is erroneous and the concept of concussion in relation to cases of this sort inappropriate.

* P. Ravaut. *Les hémorragies internes produites par le choc vibratoire de l'explosif*. Presse médicale, Apr. 18, 1915, No. 15, p. 114.

The error becomes at once apparent when one considers with some care the above briefly sketched and semi-schematic symptom picture. It is indeed not a picture of cerebral concussion, but one of emotional psychosis. A comparison with the preceding descriptions of these two conditions will show in the first instance a fundamental difference, in the second identity.

But without leaving the domain of war cases, it can be readily demonstrated that the real cause of so-called shell shock is not a concussion but an emotion.

Two soldiers fall sick, one following the explosion of a shell, the other following a violent emotion, for instance, the death of a close friend, killed suddenly beside him, as happened in a case I have seen. The first would be a case of shell shock—in the improper sense in which this term has been used—the second an emotional psychosis. Here surely are two etiological factors very different at least in appearance. Yet, passing into the clinical domain, as one tries to determine in what respect the cases are different one is greatly embarrassed in the attempt. The symptom picture is the same. There will be the same course with the same prognosis, subject to the same contingencies; there will be the same sequelæ, amenable to the same treatment.

Now, identical effects necessarily imply that under a seeming etiological duality is hidden a deeper unity. In the particular case, the explosion and the emotional shock could not translate themselves into the same clinical formula except through the intervention of a common factor. This common factor exists, and is none other than the emotion itself.

The explosion has not only physical effects, but also a psychic one, which consists in an emotional shock. In certain cases this *emotional shock* dominates the situation to the point of being alone responsible for the neuro-psychic symptoms which a hasty and superficial consideration at first placed in relation to cerebral concussion; and it is because both give rise to an emotional shock that the explosion of a shell and a terrifying sight find expression in the same syndrome. *The war psychoses which have been called shell shock are nothing but emotional psychoses*, and they might best be studied under the name "emotional war psychoses."

The *etiology* of emotional war psychoses comprises, accordingly, all the factors capable of producing an emotional shock:

explosions of projectiles (shells, bombs, aerial torpedoes, hand grenades), mines, ammunition stores; terrifying sights (cadavers, conflagrations, etc.); imminence of danger; death of comrades; and injuries (wounds, contusions, sometimes concussion in the correct sense of the word), for the most part not of a serious nature.

These various causes may occur in combination. One may find at the onset of the illness either an explosion preceded or followed by a terrifying spectacle, or imminence of danger combined with a slight wound, etc.

By arranging the causes of emotional war psychoses in three groups—explosion, pure emotional shock, and traumatism—we have found, for a series of 97 cases, the following proportions:

Explosion	68
Explosion and emotional shock.....	10
Emotional shock	9
Explosion and traumatism	6
Explosion, traumatism, and emotional shock....	4

These different factors, whether acting alone or in combination, show no efficacy except as they light upon a soil prepared in advance to undergo their action, a *predisposed soil*. The predisposition results most often from a constitutional defect consisting in emotional instability. "The individuals destined for shell shock are, before all, the emotionally unstable in whom the constitutional peculiarity has mostly manifested itself in their lives at occasions of painful emotion, and who react to events of the war as they have reacted to events of ordinary life, but in a manner infinitely more intense, because the excitants are infinitely more powerful."⁴

This constitutional instability may be accentuated, and even its place at times taken, by all external causes of debilitation of the nervous system: infectious diseases (typhoid fever or simple diarrhea), exhaustion, sometimes a previous explosion or emotional shock. It seems, in the last case, as though there might be a summation of emotional effects. I have cited, in collaboration with Gilbert Ballet, the case of a zouave who, thrown once by the explosion of a shell, escaped with a little dizziness and headache, but remained nervous and irritable and, three months later, after a second explosion, presented a typical emotional psychosis.

⁴ Gilbert Ballet and J. Rogues de Fursac. *Les psychoses commotionnelles, psychoses par commotion nerveuse et choc émotif*. Paris médical, Vol. 6, No. 7, Jan. 1, 1916.

In the mild cases the *symptomatology* of emotional war psychoses is reduced to a brief dazed period; the subject is for a moment stunned, dull, inert, speaking in monosyllables, his voice scarcely audible, articulation indistinct and hesitating. At the end of a few hours, sometimes one or two days, of rest he returns to his usual condition.

Where the disorder assumes a certain gravity one can distinguish, as in ordinary emotional psychoses, two phases: the first, acute (phase of confusion), the second, subacute (psychasthenic phase). I shall consider them separately, following which I shall speak of the systematized functional disorders which may be associated with the two phases respectively.

The *phase of confusion* often begins with loss of consciousness, generally immediately following the explosion or the emotional shock. However, in certain cases, especially the milder ones, the loss of consciousness may be lacking. In other cases, still more rare, the symptoms are delayed: the loss of consciousness and the phenomena of confusion do not supervene until some greater or lesser length of time after the shock causing them. Such was the case of a young infantryman who, having been half buried by a shell, helped to carry on the battle and did not lose consciousness until freed by his comrades.

The confused state which follows closely upon the loss of consciousness, or rather is a direct continuation of it, takes the form either of stupor or of a *dream state*. In the latter case the multi-sensory delirium is an enactment of battle: the patient hears the cannons and machine guns, sees Boches on all sides, looks for them under the beds, makes charges, hurls grenades, etc. This period abounds in abnormal reactions, violence and fugues which give rise to medico-legal questions (violence toward superior officers, disobedience of orders, leaving post, desertion).

It lasts from a few hours to a few days. Sometimes it constitutes the entire illness, the subject quickly recovering his usual mental condition. It would seem that the cases described by Milian under the name Hypnosis of Battles belong to this category.*

In other cases, also rather exceptional, the delirium and confusion may persist for several weeks.

* Milian. *L'hypnose des batailles*. Paris médical, Jan. 2, 1915.

Inversely, this period may be reduced to several hours and have passed off by the time the patient is brought in by the ambulance. I should be tempted to thus interpret the cases reported by Guillaín at the medico-surgical convention of the VI Army, under the title "A Syndrome Following Explosions of Large Projectiles Without External Wound," in which he had noted no symptoms other than those of a psychasthenic order.*

The transition from the first to the second period generally occurs abruptly. All of a sudden, in the hospital, in a train, or in an ambulance the subject regains his lucidity, recognizes his surroundings, and becomes oriented as to time. However, it suffices but a few moments of observation to note that he is still liable to show grave psychic symptoms.

Three fundamental psychic changes characterize the *psychasthenic phase*: neuro-psychic asthenia, heightened emotional state, and overactive imagination.

The *asthenia* is apparent from the external aspect of the subject. His attitude is drooping, the face immobile, expressionless, dull. This mask is striking, but, in a sense, deceptive. It results from loss of mimetic power and capacity of expression, and not from a condition of stupor or real indifference, as one might be led to think at first. As we shall see farther on, the patient is lucid, conscious, and, above all, overemotional and far from indifferent, but he is unable to give outward expression of what he feels and thinks. The asthenia is manifested also by psychomotor weakness: the motor reactions are slow, uncertain, feeble. It is not uncommon to see a patient fail to show a grip strength by the dynamometer of more than 10 or 15, sometimes only 4 or 5. The return of psychomotor energy takes place according to a fairly constant formula. Very rapidly, after several days of rest, a notable improvement occurs; the subject who in the beginning showed a grip of but 10 or 15, now shows 25, 30, or 35; then the improvement stops, and it is not until the end of his illness that the patient recovers fully his psychomotor energy.

Mentally are to be noted a weakness of attention, sluggishness of psychic processes, incapacity for intellectual effort, rapid fatigue—all these symptoms being expressed by their usual manifestations and being readily demonstrated by psychological tests

* *Presse médicale*, No. 6, Jan. 31, 1916.

in current use (reading, calculation, copying, crossing out certain letters on a printed page, etc.)—and finally disorders of memory which shall detain us for a time by reason of their constancy, importance, and tenacity. They occur in three forms: amnesic gap, amnesia of reproduction, and amnesia of fixation.

The *gap of amnesia* takes in the phase of confusion. It generally begins immediately *after* the shock causing the trouble: the patient knows that a shell exploded near him, that he was buried by a mine explosion, or that one of his comrades fell by his side, but he generally does not know by whom or how he was conducted to the rear.

In certain cases, not common, the amnesic gap is retrograde in character, taking in the shock itself and even some events preceding it: the patient then does not know what happened to him, nor, sometimes, where he was and what he was doing at the moment of the accident.

Inversely, in the very exceptional cases in which, as already stated, the loss of consciousness is delayed, the amnesic gap is also shifted forward, the patient retaining a recollection of all that passed between the shock and his loss of consciousness. The young infantryman mentioned above who, from the shell hole in which he had been half buried, helped to carry on the battle, remembered very clearly the drum signal announcing the danger, and his amnesic gap did not begin until the moment when, freed by his comrades, he lost consciousness.

The *amnesia of reproduction* is at times so marked that the patient has forgotten his entire past, including the address of his family, the name of the town in which he is stationed, the year of his military class, the number of his regiment, even his own name. In most cases the amnesia is less complete: some impressions have disappeared, others persist, in capricious fashion, regardless of the law of retrogression, old impressions being affected in the same degree as, and at times even in greater degree than, recent ones. We are dealing here merely with a paralysis of the evoking power, since, upon being cured, the patient recovers his impressions in their integrity. Sometimes the artificial evocation of one image, which acts somewhat as a primer, suffices to revive a whole group of recollections; for instance, by naming in the patient's presence the town in which the headquarters of

his organization are located he is enabled to recall the number of his regiment, names of his officers, etc. It is even possible thus to call forth events immediately preceding the shock, which at first might have been believed to be within the amnesic gap. One of my patients, in a fugue, was arrested, and, his case being at once perceived to be pathological, he was sent to the service for cases of confusion of which I then had charge at Ville-Evrard. He was unable to tell what had happened to him, when he had left his organization, and where he was at the moment. Another patient in the hospital, having spoken before him the name of the village B, he recalled at once that he had been at that place, that he there took part in an intense bombardment, that a great shell exploded near him, and that several of his comrades fell. All this was correct, and the shell explosion was the cause of his confused fugue.

The *amnesia of fixation* is no less constant and no less important to recognize than the amnesia of reproduction. In certain cases all events slip by without leaving the slightest trace. The patients know that they are in a hospital, because it needs but a glance around to see the other patients, but they cannot tell the name even if it had been told them 20 times. At the end of an hour they have forgotten the contents of a letter received from their relatives, although they had read it attentively and with interest. They recognize the examiner as a medical officer, address him as "Major," but are unable to tell whether they have already seen him before.

One of my patients, six months after the emotional shock which had caused his trouble, was still amnesic to such a degree that, having spent a day in Paris, he was, on the following day, absolutely unable to recall anything of what he had seen, except the Eiffel tower, the name of which he could not tell but which he described as "a great thing."

These different disorders, psychomotor asthenia, weakened attention, rapid fatigue, diminished capacity for intellectual effort, and amnesia, coexist with a judgment which, if not intact, is at most but slightly altered. The patient is conscious of his psychic reduction, sometimes even overconscious in the sense of exaggerating its gravity: hence, in many, a hypochondriacal tendency which, if not guarded against from the beginning, tends to assert

itself more and more and to become one of the most serious obstacles to recovery. This is exactly what we have found in connection with ordinary emotional (pseudo-traumatic) psychoses.

Similarly, as has already been stated, under the mask of indifference and dullness which strikes one at first, there is hidden an exquisite emotionalism, which is the second element of the tripod on which rests the symptomatology of the psychoses supposed to be due to concussion or shell shock.

The *heightened emotional state* is a continuous condition, consisting of vague uneasiness and apprehension, upon which as a background arise attacks of anxiety occasioned by the most insignificant happenings: a few questions, a medical examination, or simply being called. One of my patients said, "One must speak to my face, otherwise it frightens me." But it is mainly the recollection, however remote, of impressions related to the war that has the particular potency of exciting emotional crises. A shot fired in the distance, the sight of an airplane, a simple conversation about the war, suffice to let loose manifestations of anxiety. Thus another patient of mine, upon hearing several cannon shots, though fired at a great distance, was seized with such trembling that he had to be put to bed.

The *emotional crises* assume in the emotional war psychoses their usual clinical modalities, with all the variations and wealth of symptomatology of which they are capable: tremors, essentially polymorphous as regards localization, form and intensity, being either—and most frequently—limited to the upper extremities, or generalized upon the entire body; either horizontal or vertical, generally mixed; either fine and vibratory, as in Basedow's disease, or enormous, choreiform, with all the degrees that may occur between these two extremes; fibrillary twitchings of the facial muscles, especially those about the mouth; disorders of gait and station which may go as far as astasia-abasia; pulse acceleration up to 150 per minute; panting, irregular and shallow breathing; stammering, scanning or explosive speech, sometimes total verbo-motor inhibition producing transitory mutism. In certain cases the patient gives the impression of suffocating, like a person who has just had a cold spray.

It is to abnormal emotional irritability that are to be attributed the hysterical crises which are frequently seen in cases of so-called

shell shock. The psychic and motor symptoms by which they are characterized (intense affect, abnormally vivid mental images sometimes hallucinations, immoderate motor reactions) are of exclusively psychic origin and are subject, in their onset, development, recurrence, and disappearance, to the influence of the same factors as ordinary hysterical crises: emotion, imitation, presence of spectators, reaction of environment. It suffices to place these patients in isolation and under somewhat strict medical discipline to see the crises disappear as by magic. On the other hand, it suffices to be impressed with their tragicalness, to have them held by several attendants, to make these crises worse and more frequent.¹

Overactivity of imagination, which constitutes the third fundamental element of emotional war psychoses, generally goes hand in hand with the heightened emotional state, to which is due its development. It manifests itself by abnormally vivid mental images, dreams, sometimes talking in a dream, somnambulism, and in some cases dream delirium, usually nocturnal or at least most marked at night, which is to be considered a continuation or an exacerbation of the dream state of the period of confusion. It is hardly necessary to add that actions of war (bombardment, beating of drums, visions of airplanes, etc.) here make up all the material.

Hallucinations may persist as a sequela after the disappearance or very marked reduction of the other abnormal manifestations. I have reported, with Gilbert Ballet, a case of this sort. This was the case of a private in the infantry, already mentioned, in whom the onset of symptoms was delayed. Three weeks after the explosion he presented nothing more than a slight malaise and some hypnagogic auditory hallucinations consisting in rolling of drums heard by him in the right ear. We said then, "It is evident that the rolling of drums is nothing but a partial reviving of a somewhat more complex emotional delirium, a reviving favored

¹ I have not seen, following explosions of projectiles or mines or in the course of emotional war psychoses in general, convulsive symptoms other than those of hysterical crises. However, epileptic seizures have been reported (G. Guillaïn, at the medico-surgical convention of the VI Army, May 3, 1915. *Presse médicale*, May 27, 1915). This fact is not surprising, inasmuch as epilepsy can be caused by an emotional shock.

by the lowered consciousness which marks the invasion of sleep.”^{*} This would indeed seem to be the only plausible explanation of the hallucinatory sequelæ which sometimes occur after emotional psychoses. The same explanation would apply to the symptoms of a pithiatic nature of which we shall speak farther on.

Emotional psychoses present, aside from the psychic symptoms which have been described, certain somatic manifestations which will now engage our attention.

We shall first take up *subjective symptoms*: feeling of lassitude, fatigue, which is but an expression of the asthenia; headache, constant, generally slight or moderate, worse in the morning on waking, getting better in the course of the day, disappearing under distraction, made worse by painful emotions, presenting, in a word, the features of a neurasthenic headache; vertigo, very frequent, seemingly conditioned, at least in certain cases, by the state of the cerebral circulation: thus one of my patients—victim of a purely emotional shock—had to stop every few moments the work in the garden which I had prescribed for him; each time upon stooping to the ground, as he arose, he would be seized with vertigo and had to lean against something to prevent falling.

The headache and vertigo are in the first period generally masked by the confusion and are not noted until the psychasthenic period. They persist for a long time, often outlasting the other symptoms.

As has been said above, the emotional war psychoses are frequently complicated by *neuropathic (hysterical) symptoms centering upon a function, an organ, or a region*.

I shall not undertake to draw up a whole list of these symptoms, a list which, moreover, would never be complete, for the reason that their functional or anatomic localization depends on fortuitous circumstances, capable of infinite variation. I shall limit myself to the mention of the more common ones.

Deaf-mutism, very common, immediately following the shock, often extending over the entire period of confusion, sometimes persisting through the psychasthenic period or outlasting, in the form of a sequela, all the other neuro-psychopathic manifestations. The disappearance of deaf-mutism is either abrupt and total, the

^{*} Paris médical, Jan. 1, 1916.

patient all of a sudden resuming his speech, sometimes under the influence of an emotional shock, or it is gradual and partial: in such a case the patient can hear, but remains hard of hearing, and he speaks, but in a hesitating, stammering manner and in a low tone of voice; sometimes he ceases being mute, but remains deaf, or vice versa.

Either *deafness* or *mutism* alone may succeed, as just stated, the complete syndrome of deaf-mutism; but either may also exist alone from the beginning. In the cases of deafness, whether pure or combined with mutism, are frequently found auricular lesions (rupture of drum membrane, hemorrhages), due to direct effects of the explosion, but inadequate to produce the deafness presented by the patient (Roussy's three cases). The deafness is frequently complicated by buzzing in the ears, the nature of which, whether somatic or psychic, is difficult to determine. If psychic, then it constitutes a true hallucinatory phenomenon. It was thus in a case observed by Ballet in which the subjective noises, which the patient described as "humming," reproduced exactly the hissing sound of a shell following explosion.

Sensory disorders other than deafness: the least rare, without being common, is blindness, which generally disappears rapidly or abruptly.

Paralyses, contractures, generalized or localized in one limb, astasia-abasia.

Tremors, reproducing the infinite varieties of emotional trembling, of which they represent a fixation in the form of a sequela—this motor disorder having supervened upon the state of anxiety of which originally it was the expression.

Tics, of which the most frequent is a movement of the shoulder and jerking back of the head, expressing surprise (tic of surprise).

Cataleptoid attitudes, similar to those seen in catatonia.

Choreic movements.

Myoclonic contractions.

I shall stop here this enumeration which, as said a moment ago, could be continued indefinitely without exhausting all possibilities.

Whatever the localization or form of these symptoms, we are dealing with functional disorders based on *auto-suggestion*, in other words, *pithiatic disorders*. The auto-suggestion may have for its starting point one of the manifestations of the emotional

shock: such is notably the case with tremors and certain tics (tic of surprise); or a fortuitous impression which, overlaid by the emotion, is transformed into a fixed idea: such is for the most part the origin of paralyses, contractures, deaf-mutism, amaurosis, etc. One man, thrown by a shell explosion, sustains a slight contusion about the knee, and develops a contracture of the lower extremity on the affected side; another gets a grain of sand in his eye, and remains amaurotic for weeks; a third maintains complete deafness following a slight and quickly healed lesion of the ear.

These neuropathic symptoms may be associated with or take the place of purely psychic symptoms. In the first case the emotional psychosis becomes a *psychoneurosis*, in the second an *emotional neurosis*.

No greater importance should be attached to these distinctions in connection with the emotional war psychoses than with ordinary emotional psychoses, as they are based much more on appearances than on the nature of things. Emotional psychoses and neuroses do not represent distinct morbid entities, but different modalities of the same fundamental pathological state; the pithiatism which is the basis of the neuropathic symptoms is, indeed, nothing but a mental disorder which develops, like the component elements of emotional psychoses (asthenia, heightened emotional state, overactive imagination), upon a soil of emotional instability.

The *diagnosis* of emotional war psychoses should be based on the data of etiology (explosion or emotional shock) and upon the clinical syndrome, the characteristics of which are, as we have seen, among the most definite.

It should not be forgotten that a shell explosion can produce not only emotional phenomena but also, by secondary traumatism, concussion or fracture of the skull, and, by direct effect, cerebral hemorrhages. In these different cases the clinical manifestations are so entirely unlike those of emotional psychoses that an error could hardly be made, at least if one examines his patient carefully. Lumbar puncture alone, when the question is one of hemorrhage, establishes the differentiation. Here it should be mentioned that, as might be foretold from the purely psychic and functional nature of the symptoms in emotional psychoses, no important modification of the cerebrospinal fluid is found. In not one of the cases of so-called shell shock, *i. e.*, sufferers from shell explosion, which

have been examined on my service was there any increase of intraspinal pressure, or in protein or cell content. It is true that the patients were not punctured until long (several weeks and sometimes months) after the explosion. Lumbar puncture done immediately after the explosion sometimes furnishes a slightly albuminous or bloody fluid. These slight changes, transitory and *inconstant*, could have no direct relation to the symptoms as marked and often tenacious as those of emotional psychoses (pseudo-concussion). It is a coincidence and nothing more.

In the period of confusion it will be easy to eliminate mental disorders of infectious origin (febrile delirium, infectious delirium) by the absence of fever or any other symptom of infection.

It may be more difficult to differentiate between emotional war psychoses in the psychasthenic period and the post-infectious psychopathic states, particularly as the former are quite often seen following typhoid fever.

The defect phenomena (weakness of attention, incapacity for mental effort, amnesia of reproduction and fixation) are apparently the same. The surest differential sign is the heightened emotional state, which is always very marked in the emotional psychoses and much less in the post-infectious psychoses. Finally, the history should generally remove all doubt.

We need not dwell long on the differentiation from demetia præcox, which might be thought of on account of certain stereotypies, tics, and cataleptoid attitudes. A little attention will suffice for the discovery, beneath the appearances of stupor in emotional psychoses, of an exquisite hyperemotivity which contrasts radically with the indifference of catatonia or hebephrenia.

The differentiation between the functional disorders of pithiatism and corresponding *organic symptoms* (paralyses, contractures, speech disturbances, etc.), whether the latter be due to central or peripheral lesions, is established by the usual methods.

There can be no difficulty here except for *paralyses and contractures of reflex origin*, in which the disorders of motility, being out of proportion with the gravity of the lesion and independent, at least in appearance, of any anatomic systematization, resemble hysterical phenomena to such a degree as to have been for a long time confounded with them. The works of Ducosté, Babinski

and Froment, Guillain and Barré, Marie and Foix* have brought this confusion to an end. These authors have shown that the reflex paralyses and contractures differ from hysterical ones by their resistance to all suggestion and their association with a series of symptoms which suggestion could not produce (muscular atrophy, increase of mechanical irritability, softening of skeletal tissues, temperature changes, etc.). I would add that reflex paralyses and contractures are independent of emotional instability, which is the basis, as already said, of the suggestibility of pithiatism.

Upon the pithiatic nature of the symptoms being demonstrated, it remains to establish their etiological relation to the emotional shock, which is but a simple question of fact, easy enough to determine if one possesses a full history of the illness.

The finest points of diagnosis and, in some respects, the most important, are those arising in connection with the question of *simulation*.

Undoubtedly the disharmony, when the simulated state presents a certain complexity, the atypical character, the absurdity, the mobility of symptoms, would tend to expose the simulation, and in certain cases, where the simulator is particularly awkward, the diagnosis imposes itself. But it is not always thus. There are clever simulators who take note of all they see about them and very rapidly acquire an experience sufficient for a passable imitation of the emotional syndrome. Even tachycardia may be added to the simulated symptoms, and this is quite intelligible: the simulator is as likely as any one to be affected at the moment when he knows he is being examined, and this suffices to increase the beating of his heart. Finally, the disharmony, absurdity, and mobility are wanting when the subject simulates a monosymptomatic state: paralysis, contracture, deaf-mutism, etc.

* Ducosté. *Les deux lois des contractures dans les lésions des nerfs périphériques*. Gaz. hebdomadaire des Sciences médicales de Bordeaux, July 18, 1915. *Les syndromes cubitiaux*. Ibid., Aug. 15 and Sept. 5, 1915. *Les contractures dans les lésions nerveuses périphériques*. Soc. de Biol., July 24, 1915, Guillain and Barré. Soc. méd. des hôp., Jan. 21, 1916, Marie and Foix. *Sur une forme spéciale de parésie paratonique des muscles de la main*. Soc. méd. des hôp., Feb. 4, 1916. Babinski and Froment. *Contractures et paralysies traumatiques d'ordre réflexe*, Presse médicale, Feb. 24, 1916, No. 11.

In these cases simulation cannot be established except upon two elements: *confession* (accompanied, of course, by disappearance of symptoms) and the subject being caught *flagrante delicto*. (Roussy.)

The one and the other are in the end equally convincing. Catching the subject in the act, in other words the detection of unquestionable fraud—for example, a subject claiming to be paralyzed is caught walking normally, a total amnesic reminding his comrade that he has long owed him a franc, a deaf subject who blinks his eyes upon a pistol shot—establishes the diagnosis of simulation. The same is true of confession—or, what is equivalent, a cure sudden and without cause, which may be considered a tacit confession. To my mind it is best to combine the two and, even where a man is caught in the act, to make every effort to obtain a confession, even at the price of a formal promise of impunity. This is the method recommended by Sicard. It seems to me excellent. It is in fact the only one which makes indulgence practicable; for the mere catching in the act, without confession and with persistence of the simulation, renders prosecution imperative. It is better from every point of view to send a man back to his company for duty than bring him before Court Martial.

The natural *course* of emotional war psychoses, as of emotional psychoses in general, is toward recovery. It is necessary, however, to make some reservations.

I have seen, in four cases, chronic psychoses follow an explosion of a projectile or a mine: two general paretic syndromes, classical in their clinical manifestations, one dementia præcox, and one chronic hallucinatory psychosis. It is quite possible that in cases of this sort we are dealing with simple coincidences. An individual about to develop general paresis, dementia præcox, or a chronic hallucinatory psychosis may, like any other, become the victim of a shell explosion and show emotional phenomena. As the latter disappear, the signs of the chronic psychosis appear and develop. If the explosion has played a part in the etiology, it is infinitely probable that the part is but a contributory one. It has but opened the way for a morbid process long prepared either by an infection (syphilis), or by a constitutional predisposition, or by any other pathogenic factor. This interpretation

would be almost incontestable as far as the general paresis cases are concerned, if it had been demonstrated that the "shell shock" cases which had turned into paresis had had syphilis. Unfortunately in the two cases which I observed I had but scant personal histories and it was not practicable to do Wassermann tests.

However that may be, nothing in all that we know of the etiology of mental diseases would justify the proposition that a purely emotional shock or an explosion could have for its consequence general paresis, dementia præcox, or a chronic hallucinatory psychosis. One might at most attribute to it the value of a contributing cause, but one could go no farther than that.

It is conceivable that an emotional war psychosis, like an ordinary emotional psychosis, might develop into a delusional state centering about a prevailing fixed idea.

In such a case the idea of damage sustained through an explosion or any other cause would become the fundamental fixed idea upon which the delusional state would develop. I have as yet not met with a case of this sort and I know of none published in the literature. But it would surprise me if such cases did not develop. It is probable that they will be seen springing up after the cessation of hostilities.

Finally, it should be recognized that there are patients in whom the syndrome characteristic of the second period lasts a year or longer. I know a case of emotional psychosis—by purely emotional shock—which has lasted over two years without any appreciable improvement or change. Is it, then, possible for the course of emotional war psychoses to be toward incurability? I should withhold an affirmative answer. I should even say that I do not believe it.

There exists at the present time a factor by which the prognosis of emotional war psychoses is radically biased: it is the war itself. The prospect of returning to the front constitutes, for many of the emotionally unstable, an obstacle to recovery of such power that it is impossible to say if it alone might not suffice to keep up the neuro-psychic symptoms and to impart to the disease the appearance of chronicity which has been noted in some cases. The fate of these patients will not be settled until peace has been signed.

Emotional war psychoses raise certain *medico-legal problems*. The commoner ones—aside from simulation—are those of refusal to obey orders, assault, being absent without leave, and desertion. As stated above, the period of confusion is most fertile in manifestations of this sort. It goes without saying that, the diagnosis being once established, the subject's irresponsibility follows.

The diagnosis is simple when the medical examination takes place before the disappearance of the symptoms of confusion or when one is in possession of exact information concerning the mental condition of the subject at the time of the alleged criminal act: such is the case in assaults or refusal to obey orders, where the nature of the reaction itself generally brings in at once the intervention of others. But it is not always so when we are dealing with a fugue resulting in absence without leave or desertion. By the time the man is arrested or presents himself before the military authorities the confusion has generally vanished and there is no gross and evident mental disorder to indicate at once the pathological nature of the act.

In such cases one should make every effort to reconstruct by all means at his disposal the starting point and course of the fugue: minutely detailed questioning of the soldier, information from his organization and from the different places through which he passed, careful investigation of the least clue. But one should especially take account of the subsequent course of the symptoms. It is very rare for an emotional psychosis to end with the disappearance of the symptoms of confusion. In the immense majority of cases one has before him the psychasthenic period, the clinical features of which, as we have seen, are among the best defined and readily establish the diagnosis.

I have seen several cases in which the existence of the syndrome of asthenia, heightened emotional state, and overactive imagination indicated with certainty the pathological character of a fugue, as to the nature of which, owing to lack of sufficient data, it was impossible to form a judgment.

It is not to be denied, however, that there are cases in which doubts remain, especially when the history is either lacking or not explicit and when the physician has not had an opportunity of examining the subject until after the complete disappearance

of symptoms. One must then make up one's mind "to know how to doubt, to dare to say that one is in doubt" (Thoinot)—which is a necessary attribute of an honest medico-legal expert—and, upon presenting the case in all its complexity, to leave the decision to the military authorities; such decision must surely be an indulgent one, as the doubt cannot be otherwise than favorable to the accused.

The *treatment* varies, naturally, according to whether the disease is in its first or second phase.

In the first phase—rest in bed, quiet, reconstructive medication: the treatment here suggests itself.

The indications are not so simple in the second phase, which we have designated the psychasthenic period.

At first these patients were treated like ordinary psycho-neurasthenics, that is to say, medically, utilizing all the dietetic, medicinal, and physical therapeutic resources available to medical art. Now, it has happened that in the medical organizations at the front, where the equipment is necessarily meager, the patients recovered rapidly and, in the majority of cases, were at the end of a few days well enough to rejoin their company; whereas in the hospital units in the rear, which are far more completely equipped, in spite of diets, douches, and electric currents of all forms and all strengths, the symptoms dragged on tediously, the patients remaining months in the hospital and often, after a cure obtained with difficulty, relapsing either in the course of convalescence or shortly after return to duty.

This experience has been constant and, though apparently paradoxical, is readily explained.

First of all, that which has been found in ordinary emotional (pseudo-traumatic) psychoses holds true for these victims of the war. A treatment which is too medical, if not followed by prompt and notable improvement, results in anchoring in the mind of the patient the notion of a grave pathological condition and in the development of hypochondriacal tendencies which are so often a part of the emotional syndrome, whether the latter be due to a common occurrence in ordinary life or to an event of the war. The idea of a grave pathological condition becomes quite naturally associated with the idea of damage sustained for the future as well

as for the present ; and just as a subject of an accident in times of peace can become obsessed with the preoccupation with indemnity to be turned over to him, so the subject of a war accident, exaggerating, like the first, his physical and mental damage, worries about the future, is often upheld in his hypochondriasis by ill applied commiseration of those about him and the more or less interested pessimism of his relatives, and ends by hypnotizing himself with thoughts of retirement and pension : these then become obstacles to recovery, and in this way develops a *sinister* war case, in every way comparable with the sinister cases of ordinary accidents.

But aside from factors causing aggravation or preventing recovery, which are common to all sinister cases of whatever origin, we have to consider, in connection with emotional war psychoses, a factor peculiar to them alone. Recovery means more or less prompt return to the trenches. This prospect appears natural to the soldier who has remained at the front. It is otherwise with the one who has been evacuated to the interior. " By keeping the patient at the front one leaves him in the atmosphere of a combatant, in contact with the features which impart to this atmosphere its peculiar character : simplicity and sometimes even restricted conditions of material existence, rigid discipline, close proximity of danger. He remains in the environment to which he has, more or less fully, become adapted. By evacuating him to the interior one breaks this contact and destroys the adaptation. When, upon recovery, he returns to the trenches, he has to *readapt* himself. One can conceive how this re-adaptation, painful for many, may prove impossible for some. It will prove impossible notably for the emotionally unstable in whom a morbid imagination stirs up, amplifies immeasurably, and converts into obsession tragic spectacles of the war, causes him to live over again the fears once experienced, and projects into the future the terrors of the past. This is true of the graver cases of shell shock and explains the fact that recurrences occur almost always at the end convalescence or shortly after returning to quarters, yet without one being thereby justified in speaking of simulation. The subject sees himself on the way back to the trenches and, owing to an emotional and imaginative erethism, this perspective revives the elements of the shell shock syndrome."

This is the explanation at which Ballet and I arrived in our work published in *Paris Médical*. I am more than ever convinced that it is the true one. By keeping the patient at the front "one avoids a disadaptation and eliminates the necessity for a readaptation." Therein is all the secret of therapeutic success obtained in the medical organizations at the front.

Accordingly, subjects affected with emotional psychoses should be kept on psychiatric services at the front. The confused phase once passed, and the patient having become lucid and accessible to favorable suggestion, he must be convinced that he *is due* to get well, and that because he is due to get well he is not evacuated to the interior. This psychic therapy, associated where necessary with medication or such physical therapeutic means as may be available under the conditions (cacodylate in general weakness, electricity in deaf-mutism, paralyses, and all other pithiatric manifestations), will lead to a rapid recovery and an early return of the soldier to his company.

Nevertheless, there will always remain a certain number of subjects who, by reason of a particularly marked emotional instability, will not get well quickly. The first indication in these cases is to segregate them from the others, on whom they can have but a deplorable influence, or if their isolation is not readily practicable, to evacuate them.

The hospitals in the interior will consequently continue to receive victims of emotional shock. They should be treated as patients, but as nervous patients, subject to military discipline, and not as insane and irresponsible for their acts.

Noisy or dramatic manifestations, particularly hysterical crises and somnambulism, necessitate absolute isolation, in the first place because imitation by others must be avoided and the patient must be prevented from teaching others by his example, and further because absolute isolation constitutes in such cases a treatment of sure efficacy. I, for one, have never seen hysterical crises resist rigid isolation.

In the interior, as at the front, the principal part in treatment falls to psychotherapy:³⁰ The patient must be convinced that the

³⁰ J. Déjerine and E. Gauckler. *Le traitement par l'isolement et la psychothérapie des militaires atteints de troubles fonctionnels du système nerveux*. Presse médicale, Dec. 30, 1915, No. 64.

symptoms which he presents are curable, quickly curable; he must be made to note the progress he has made; and he should be granted privileges he asks (visits, walks, participation in common amusements, etc.) only as rewards for further progress, and, as the crowning reward for complete recovery, a real convalescence. One should avoid, as the worst danger, giving him a glimpse of the possibility of retirement, especially retirement on a pension: this would but switch him on a sinister course.

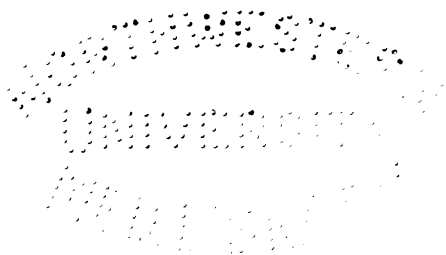
The patient, as has been said, should remain a soldier, subject to discipline. He should keep his uniform and maintain a correct bearing. He should remain in touch with superiors, towards whom he should observe the same deference as if he were normal. Finally, as was very properly recommended by Grasset,²¹ he will gradually be placed on the road back to a soldier's life, by being made to take part in military drill in formation under command of non-commissioned officers. This military therapy—the association of these two words has nothing in it that is shocking—is essential. It is enough that the soldier has lost his adaptation to life at the front. It would be a grave error to let him lose also his adaptation to military life.

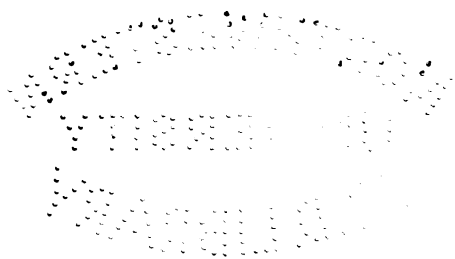
When the pathological condition has lasted many months, when the emotional balance remains gravely affected, and when hope of an early cure has to be given up, what course should be taken?

Retirement should not be considered. Indeed, what form of retirement could here be applied? One could not think of Retirement No. 2 for a condition unquestionably caused by the war. Nor could one resort to Retirement No. 1 with pension for a condition which has all the chances of cure once the war is over. As to temporary retirement, it is no longer used in such cases: temporary retirement assumes, in effect, that the patient might be cured at the expiration of his retirement period, but we know that he will not if the war is then still on. The patient must, therefore, be kept in the army. But he must also be eliminated from hospital wards where his presence constitutes for the really sick a cause of discouragement and for the others encouragement in persisting. What then should be done? Certain subjects, when

²¹ Grasset. *Le traitement des psychonévroses de guerre*. Presse médicale, Oct. 28, 1915, No. 52.

sufficiently improved, can be transferred to the auxiliary troops. This solution commends itself particularly for the older retired men or men of the old auxiliary troops who have been—though to but a slight extent—brought into the service of the army. For the others, for those who retain grave symptoms and must still be in institutions, it will be best to provide services for chronics, a sort of lazarettos, where they might be kept until a solution for their case might become available, that is to say, until the end of the war. However, it is probable that if not more than a minimum of emotional psychoses are evacuated into the interior and if, in the hospitals which receive this small number, the authorities will proceed with firmness and prudence, this remnant of incurables or, more correctly, pseudo-incurables, will be quite limited.





THE INSANE PSYCHONEUROTIC.

By LAWSON GENTRY LOWREY, A. M., M. D.,¹

Assistant in Neuropathology, Harvard Medical School; Temporary Investigator of Brain Syphilis, Massachusetts Commission on Mental Diseases; Chief Medical Officer, Psychopathic Department, Boston State Hospital.

It is axiomatic that the border line between sanity and insanity is very difficult to draw, but the distinction between insane and not insane is much complicated if there exists in the patient any mental disease—psychopathia, psychoneurosis or psychosis. The question of insanity is a legal matter—one of evidence and law. To the law one is insane or sane—the dividing line (however uncertain the medical or other definition may be) is absolute.

Among the psychoneurotics one finds not infrequently cases in which there can be very little doubt of insanity in the legal sense—cases such that, by reason of their mental state, anything approaching a normal conduct of life is impossible. Their conduct is “socially inefficient” (White), and due to a mental disorder. In many such cases there is a definite doubt between psychosis and psychoneurosis; in other words, the differential diagnosis is very difficult. Some cases which seem purely psychoneurotic run a definite course with recovery, much as do the manic-depressive cases. In many of these there is a very real danger of suicide; others have other complicating factors, some of which will be pointed out. Study of this group seems to bring out more clearly than in any other the great importance of a thorough analysis of the entire life of the individual, since it is only by this method that the sequence of events can be correctly obtained, the primary and secondary phenomena in the mental state determined, and the causes for the mental maladjustment laid bare.

Because of the practical importance of these several points, ten cases illustrating various phases of the question have been chosen at random from the records of the hospital; limiting the choice to cases in which psychoneurosis was important in the diagnosis, and

¹ Contribution from the Psychopathic Hospital, series of 1918.

the cases either ran a manic-depressive course, were insane in the legal sense, committed suicide, or the differential diagnosis was obscure. All of the cases have been thoroughly studied, and all but one presented at staff meeting, which means that a great deal of time was spent in working out the case—so the opinions recorded were not formed in haste, but were subject to considerable debate and correction by the entire staff.

Merely for convenience, the cases have been taken in the order in which they appeared at the hospital. Many more could be added to the list, but without revealing any additional information.

THE CASES.

CASE I.—A successful business man, 48 years of age, salesman in the furniture business, constantly advancing in his salary until within two years; married, with two living children. No history of lues, but gonorrhea at 39. Heavily alcoholic until eight months before admission.

He first came to the out-patient department of this hospital January 3, 1916, when he said that about three years previously he had a period in which he was somewhat agitated, miserable, had numbness in the head, dull headaches and dizzy spells. People moving about confused him. These had continued more or less until the time of his visit, when the symptoms were somewhat worse. Physical examination was practically negative. He continued to visit the out-patient department with some relief, but finally entered the hospital voluntarily on July 5th, at which time he was depressed, emotionally unstable, and much worried over his physical condition. He showed no major psychotic symptoms; complained a great deal of nervousness, of a fear of sickness; was worried; emotionally unstable; somewhat depressed. No delusions; no hallucinations; no loss of memory. He thought that he might be dwelling too much upon his physical condition. A week later was pleasant and cheerful, not anxious, and in fairly good condition.

Physical examination was practically negative. Partial deafness of right ear. No other abnormal neurological findings. Blood-pressure 128-70. Urine negative. Wassermann reaction on the serum negative. He was discharged to the out-patient department, and on October 17, 1916, on the advice of the out-patient department physician, he entered a state hospital as a voluntary patient.

In the meantime his wife had complained that several times he had sharpened knives apparently with intent to commit suicide. His wife gave a family history of both grandfathers being insane, and an uncle and sister insane. The patient knew nothing of his grandparents. Said his mother was inclined to be hypochondrical, and thought that some of her people were insane. He had a feeble-minded sister.

At the state hospital the patient laid his trouble to the fact that another man had been showing his wife attention for about three years, that fol-

lowing this he began to drink, and gradually fell off. He had become jealous of his wife and an old gentleman who had been helping to care for the family.

Orientation was correct. No impairment of memory. No evident deterioration. No hallucinations. Complained of one of his ears being blocked, and that he had more or less stomach trouble. Emotionally somewhat depressed. Physical examination negative.

He remained hypochondriacal until about a month before leaving the hospital on March 17, 1917, when he began to improve, to do some work, and to talk less about himself. He went home on March 17th, and on March 22d was brought again to this hospital by the police, *because of an attempt at suicide on that day*. He was said to be very despondent, as he believed he would become a burden for his wife and children, since he thought he had had attacks of paralysis.

It appears that on the morning of the 22d, while his wife was out, patient beat himself on the head with a cold chisel. When he did so it did not hurt him any more than "if his head were a block of wood." He had linear lacerations, ten in number, which did not extend through entire thickness of scalp. There were also two parallel superficial scratches running transversely across the neck.

At the time of the admission he said that, "all the mucous membrane is gone in my mouth. I can talk and think all right, but my body is dead, all except my heart, my saliva is gone, and I have pus instead." He took off his shoe and stocking to show that the foot was dead and cold, although it was warm and of a normal appearance. He was correctly oriented. Realized that he was despondent, thought he was very weak, not strong physically, had not been unconscious. Felt somewhat depressed because he thought he had gotten himself into serious trouble, at the same time laughed about it. While he felt that his body was dead he knew that it was unreasonable, and could not be true, nevertheless it seemed to be so. He could be temporarily reasoned out of his ideas, but at once would begin to feel again that they were real. No memory defect. No other abnormalities. Mental level that of a normal adult. Continued to do fairly well, and was committed to a hospital because of his attempt at suicide. Patient denied ever having been nervous before he began to drink; found that drinking affected him very much. At times felt as though he were very light in weight. Complained at times that his head did not have the proper control of his body. Explained the pus as due to some local condition in his nose. Did not sleep very well; tired very easily.

The discussion of the diagnosis brought out that the differential diagnosis between manic-depressive psychosis and psychoneurosis is rather unsatisfactorily presented. "Neurasthenic symptoms can

be the first symptoms of different psychoses, chiefly of manic-depressive and dementia præcox. A neurasthenic patient shows irritability and depression, because he notices that his efficiency decreases. As soon as he takes a rest he becomes better. The manic-depressive case has uneasiness and depression without apparent reason, which cannot be changed by cheering him up. The neurasthenic is suggestible and will believe you; the manic-depressive remains pessimistic. Changes in the neurasthenic condition happen under the influence of outside factors; in the manic-depressive without definite reason." (Abstract from Kraepelin.)

The diagnosis lay between manic-depressive psychosis and psychoneurosis; if the latter, possibly a constitutional state lighted up by alcohol.

The symptoms seemed to be those of psychoneurosis, with secondary phenomena of depression—the whole making a state in which the patient was dangerous to himself, and practically inefficient.

Because of his suicidal attempt, and the very real danger to himself thus indicated, he was committed. At the hospital to which he was sent, the diagnosis was left unclassified. His condition has improved and he is working, but he has not yet recovered. It is possible that the neuronc damage due to his alcoholic excesses will prevent the return to a normal level of activity.

CASE II.—A Jewish man, born in Roumania, was sent to the hospital by his physician on February 8, 1916, because he had been worrying for the past year, and had become very nervous and fretful. Suffered a great deal from headaches and dull pains over the face. He was removed from the hospital the next day so an adequate examination was not possible, but certain facts were obtained.

On January 1, 1916, patient took examinations for the bar for the fourth time. He was sure he had not passed because his head felt bad, but had not received notification. He had been very nervous, there was insomnia, and a good deal of headache; for a few days he had been rather depressed. Correctly oriented. Attitude of a depressed person. Denied hallucinations and delusions. There seemed to be no impairment of the memory. The first three times he took the bar examinations he had felt that he should pass, but he did not do so; the last time he took them he was quite certain he had not passed. Following this he became more and more depressed and worried.

The physical examination was approximately negative, aside from some tonsillitis and adenitis. Wassermann reaction on blood serum was negative.

In March the patient was notified that he had passed the bar examinations. He became very active and joyful, and *suddenly became blind*. Treated for this at a general hospital, a diagnosis of "hysterical blindness" was made, and he was cured suddenly and completely by pressing a pencil against the eyeball, assuring him that when it hurt sufficiently he would suddenly see. He then continued his over-activity; engaged in the practice of law, hired expensive offices, but in May suddenly lost his speech. Sent then to a sanitarium where he was mute, except for the repetition of some incoherent syllables, although he observed very accurately, and attempted to explain things in pantomime. At first he could not write, but after several weeks he gradually began to do so, and in July could write coherently and extensively. A philanthropic woman, who had been much interested in him, came frequently to see him. To her he one day wrote on paper that if she would permit him to address her by her first name he thought he could talk. To this she finally consented and forthwith he spoke, and talked voluminously. On July 23d he left the sanitarium, and attempted to practice law again, entering a political campaign as representative of his ward.

During the fall he got along only fairly well, but in January, 1917, he had a crop of boils. During this period he would fall into deep and long slumbers. His parents then took him to the New York hospitals; he was observed at Bellevue, transferred to Central Islip, from there to the Manhattan State Hospital, and from there to the Psychopathic Hospital. At the Manhattan State Hospital physical examination revealed no neurological symptoms nor hysterical stigmata. No hallucinations nor delusional ideas, no symptoms in the fields of orientation, memory, intelligence, etc. He was reserved and evasive, at times somewhat anxious, admitted a previous period of depression, loss of eyesight, and a complete loss of speech.

Readmitted to the Psychopathic Hospital on March 27, 1917, at which time a fairly satisfactory history was obtained. Patient had worked very hard for his education; was married at twenty, and his wife helped him through law school. His loss of speech was first noticed in April, 1916, and continued until some time in July. In January, 1917, he realized that he had "bitten off more than he could chew," as he stated.

The family history was essentially negative; otherwise the information is that which has already been given.

The patient's memory was unimpaired. He was somewhat depressed, but not markedly so. Gave a good history of his previous difficulties. His last depression came because he did not have as much business as he should. Began to fear he could not provide for his family. Became tired, slept a good deal. Went at his mother's suggestion to be examined at the New York hospitals. Made some trouble there because his mother left him. He was quiet, orderly, accessible, no evidence of hallucinations or delusions. Spoke of the bad influence of being with the insane; thought that this was hard on his mind. Was not especially egoistic; was somewhat worried, and cried easily, but later denied being depressed. Insight good; somewhat suggestible.

The diagnoses to be considered were dementia præcox and psychoneurosis. For dementia præcox there was very little, except that one sometimes got from him the impression of dementia præcox. The analysis of the facts of his entire life, however, would indicate that it was a psychoneurosis (hysteria). There had been no suicidal attempts, nor had he seemed to think of such. A diagnosis of not psychotic was made.

Patient was discharged to the out-patient department on April 5, 1917, and on April 17th *committed suicide by hanging*—evidently with a return of his depression.

Here, then, is a rather definite history of prolonged worry and overwork, with several obviously hysterical episodes. *Secondary* to the psychoneurotic manifestations came *depression*, and apparently to the return of such depression is to be ascribed the successful attempt at suicide. The case indicates clearly that where there is much depression in a psychoneurotic we should be very careful about releasing the patient from observation.

CASE III.—A young man of twenty-four, whose father was Hungarian, and his mother (who was very neurotic) English, was born in this country; is single; a Protestant; a clerk and music student. He came voluntarily to the hospital on June 15, 1916, suffering from insomnia, profound depression, and occasional thoughts of suicide. He was oriented; answered questions intelligently; had no delusions nor hallucinations and was not alcoholic. He had at times imagined that when he was playing the piano the audience commented unfavorably on his looks, character, or playing, or all of these. About three months before, while writing in the office, he became unable to go on. He felt something snap in his head, he trembled, and felt numb all over. This had been preceded by much worry over social, family and business affairs.

There was no memory disturbance. Patient graduated from the Mechanics Arts High School at eighteen. He was an accomplished pianist—had had to go to work because of his father's death, and had worked as a clerk. He had found his work distasteful, and had always worried about it. He had an attack of gripe in November, 1915, following which he was nervous, lacked energy, was less alert, and found his memory not so good. He had headache and some insomnia, and distressing dreams frequently of a sexual character. He became more self-conscious, felt that he did not play so well as formerly, and this caused him to worry and become more depressed. He expressed some ideas of reference (some of which have been stated above), and in addition he thought that his boss was down on him because he was uneducated, and feared that patient might get his position. He was sure his appearance had changed, and that people had noticed him on the street because of it. He showed emotional instability, weeping rather easily.

The physical examination was negative, except for a rather low systolic blood-pressure—104. There were no abnormalities in the neuromuscular system. Urine negative. Wassermann reaction on serum negative. Spinal fluid negative.

On the Point Scale he graded at normal, with no irregularities. He continued to worry some—to be rather unstable—was finally discharged to the out-patient department as not psychotic; psychoneurosis; (?) of dementia præcox.

On June 25, 1917, he returned voluntarily to the hospital. Imagined that he was dying, and shaking from the knees up to the chest. Thought his mother was dead. Said he had various kinds of mental diseases; that he heard people talking about him, and saying bad things about him. He was correctly oriented; there was no memory defect. School knowledge well retained. He still felt that people were criticizing him unfavorably when he was playing; that his playing was poor; and that he must look queer and excited, because he was so nervous. No delusions of persecution or grandeur. He named a great many types of mental diseases which he thought he had; thus, because of his numb feeling he was sure he had dementia præcox or general paresis. No actual delusions could be made out. He seemed depressed and fearful, wept easily. Rather restless, walking up and down a great deal. He remained in this state, rather weak and listless, complaining that his mentality was below par, that he was helpless; seemed depressed. No amount of explanation or suggestion could rid him of his ideas. His heart became weak, then he thought his organs were disconnected, that his existence was merely physical or mechanical, and he could not really be encouraged. It was necessary to commit him, and he is still in the hospital to which he was committed.

He was presented at staff meeting with the diagnosis of psychoneurosis. He had marked and variable somatic delusions, and difficulty in thinking, so that he felt at times that he had lost his mind. He explained, for the first time, that he had the fear that he had syphilis, and that this was what gave to him the fear of death; but reassurance that he did not have syphilis was not sufficient to break down the train of ideas.

The diagnosis was very easily reduced to dementia præcox, manic-depressive, and psychoneurosis. There were no definite hallucinations; there was a good deal of scattering of interests and mental processes; he was somewhat apathetic; not deteriorated; and without much impulsivity. The definite relation of the sexual ideas and disturbances and bodily sensations all seemed more likely referable to psychoneurosis. This diagnosis was compatible with the feeling of inadequacy, the absence of definite depression, and the ideas about his physical condition. On the other hand, his train of thought could not well be followed—he had somatic and nihilistic ideas; he did not show the characteristic

earmarks of psychasthenia, nor of hysteria, nor altogether of neurasthenia. The staff were about equally divided between dementia præcox, manic-depressive, and psychoneurosis; with perhaps some leaning in the direction of psychoneurosis.

An overlooked point in this case was the low blood-pressure. It has been rather clearly shown in the war work that many cases of a psychoneurotic nature, with fears and tremblings, and even somatic ideas, are much relieved when their already low blood-pressure is brought to a normal level by the administration of pituitrin. Such observations are not yet numerous enough, nor have the cases been followed far enough, to make out that such improvement is permanent. Nevertheless, all such cases should receive the benefit of the doubt, and have this type of treatment, in addition to hydrotherapy and psychotherapy. Thus in many cases the more important fears and tremors may cease to have their well-defined physical effect.

Because of the impossibility of caring for him outside an institution, it was necessary to commit him. At the hospital to which he was sent, he is regarded as a case of dementia præcox, and his condition remains practically unchanged.

CASE IV.—A Jewish man of twenty-seven was sent into the hospital on February 22, 1917, with the statement that he had been ill for about two months, during which time he had been brooding, considered himself as wrong, and thought he was steering toward his destruction. He was eating and sleeping well, and complained of no pains nor headache.

The family history was negative. Patient was born in Russia; came to the United States in 1908, where he worked as a cutter, and graduated from a night high school. He was naturally quiet, efficient and well liked; had been secretary and treasurer of his union. He began playing the curb market and lost several hundred dollars in a stock transaction. He began to worry about this—made a few small mistakes and thought his reputation was ruined. On a doctor's advice he took a trip to New York, and there spent about three weeks in a sanitarium. Returning to Boston he took up his old work and did very well, although he would go home at night and tell his brother that he had made many mistakes, and that he must get away from Boston. About a week previous to entrance he attended a banquet and dance, enjoying himself very much. When he got home he began to tell his brother that he had been a fool to worry so much.

Mentally he was rather depressed at the time of admission; he had threatened suicide; but his depression cleared in about twenty-four hours, when he was quiet and agreeable and told his story readily. There was no memory disturbance, he realized that he had been depressed, and

that there was no cause for this depression, except a few small mistakes that he made. He talked a great deal about his trouble; his conduct was good; he was interested in his surroundings, and very sociable in his personal contacts. There were no hallucinations and no delusions revealed. Within a few days he realized that his trouble was that he took things too seriously. He was recognized as a very introspective type, and the mysteriousness of his ideas was apparent. He thought that people might have talked about him, but had never heard them.

The physical examination was completely negative. Blood-pressure 120-80. Urine negative. Spinal fluid negative. Wassermann reaction on the blood serum negative.

He was discharged from the hospital on March 2, 1917, as a case of psychoneurosis—condition improved. On March 11th he was returned in a depressed condition—had been blaming himself, thought he had made a fool of himself, that he had lost his reputation, and was doomed to downfall. He had been better for two days at home, then got worse, and although his work had been satisfactory he was so convinced that it was bad that he wanted to leave and go to Chicago. He said that his family did not think as much of him as they had. Thought he could not get along well because he had been here. People had been talking about him, but he had not heard them. He was indefinite in his statements; it was difficult to get him to talk directly. Thought his reasoning capacity had not been normal, and his mind was not working correctly. No ideas of persecution of any sort. At times he talked irrelevantly, and always argued in a circle. Sometimes he thought he would be better out of the way, but had not considered this seriously. He was not so good a man as he had been in the past. Was sure that people had talked about him because he did not act naturally, or as a normal person should. *Did not feel sad and depressed.* Thought his judgment was about 75 per cent normal. Related it all to his unsuccessful stock transactions.

He was very introspective; did not seem to be depressed; it was difficult to grasp his train of thought. Seemed to take less interest in his surroundings than before. He was superficially self-accusatory.

The staff meeting opinions were rather divided. Some thought he was a case of psychoneurosis, some of manic-depressive, most felt that he was not dementia præcox, although one or two thought it was an early præcox that would be of slow development.

Because of the uncertainty whether this might be the early stage of a præcox, because of the danger to his own life in his depressed phases, and because of the fact that he was unable correctly to order his life, all resulting from his mental disturbance, the patient was committed. By August 1st he had been discharged from the hospital to which he was committed with a diagnosis of manic-depressive (depressed), and condition on discharge as recovered.

Here then was a mild depression, with self-accusatory ideas; ideas of inefficiency and inadequacy—symptoms rather of the psychoneurotic than of the psychotic type, and all definitely related to a certain misstep in the conduct of his life—in other words, what we sometimes call a psychogenetic depression; the course of the disorder that of manic-depressive, with recovery in a few months.

CASE V.—A Jewish woman of forty-eight was sent to the hospital on May 2, 1917, because she was depressed, worried and had somatic ideas. It was not possible to obtain a very good outside history because of language and temperamental difficulties; but according to the history the patient had always been well up until the previous winter, when she began to show a certain amount of irritability. About six weeks before admission patient and her family moved to another house. Following this she was crying all the time. Claimed that she did not like the rooms, that the house was dirty, and her children were dirty—which was not true. Would sit in a chair most of the day, and shake her head constantly. Claimed she was going to die. Had never previously shown tendencies to worry. She claimed that she could not eat. No disturbance of sleep, but constantly agitated through the day. Had been losing weight. She was correctly oriented. There was no memory disturbance. Offered no complaints regarding her married life.

Claimed that her life was always full of trouble, but her trouble seemed to date to the marriage of her son, about five years ago. He married a Christian girl, and she seemed to think that this was the cause of her sickness. At the same time she admitted that, on the whole, her life was not unhappy. She denied any past illnesses; admitted always a tendency to worry.

She related her present illness directly to moving to the new house. This house was damp—she lost her appetite, had trouble with her nose and ear. Did not feel sick, but she worried. Claimed that her children were dirty because she was weak and could not care for them. She complained about everything in the hospital; for instance, did not like the food but would eat. No hallucinations; no delusions. Her attitude was that of a very neurotic person; she was not depressed; lively in speech and emotions; very talkative, talking chiefly about leaving the hospital.

The physical examination was not remarkable. There was some deafness of the right ear. Irregularity of the pupils, which reacted promptly. Blood-pressure 138-105; slight disturbances in co-ordination. The urine was negative; the spinal fluid was negative. Wassermann on the blood serum negative.

The diagnosis of psychoneurosis was made; patient was discharged on May 11th, and visited the out-patient department following that. For a time she continued to complain somewhat;

but in June her son entered the hospital—apparently a frank case of dementia præcox. The patient began to worry about her son, but all of her personal complaints had disappeared. In the meantime she had gained about fifteen pounds in weight, and was feeling perfectly well.

In other words, although the symptoms were psychoneurotic at all times, occurring in a very neurotic woman, the disturbance ran a manic-depressive course. At the present time, a year later, she continues well.

CASE VI.—A woman of fifty-five, of American descent, was sent to the hospital by her physician on March 31, 1917, with the statement that she was violent, excited, homicidal, at times depressed, "feels that she must kill her twin sister." "Breaks down and weeps about it."

Family history was essentially negative for the ascendants. One paternal uncle inclined to mild depression, but never suicidal. The mother had a "nervous trouble" at about sixty, with no mental symptoms. The twin sister has enjoyed good health, never had nervous or mental trouble; less excitable than the patient, otherwise temperament similar. Patient was very devoted to her twin sister, and both were very demonstrative. A younger sister had been in ill-health for twenty years. She had a middle ear abscess, and became ill with nervous prostration ("neurologist's diagnosis"); said to have some spinal trouble, has never had mental symptoms; not self-centered, not peculiar.

Patient was an average scholar; of good habits. Had not been much subject to depression until the death of a sister four years ago. Always somewhat apprehensive. Neither patient nor twin were self-reliant, both depended a good deal on an older sister. Patient has not been thought self-centered, had a good sense of humor. She has been the housekeeper of the family, the other sisters working. There has always been some anxiety about money matters; never any disappointment in love. Always very devoted to her twin, as was the twin to her. At the age of thirteen, for three months, patient was ill in bed, complained of severe vertical headache, was depressed, and at times imagined she was dying. In 1893, at the age of thirty-two, she developed the idea that she must kill her twin sister. Said the feeling started in her chest; she felt hateful toward her sister, and must kill her. She always found relief by going out-of-doors. At the same time she was as devoted and affectionate towards her sister as ever. Never made attempts nor threats, only complained of the feeling that she must kill her. At the same time there was a pain in the head. Recovered after three or four months. Morbidly depressed after the death of her father and mother, eighteen and twenty years since. In 1913 her sister died and patient was very depressed. All she could think of was that her deceased sister was "jammed up in hell," and that she was struggling to get out of her casket. Realized this was morbid imagination. *There was no*

feeling that she must kill the sister. This continued about six months. She then went away from home for a two days' visit, and returned fully recovered.

In the fall of 1916 there was some financial worry, and the patient was quite apprehensive. In January developed the idea that she must kill her twin. At times felt as if the twin "might be jammed up in hell." Very talkative, especially about the obsession. Said she talked to keep it off her mind. In February, when on a visit, became ill with grippe. In March, to a sanitarium where she stayed a week. Had a bad spell one night, was quite excited and noisy. Her idea persisted. Once when she repeated that she must kill her twin the sister said, "Go on, do it now, and we will have it over with"; the patient then threw her arms about her sister and said, "I wouldn't do it for the world." Complained of a distress in the top of her head like some one driving nails in. Sometimes wished she could die, never suggested suicide. Rather dreamy and absent-minded. Inordinate appetite. Insomnia; beautiful dreams. She was depressed; every second day the disturbing ideas were more insistent, and were followed by considerable exhaustion. No history of ideas of reference, of persecution, nor of hallucinations. No memory loss.

Here, the patient recognized her own condition very well. Complained of great pain and pressure on the top of her head; at times saw strange and terrible faces looking at her. Had never heard voices. Was well oriented. Her memory was unimpaired. Grasp on surroundings good. There was some question from her description whether she first became depressed and then developed the idea that she must kill her sister, or whether the obsession came first and the depression was a response thereto. Realized that this was a compulsive idea, and insisted that she did not want to kill her sister. She cried a great deal about it, and was very depressed over it. In the intervals when the idea was not so impellent her emotional tone was normal.

Physically she was well-developed and nourished. Pupils irregular, but reacted well. Arteries moderately sclerosed. Heart somewhat enlarged, with a blowing systolic murmur at the base. Blood-pressure 210-120. Tendon reflexes hyperactive. A slight tremor. Physical examination otherwise negative. Urine negative. Spinal fluid and Wassermann reaction on blood serum negative.

In about ten days she was pleasant, cheerful. The idea had disappeared, she felt normal, was willing to stay until we thought she might go. On the 19th of April she was discharged to her home, and the out-patient department.

It will be noticed in the history that all of the depressions really represent over-reactions to some reason for a depression. Apparently after the depression had started came the compulsive or obsessive idea, namely, that she must kill her sister. Such periods were usually of relatively short duration, but this does not necessarily argue against manic-depressive psychosis. On the other

hand, the fact that she realized the absurdity of the idea and its character, and that she never attempted to act upon it is an indication, at least to me, that she was not psychotic in the usual sense. The patient stated clearly, just before discharge, that, "I get depressed, and then I don't take interest in my work, and I suppose those thoughts come into my mind." It will be noticed that most of her depressions have been associated with the death of some relative or some friend. Her last depression was due to the death of a life-long friend of the family, and she explained the idea of killing her sister by saying that she thought of her own death and that she should not want to die unless her sister went too, as she loves her so much. At times this idea forms itself thus: "I want to die, death would be a relief, but I want my sister to go with me." She also tells of a depression when she did not think of killing her sister. She describes herself as a person who has blue periods and happy periods; in other words, a cyclothymic disposition.

At this admission the diagnosis seemed to be an atypical type of manic-depressive psychosis.

On October 1st the patient returned voluntarily to the hospital because she was depressed and obsessed with the idea *that she must kill both of her sisters, and must commit suicide herself*. An uncle had died two weeks previous to admission, and she had promptly become depressed, with recrudescence of the ideas. She was emotionally somewhat unstable, crying easily; was, on the whole, depressed. Was freely accessible; her depression was more subjective than objective, although she was somewhat retarded in her activity. Memory remained good. The additional idea was that she felt that she was going to die and must kill both of her sisters instead of one. This time the depression seemed in part, and the worryment entirely, due to this obsessive idea. She knew that she would not do it, and "it drives me nearly crazy with grief," to think that she should think such things. Felt that she was not worthy to live, and was surely going to die soon.

Within a few days she cleared up, was smiling and cheerful. The ideas had disappeared, and she was happily planning to go home. Discharged at the end of nine days in very good condition.

Physical examination unchanged. Blood-pressure 215-115.

This case may be summarized as one in which there are attacks of semi-depression, related usually to a cause, although the reaction is excessive. In the attacks of depression the patient feels that she herself is about to die, and because of her great love for her twin sister feels that she must kill her, so they will not be separated.

Along with the ideas and the depression there occur certain pains, chiefly referable to the head. There have never been any attacks of a frankly hysterical nature. The attacks are of short duration, and there never appear to be the obvious signs of a manic-depressive psychosis. Accordingly, this may be regarded either as a psychasthenia with obsessive ideas and depression, or as a mild manic-depressive condition. The association here of a very high blood-pressure, arguing a certain grade of arteriosclerosis, is very interesting. It has been shown that in manic-depressives arteriosclerosis tends to come early. In this case there is no evidence of any especial cause for the sclerosis, unless it be the manic-depressive attacks.

CASE VII.—A man of forty-two, of American descent, was sent to the hospital for thirty days' observation on May 12, 1917, because of "restlessness, periodical attacks of excitement—sullen, irritable. Hallucinations—fear."

The paternal grandmother died of cerebral hemorrhage, as did many of her family. A brother of the maternal grandmother died in a hospital for the insane, as did a paternal second cousin. The father, a quick-tempered, nervous, apprehensive man, is ill with arteriosclerosis at sixty-nine. The mother, age 70, has been in ill-health for five years with arteriosclerosis. One sister is nervous; stammers; had a "nervous breakdown," in which she "cried easily," at eighteen. The other sister is in good health.

The patient is the oldest of the siblings, born in 1875. He always stammered. As a youth was even-tempered, obedient, very sensitive, with very narrow interests. Although he attended school until he was fourteen, he never got beyond the primary grades (attributed to his stammering). Has never worked steadily or successfully. Used very little alcohol, never to excess; tobacco in moderation.

He attended public and private schools, then learned several trades, but has always had a great deal of assistance from his father.

At twenty he was married, and lived with his wife for eight or nine years. Separation was probably due to his failure to support her. Married again about a year since, after his first wife's death. During the intervening period had probably lived with his second wife.

Scarlet fever at five, followed by otitis and inability to walk for a time. Frequent attacks of tonsillitis. Eczema of head and chest persistent for a number of years. Vision always defective. Improvement in stammering during the last few years. A few years since a venereal disease.

At seventeen had a severe attack of grippe. For about a year not very well. Then a second attack. Soon after recovery he came to the house with a bullet wound in the arm, later admitting that he shot himself. At about this time he had two periods in which he became very much frightened, saying he was being chased, and once fainted. For many years had been

very cautious of his health. Always slept on the side he was advised was the proper side to lie on.

For about a year before admission he had seemed very peculiar to his sister. Had not worked, had wanted to be alone. Would not go out in the daytime, saying the light hurt his eyes. Complained much of vertical headache.

In 1916 thought he had a sunstroke. Since then had complained of much pain in the head and of visual failure. Would not see any one. Feared that people were looking at him. Felt as though there was a hole in his head where the "air blows in." No vomiting. Would throw himself on the floor and "act almost as if he had a fit."

Since August, 1916, patient had been treated by many doctors, all of whom stated that the trouble was mental rather than physical. They feared he might lose his memory. He imagined people were trying to get into the house. Would have fits of temper in which he would smash things. The door-bells in the house annoyed him so he quietly disconnected them. His eyes were in very bad condition so glasses were procured for him. Before that he would not ride in the street-car because he was so nervous. Felt that his head was moving up and down.

The patient had a reputation as an unusually strong man. It is said that in the past he lifted and carried pianos alone.

At the time of his first entrance he had lost about thirty pounds in weight. Physically, he showed a rash on the chest; profuse perspiration of the feet; slight tremor of the tongue; heart showed a blowing systolic murmur at apex, left base, and along vessels of the neck; brachial arteries visible, not nodular nor tortuous; blood-pressure 162-118; slight impairment of gait and co-ordination; a speech defect; a marked exaggeration of the knee-jerks; no abnormal reflexes; no impairment of sensation; urine negative; Wassermann reaction, serum and spinal fluid negative; other tests on spinal fluid negative. Eye-grounds—discs rather pale, left one shows irregularity of borders, but not distinctly abnormal. Non-protein blood nitrogen 42 mm. per 100 c. c.; phenolphthalein excretion 100 per cent in two hours; X-ray of head negative.

He was correctly oriented; memory fairly good—giving essentially the same story of his past as has already been given—could not give the exact date of his last marriage. Patient dated his present illness back about two years, during which time his eyes had bothered him. Some months ago the difficulty became very marked, his vision was so blurred that he could not see around the shop, and he became very much frightened by this. After he got his glasses he would only go out in the night, in order to get used to them, as he could not see well in the daytime. He had been to the Massachusetts General, City and Homeopathic hospitals for eyes and headache, and also for some urethral discharge. In addition he has had a buzzing in his ear. His nervousness showed itself by trembling, he said. He complained a great deal of loss of strength, of easy fatigue. Denied headaches; had not had any vomiting attacks. Never had any fainting spells. He showed no delusion formation. He could not explain why he

was losing his strength. He denied hallucinations to all forms of questioning. He had periods in which he was very anxious, was very shaky, trembling all over, and emotionally very unstable. Such spells did not last very long. At such times he had the fear of impending death. He showed no retardation; his associations were narrow, centering chiefly around himself; he co-operated very well. No conduct disorder. His attention was well held so long as the topic was himself. Expected a great deal to be done for him, was not capable of making much personal effort.

On the Point Scale he rated 11.6 years. He showed difficulty in grasping new situations. Did not concentrate his attention, so that his reproduction was poor. In the mechanical puzzles he was very clever.

The symptoms that this patient showed of agitation and apprehensiveness connected with the fear of death, a great deal of worry over trifling physical ailments, many of which could not be revealed, are all essentially psychoneurotic. Despite the history which seemed to point in the direction of delusion formation and hallucinations no clear evidence of this could be obtained from the patient. He had always been an inadequate person, neurotic from the beginning, who apparently did not get along very well in practical affairs. The combination of symptoms, which are essentially psychoneurotic, with a certain amount of depression, together with his distinctly abnormal conduct, indicate that the process is more severe than is usually the case in a simple psychoneurosis. The continually high blood-pressure of 160, with the diastolic ranging around 110; the emotional instability; the loss of weight; the confusion in recent memory, which is evident at times, all would seem to indicate the possibility of capillary fibrosis as the main factor in the case at the time of our study.

He was discharged from the hospital on June 12th, going to live with his sister. There for a few days he got along very well, was willing to meet people, and showed interest in things generally. For about one month before his second admission, on August 4th, his behavior was quite abnormal. He would go to the cellar and stay several hours. During the extreme hot weather he went to the attic and stayed for hours. On the very hot days he wanted a bottle of hot water on his head. Said his head was cold; thought an artery had died in his head. At times he thought his leg dragged, could not get it to go. Would enjoy working if there were doctors around. Wanted to return to the hospital. Complained of numbness in arms and legs. Would sit for long periods with his head in his hands, weeping.

In the latter part of July he told his sister that he was so discouraged he thought he would turn on the gas in the cellar, and end his life. He would not go out in the daytime; would not occupy a seat in the street-car with

his sister. At times thought he was dying, and wanted the ambulance, or the doctor, called. Would lie on a couch with his head hanging off, crying and moaning. Lost his way when on the street, and a police officer had to take him home. Had complained of diplopia. Came to visit the outpatient department, and remained in the hospital voluntarily (August 4th).

The physical examination was unchanged. Patient complained of headaches, weakness and nervousness.

He was correctly oriented, without particular difficulty in recent memory. Complained of his stomach—a feeling of discomfort which passed away when he lay down. Thought that keeping still would cure him without any medicine. Was more contented because he could read for hours with no headaches. Stated that he had first begun to worry about his eyesight, and now has various troubles. Explained away his bullet wound (of years before) by saying the revolver exploded accidentally. Also had explanations for the two periods when he was frightened many years ago. Complained of a *radiator* in the top of his head causing the feeling of discomfort. He was depressed; somewhat retarded. Emotional tone unstable. Talked at great length about his physical and mental condition. At this time his intelligence rating was 13.5 years on the Point Scale. Memory tests only fairly well done.

He continued with periods of anxiety and depression, often complaining of a terrible squeezing pain in his head. On September 22d he was feeling very well and was helping some about the ward. On the night of September 23d the patient called the nurse at 11.45. He had been quiet about fifteen minutes previously. When the nurse went to him it was found *that he had severed the superficial veins in both forearms with the top of a tobacco tin*, and was in a serious condition from hemorrhage. Although he claimed he was not attempting suicide, he had written various notes saying good-bye, not to blame the hospital, etc., indicating his intention of ending his life.

Following this he spoke of a considerable feeling of relief, the pressure in his head was not so bad, he suffered much less from headaches, but, of course, was weak for some time, due to the hemorrhage. However, it was not long before he was feeling weak and sick, had pains in the legs and in the back, and so on. On the 2d of November, while quietly talking, he suddenly grabbed at his face and clawed it, scratching himself rather severely. He gave as his reason the fact that he was feeling depressed.

Transferred on November 5, 1917, at which time there had been considerable loss of weight, and a continuation of the periods of agitation and depression.

The case may be summarized as follows: A man of forty-two, in whose family history are to be found cases of cerebral hemorrhage, and of psychoses; whose sexual habits and habits of work have been irregular; always regarded as a worrying, inadequate, neurotic and queer individual; a congenital stammerer. He has had many actual illnesses, and of late a severe eye trouble. At the

age of eighteen there was a probable attempt at suicide. For the past two years he has not worked. During this time he has had many headaches. He has preferred to stay in the house; has lost his way when he went out. Has markedly exaggerated his symptoms; has been agitated and depressed. There were no periods of dizziness. There have not been markedly present the cardinal signs of manic-depressive psychosis; no cardinal signs of dementia præcox; no evidence of syphilis or epilepsy; with no bodily disease capable of causing a psychosis of this type; but with a blood-pressure of 160-100. The intelligence rating seems to have been interfered with by his emotional state. Nevertheless, he seems to have been a constitutionally inferior person, with a very definite upset, in which a certain amount of deterioration has occurred. There were probable periods of confusion, definite periods of agitation, and some memory difficulty; a very definite attempt at suicide; with some somatic delusions uncommon in a psychoneurosis. The association of probable capillary fibrosis, hypertension, possible involutional factors, and questionable deterioration, all indicate a bad prognosis.

The favored diagnoses were psychoneurosis, and, later, manic-depressive psychosis with arteriosclerosis.

Following his transfer, there was some improvement, but lately (March, 1918) he has become more dull and apathetic and is reported to have auditory hallucinations. There has been some further deterioration, and he is regarded at the other hospital as a case of dementia præcox, although the grounds are not entirely clear. It seems much more probable that he has an organic brain disease of some type.

CASE VIII.—An English elevator operator of forty-six, came voluntarily to the hospital on May 14, 1917, complaining of depression, a feeling that he had lost his will, and anxiety. He had lost his position about six months previously, and had since become depressed; had tried to work, but could not; could not sleep; had thought of suicide, and twice turned on the gas, but was interrupted each time. He felt bad, cried easily; did not seem to be retarded, but to be very anxious; thought his mind was upset. He had made a trip to England, which did not relieve him. Had had a previous attack eleven years before, when he was for four days unconscious, he stated.

His mother-in-law stated that his father died in a hospital for the insane, and that a nephew had been fifteen or more years in a hospital for the insane. Patient was born in England; of limited education; of normal

habits, so far as known. He had very little sexual desire, and none for ten years. She regarded him as always a "regular sissy." Never cheerful, no sense of humor, very unsocial, of very narrow interests, always a steady worker. He had worked in one place for twelve years, during which time he had two illnesses, and his salary was paid. Directly after his last illness he went to the senior member of the firm and got his pay raised a dollar a week. A week later he was discharged (it was not until some time later that the real cause for this discharge was discovered, namely: that the patient had been found pilfering various small articles, and had been discharged on this account). Following this he had worked around in a number of places, but none of them were satisfactory.

Patient was married in 1904 and did not know that his wife was epileptic until the night after his marriage. Patient had never gotten along very well with his wife, had never been extremely interested in her. Wife seemed to think that her convulsions were intensified when he was around—and they had not been living together for about six months. Patient was always very affectionate toward his child, never toward his wife.

A week after his marriage, he attempted suicide with illuminating gas. He had lost his position, and was without employment. He wished to postpone his marriage until he got a position, but his mother-in-law urged him not to postpone it, and promised to give him \$500, which he did not receive; then he learned that his wife was an epileptic when he saw her in a seizure the first night after marriage. He did not threaten suicide, but attempted it. Was taken to the City Hospital, and was unconscious for several days. Following this there were no attacks of depression, until the one in which he came to the hospital.

He was operated on in September, 1916, for double hernia, and made a good recovery. Shortly after this was discharged from his position. He then became very nervous and depressed. He decided to return to England, where he would work and earn money and send for his wife and child in April, 1917. He returned to America in five weeks—said the war scared him to death, that he lived most of the time in a cellar through fear of Zeppelins. His sister gave him the money for his return trip. His wife was working in Philadelphia; he was eager to have her return, and finally in April she was persuaded to do so.

On Tuesday they began housekeeping—that night the patient walked the floor the whole night, and in the morning he was unable to work. He vomited and spat blood. On Friday this experience was repeated—the wife then refused to live with him and left.

Through all of this so-called depression, the patient had continued to try to work and had managed to support himself. He had spells when he felt nervous, and in such a spell he started for the hospital where he was operated on, and by mistake came to this one, where he was accepted as a voluntary patient.

The patient's story agreed practically with the story of the mother-in-law. He explained his attempt at suicide twelve years before by his depression and nervousness at that time; due, he stated, to the loss of a

position which had just suited him. His last spell of depression and nervousness he related directly to his discharge from his position, which he liked very much. No place that he could get suited him—in some the work was too hard, in others the pay was not enough. He worried constantly because he wanted his job back. He was oriented; memory good; no delusions nor hallucinations; considerable emotional instability; his thoughts were centered on his difficulties, and especially on the fact that he lost his very good job. He felt that if he got it back he would be perfectly all right. Reacted very markedly to any slight pain. Demanded a good deal of attention and treatment. His conduct was good.

Physically, he was fairly well developed and nourished. Teeth false. Heart negative. Lungs negative. Neurological examination negative. Blood-pressure 115-80. Urine negative. Spinal fluid negative. Wassermann reaction on the serum negative.

Rather against advice he was discharged to the out-patient department with the diagnosis between manic-depressive psychosis and psychoneurosis, in a condition somewhat improved. He was seen in the out-patient department, where he still had melancholic spells, was not able to sleep well, had many depressing thoughts, and thought a great deal of suicide. He worried about his job, about his wife and child. He worried because he did not hear from them, and did not see the child. Felt that he did not have the courage to kill himself. He was working for twelve dollars a week, and said he was too weak to try for other work. His effeminacy, his timidity, his self-consciousness were still present.

On June 19th he re-entered the hospital. This time he was worried over the family, could not sleep well, and he was very much depressed. He was rather anxious. No disturbance in the field of consciousness or memory. Possibly somewhat retarded, with a considerable number of hypochondriacal ideas; without definite delusion formation; without very good insight. Considerable emotional instability, weeping at very slight causes. His mental level was found to be 11.3 years on the Point-Scale, with a very irregular examination—indicating that his mental state interfered with the correct rating of his intelligence. He began feeling better—did not seem so depressed—was very anxious to be noticed and talked to. It appeared that he had taken a job which relieved him from his former troubles, but did not stay very long because the place was not satisfactory in the end, and then all the troubles came back.

At this time he was presented at staff meeting, and from his general make-up and the evidence at hand, it was felt we were dealing with an inadequate personality of the psychoneurotic type, manifesting itself, particularly in the periods of strain, by depression, anxiety, emotional instability and attempts at suicide. Accordingly, he was discharged on June 29th, then in a somewhat improved condition. A job was found for him by the social service department, who took a great interest in him.

On July 12, 1917, he was returned to the hospital because his depression continued; he often thought of suicide; was weak and unable to keep his job. Mentally, he showed great indecision, was very dependent on other people—tried to excite sympathy by his stories—stated that he did not keep his places because he had not found one that was satisfactory. Had no sense of shame at his dependence—never showed initiative or particular interest in his surroundings, did not plan for the future, was chiefly occupied with his own past affairs. He realized that he was quite helpless and lacked backbone. Seemed to be fairly well contented with the rest treatment. He began to be quite pleasant—was rather anxious to get out. On August 11th, he was discharged, on the whole improved, to his family. Diagnosis, manic-depressive psychosis.

In this case both of the rather serious depressions came at periods when there was a definite cause for depression. It seems clear, from the entire conduct of his life and from the low-paid position with which he was satisfied, that he had a personality lacking in initiative, energy, ambition and the ability to withstand the stress and strain of attempting to attain success—in other words, that we have to do with an inadequate personality. Accordingly, the two attacks, of which we have record, appear to represent the reaction of his personality to the situation, rather than new causeless reactions of the type of psychosis. In other words, it would appear that we have to do with a psychogenetic state of anxiety and depression, which surely would not have arisen in a person of better make-up. It is probably stretching the use of the term psychoneurosis to put such a case in the psychoneurotic group. It is equally stretching the term manic-depressive psychosis to put such a case into that group. This is really a reaction state, arising in a person of inferior make-up, but one of a type which is often called psychoneurosis or manic-depressive psychosis. Certainly because of the disorder in the conduct of his life, which is directly related to the disturbance in his mental state, the man would be committable as a psychotic patient. For his condition, as presented in his admissions here, the prognosis is good, but, of course, the personality will always be defective.

He is, at present, getting along fairly well in a job which he has secured. He says that all of a sudden he became all right, and never felt better in his life than he does now—and this was directly related to his securing a satisfactory job—*i. e.*, the reactive nature of the attack is proven.

CASE IX.—A Greek, man, aged 34, was sent to the hospital on May 21, 1917, complaining of vague, indefinable pains, and a feeling that he was losing his mind, together with worry concerning impotence.

He was perfectly oriented for time, place and person, without evidence of memory defect for either recent or remote events, and without evidence of deterioration. There were no hallucinations; he had a fixed idea that he suffered from some very unusual nervous disease, which caused a lot of vague ill-defined pains. Concerning this he was rather depressed, but did not seem to be apprehensive. He indulged considerably in sensuous day-dreams, which amounted really to psychic masturbation. He complained also of eroticism when women passed him on the street, or if he went in bathing when there were young boys about. He dated his present illness to a day, about one year ago, when he went up in an elevator in an office building. He had a peculiar sensation in the abdominal region, which extended upward with a creeping, tickling sensation. About two months later he began to have dizzy feelings, and burning sensations in the stomach. These lasted only a short time.

During the past six months a great sense of fear when alone, so that if he went for a walk he would become fearful, and return home immediately. Had terrifying dreams when he put up a struggle for his life, but could not remember them clearly.

Emotionally, somewhat unstable; apt to break down and cry. He was quiet, and there was no history of impulsive or compulsive acts. No retardation or blocking. Conversation confined largely to his hypochondriacal ideas.

Physically, he was well developed and nourished. Neuromuscular findings normal. General physical examination negative. Blood-pressure 110-70. Urine negative. Wassermann reaction on the blood serum negative. Spinal fluid negative. He was discharged on May 30th, sent to the out-patient department of a general hospital for prostatic examination, to determine whether some of his difficulty might arise from enlarged prostate. This, however, seemed not to be the case.

On July 23d, he returned to the hospital voluntarily, at which time he was much depressed. He had been feeling weak, he had pain in his head and back, said he had lost his strength and courage, and cried easily. At this time he dated his difficulties much further back than at his first admission.

He had had the creepy feelings for about ten years. He had been told in Chicago, when he first came to this country, twelve years ago, that he had syphilis, and this has bothered him ever since. Had very rarely had intercourse with women because of the fear of gonorrhea or syphilis.

About three years ago he became much more erotic, and became disturbed by numerous erections in the course of the day; later on developed pains.

During the first six years of his illness he was able to work fairly well, but during the past four years he has been worried, rather anxious, easily tired, and his work has not been so efficient. It seems to have followed the

pain in the head, starting about four years ago. No history of a cyclothymic constitution. No hallucinations and no apparent deterioration.

At this admission he was very much more depressed, anxious and apprehensive. He did not show any great fear, did not react emotionally in a fearful way.

He was able to work for only a short time after leaving the hospital the first time, and his sexual symptoms of psychic masturbation, sensuous dreams, and longing for the society of women, restrained by his fear, have continued, and were rather worse. He thought his reputation was gone; that people thought he was crazy. In the course of telling this he broke down and cried.

It appeared that he had some formed delusions, which were rather difficult to get at because of language trouble, but he thought "there was something rotten in his stomach, that perhaps he had no stomach, that his intestines were gone." He thought his brain might be gone; he was surprised that he could talk; had been thinking so for some months. This, however, was not certainly made out, and it seemed that he thought his organs were there, but that he was sick. He was having some trouble that would make him crazy.

In his first admission every one agreed in making a diagnosis of psychoneurosis, but with the second admission, and the probability of somatic delusions, it began to appear that it might represent a dementia præcox process, which had had a long incubation period during which the symptoms were those of a psychoneurosis. On the other hand, others felt that it was manic-depressive psychosis—that with the marked exacerbation of symptoms in the year that had passed, we had to do with a disorder of the cyclothymic type, which would run its course and clear up. It seemed quite clear that he had been psychoneurotic for a long time. It was not quite clear that he had somatopsychic delusions. In combination with his depression and anxiety it seemed that his condition for the last few months was more nearly that of an anxious depression than anything else.

He was committed to another institution, where he still remains.

Clearly the ideas which the patient has are the type of ideas from which many a psychoneurotic suffers. Combined with this is a well-defined psychosexual disturbance, with a very real emotional conflict between desire and fear, which has resulted in the adoption of a middle ground of psychic masturbation and this particular method of repression appears to be the main causal influence in the present state. To be sure, one could not be positive that

this is not a slowly developing dementia præcox, but certainly this is not dementia præcox in the general and more correct usage of that term; unless, indeed, we are to class all cases as dementia præcox, which would be a travesty on diagnosis.

Clearly, also, the case is not to be regarded as a usual type of manic-depressive psychosis, with its relatively clear-cut affect disorder, combined with which there may be delusions—somatic or self-accusatory, more rarely paranoid. In this case the affect disturbance is secondary, and is dependent upon a host of other factors which in general we ascribe to psychoneurosis.

CASE X.—A man of forty-one has been known to charitable organizations for over three years. Previous to that he had been employed as a car painter, earning \$8 per week. His employers stated that they had never seen a man who was so anxious "to lie down on his job." He would be inactive for hours at a time, unless some one compelled him to work.

After about two years of illness, which physicians could not diagnose, he was, in 1915, sent to the North Reading Sanitarium for tuberculosis. There he improved quite rapidly, and, his family being under the care of the Associated Charities, he was examined from time to time at various out-patient departments to discover what his trouble was. One consumptive hospital found that what tuberculosis there was had been arrested. Light out-of-door employment was secured for him, driving a delivery team, but patient seemed to feel imposed upon when asked to do anything.

He was very irritable, would become displeased without provocation; his wife thought that at times he did not seem rational, that he talked queerly, believed that she had been pregnant and that she had been unfaithful to him, for all of which there was no basis. He threatened to poison the children, he threatened his wife's life, and he would wander around at night, apparently not in his right mind. Several times he threatened to jump out of a second-story window, becoming displeased over some slight matter. He brooded over pains, felt that he was a very sick man. His clergyman believed that he was just lazy, and that he had been demoralized by the state sanitarium, where he did not have to work; but it seems that he had been apathetic and unambitious for a long period before going to the sanitarium.

If any of his family became ill the patient developed a sympathetic illness, and seemed to suffer much more acutely than the one who was really ill. This was especially true at the birth of the children and during the term of pregnancy.

The patient came voluntarily to the hospital on October 27, 1917, at the suggestion of the social service department of a general hospital. Stated that he left the tubercular sanitarium because of nervousness. He could not sleep; had pains in the legs, and down the back, and in the head. These pains had been getting worse. He was too weak to work; easily fatigued;

there was a buzzing in the left ear. No hallucinations; no delusions. Somewhat depressed at time of admission. Said that he was subject to blue spells, when he did not care whether he lived or died. Not suicidal. Complained of a great deal of insomnia.

Physically, he was well developed and obese, had a red fissured tongue and red throat, and slight speech defect. Signs of some consolidation of both apices, and upper part of right lower lobe. Blood-pressure 142-108. Slight enlargement of cardiac area to the left. Deep reflexes lively. Urine negative. Spinal fluid negative. Wassermann reaction negative.

Mentally, patient was accessible, somewhat depressed, wondered if he would ever get strong, and worried about his family. He had a sixth-grade education; his grasp on school and general knowledge was meager. Said that he had never been strong, and complained a great deal of pains and aches. Thought that he was of a normal make-up; spoke of blue spells, and times when he did not care whether he lived or died, but never had the nerve to kill himself, and did not think about it. No hallucinations; no delusions. Thought processes were slow and limited to his own condition, and vague sad thoughts about his family. Felt that he needed rest and out-of-door treatment. Thought that he had weakened his nervous system by over-lifting. The intelligence rating was 11.8 years on the Point Scale, a regular examination.

The symptom complex here is that which is ordinarily ascribed to neurasthenia, namely, pains, weakness, easy fatigue, and fixation of ideas upon the physical condition. During the patient's ten days in the hospital he did not improve. Because of the low mental rating he was regarded as a primarily subnormal person, who had neurasthenia; without, however, any very definite history of severe nerve exhaustion previous to the onset of symptoms.

On December 20th, the patient was returned to the hospital by the police because of an attempt at suicide. Patient, however, denied this, but said that he might have made a bluff. Claimed that his head was better than when he was here two months before, but his nerves and stomach, and a burning feeling around his genitals and frequency of micturition bothered him.

It appears that he ran out on a third-story porch and threatened to jump off, and this was his bluff at suicide. At another time, when he was feeling very blue and depressed, he picked a knife off the table and drew it across his throat; his wife thought he meant it. He remained accessible, with fixation of ideas upon himself. He developed several times the idea of impending death, when he was very much agitated. Most of the time he was worried and depressed. On one occasion he made an attempt to escape because he wished to go home. His condition of agitation varied somewhat, but, as a rule, he was rather uneasy; was continually questioning the doctors about his condition, and about going home, insisting that he was

perfectly all right. Analysis of the gastric contents revealed nothing abnormal, although it cleared up the patient's idea that his stomach was out of order. He would beg for one more chance to prove that he was not insane, and could go to work and support his family. There were several periods when he thought he was going to die. Continued restless, depressed, and worried until transferred on January 29th, 1918. During this period he lost about twenty pounds in weight.

From the descriptions obtained, and from the examination of the patient, it appears that he had always been a subnormal person and of the psychoneurotic type throughout life; with a fixation of ideas upon physical ailments at about the age of thirty-eight; since which time, and because of this complex, he had been unable to work. A very important point is the high diastolic blood-pressure, ranging from 98 to 106. This, in general, means capillary fibrosis, and this in turn may give rise to pains in various locations. Because of his mental state, and the depression associated with it, he made attempts at suicide, or at least made threats of suicide as a means of obtaining sympathy. His temperament may be described as that of the cyclothymic, although his upper level was never one of great activity.

A case of this type really goes beyond the ordinary neurasthenic, chiefly because of the lack of a real appreciation of the situation. It is not typical of manic-depressive psychosis; he does show an anxious depression, although the depression is perhaps more subjective than objective. There were not at any time any self-accusatory ideas, nor any definitely formed somatic delusions. The ideas present are much vaguer than the ordinary somatic delusion, and definitely of the psychoneurotic type.

Because of the capillary fibrosis, of the original low level of the individual and the possible concomitance of involuntal factors, the prognosis is not particularly good.

This patient is obviously *insane*, in the legal sense, and so needs to be committed in order to prevent the possible success of his suicidal attempts. *So, although his psychosis is of the psychoneurotic type, he is insane and as such committable.*

In March, 1918, he is agitated, apprehensive, self-accusatory and restless. The case is regarded as one of manic-depressive at the institution to which he was transferred.

SUMMARY.

The first point of interest lies in the differentiation of psychoneurotic from psychotic states. In almost all of the cases presented the diagnosis is rather perturbing. Indeed, in some it appears rather clearly to be other than psychoneurosis. Yet in most cases the state seems to be what we call psychogenetic in origin, and there are many symptoms of a psychoneurotic nature.

It is very difficult to define simply and accurately the differences between psychoneurosis and psychosis. In both the symptoms may be of the same type—pains, somatic ideas, emotional and ideational difficulties. The great outstanding difference seems to be that the psychoneurotic resist the ideas, where the psychotic accept the ideas, incorporate them into the personality and elaborate them. There are also fatigability, sensitiveness and worrying as symptoms of the psychoneurotic state, which are not usual in the psychoses. It is readily seen that the border line is tenuous and decision often difficult. In such cases the reaction to suggestion and explanation may be very important in determining the true diagnosis. Such suggestion is often only temporarily accepted even by the psychoneurotic, so that this is not an infallible guide to correct diagnosis.

Most of these patients are obviously insane in the sense earlier given. Such patients as Case I (suicidal attempt); Case II (successful suicide); Case III (dementia præcox type of incorporation of ideas); Case IV (depression causing inability to care for self); Case VII (seclusion, suicidal attempts); Case IX (somatic delusions ?, psychosexual disturbance); Case X (attempts at suicide, agitation); are clearly in need of mental hospital care and treatment, for their own protection and in the attempt to alleviate the condition. Such cases are not suitable for out-patient treatment. Yet with the exception of Case III, Case VII and Case X, the symptoms are certainly those of a psychoneurosis.

Neurotic persons are especially likely to be thrown off balance under external stress and strain. This was true in Cases II, III (?), IV, V, VI (?), VIII, IX (?). In Case III the cause possibly lay in the distasteful work and the reaction to masturbation. In Case VI the external stress seemed to be related to a cause for depression, usually the death of a loved one—which brought up the vicious circle of ideas regarding her own death. In Case IX

the cause is not quite so clear, and here, furthermore, the ideas are more incorporated into the personality. In the other cases the cause seems quite clear. In Cases I, VII and X the external cause is not so apparent. In fact, the exact cause does not always clearly appear. This, of course, is more like the origin of psychosis.

Thus, Case I seems possibly associated with alcohol (involution ?); Case VII with hypertension, and some organic brain lesion (type not clear); Case X with constitutional inferiority, hypertension and involution—all of which are factors which usually do not produce states of this sort, at least in our experience. Promptly the question is raised as to the relation between these *possible causes* and the observed state. But it does not seem that we have progressed far enough in etiological investigation, either psychic or organic, to do more than note the associations in these cases and to await the results of therapy. There is no *a priori* ground for believing that a *particular cause* is necessary, providing that the *soil* be right. We could phrase it thus: Any cause on particular soils, or particular causes on any soil—although this goes somewhat too far, it roughly approximates the truth.

Accordingly it appears that differential diagnosis of psychoneurosis versus psychosis is not always easy; that external and internal causes may produce much the same state; that some psychoneuroses (symptomatically) run a manic-depressive course; that psychoneurotic symptoms may occur as the prodromal signs of dementia præcox; that psychoneurotics not infrequently commit suicide; that many are insane; that such causes as alcohol and arteriosclerosis may operate to produce a syndrome not to be distinguished from psychoneurosis.

THE PATHOLOGY OF CHOICE REACTIONS.

By FREDERIC LYMAN WELLS AND HERBERT A. STURGES.¹

(*From the Psychological Laboratory of McLean Hospital.*)

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I. CONCEPTION OF THE PROBLEM.

To the different situations presented to an organism, human or otherwise, differential reactions must be made if the organism is to survive. Sensory end-organs differentiate and interpret the situation as a stimulus; motor end-organs perform the differential response coordinated by the nervous system. The situation is "discriminated"; the reaction is "chosen." The choice reaction is a reaction adjusted to a discriminated stimulus. Proper choice reactions in life are implied in proper adaptation thereto.

The question underlying this study was, How are superior quickness and appropriateness in choice reaction processes which can be studied experimentally related to the choice reactions of life which have thus far eluded experimental control? Success, usefulness, happiness, are results of choice reactions called good, well-adapted, correct. Discontent, failure, mental disease, are expressions of bad, ill-adapted, false systems of psychomotor adjustment. This

¹The portions of the work for which the authors are severally responsible are as follows: W. supervised the construction of the apparatus, installed same and performed the experiments. S. made practically all measurements and calculations. Tabular material was prepared jointly by S. and W. With suggestions from S. at various points, W. wrote the text substantially as the reader has it.

study is, in the first instance, a comparison of the choice reaction process in normal individuals and in mentally diseased ones. How do laboratory adaptations of those well adjusted to life compare with these reactions in persons thus badly adjusted to life?

In measuring how they compare, there is involved a fundamental source of error in the application of laboratory psychology to actual life. Adjustment in actual life is the expression of a proper balance of instinctive tendencies. The psychoses here considered are from the mental standpoint expressions of a failure of instinctive tendencies to balance (Adolf Meyer). Mental adjustment to actual life is governed by the instinct trends. It is just in their relation to the instincts that laboratory measurements differ most from the test of actual life. Formal complication without limit may be introduced in the laboratory; but the appropriateness of responses is usually a convention, and the instinctive appeal negligible. This investigation provides an answer to the question of how far this balance of instinctive life is reflected on the more superficial psychomotor level with which the present observations deal.

The pathology of choice reactions can be viewed from two angles. One is the direct comparison of normal and pathological individuals suggested above. From another angle, the false reactions of experiment become in themselves a part of the "psychopathology of every-day life." The data will be presented in both aspects.

The apparatus of the present experiments lays claim to no technical originality, and, if anything, errs on the side of simplicity. Chief stress was laid on the laboratory surroundings. With subjects accustomed to the unfinished aspect of most laboratory appurtenances, these do not greatly matter; but it was felt and is still believed that the effort spent in this direction was compensated in a more favorable attitude of the pathological subjects than had been met with in previous investigations. In the examining room was only such special apparatus as was needed for stimulus and reaction; pains were taken with the finishing of these and with other appurtenances to give the appearance of a well-appointed office.

The stimulus and reaction apparatus designed for these experiments consisted of two exposure screens and a 5-finger reaction key. These pieces are the originals of improved models later sup-

plied to the Carnegie Institute of Technology. The generally used exposure apparatus (here called "fall-screen") carries a frame some 28 inches high by 6 wide, which is moved by gravity against an oil-cylinder past a slit. The stimulus material is carried between guides on this frame, on a strip of heavy paper approximately 3 inches by $28\frac{1}{2}$ inches. The frame falls 1 inch for each exposure, affording 25 exposures per series on a strip. Electric contact is broken during each fall of the frame, and restored when it comes to rest for each exposure.

This apparatus is mechanically most satisfactory; but has the inherent disadvantage that the stimuli, following each other on a single strip, cannot be varied in order. To render this possible, another exposure screen (here called "light-box") was designed. This is a large box painted black inside, with an aperture in front through which the subject looks. Inside the box, in the rear, is a frame into which an ordinary playing card can be slipped from the outside. On such blank cards is lettered the stimulus material. Under ordinary conditions the material on this card is invisible to the subject (though the card itself is faintly to be made out); but closing the switch lights a concealed tungsten lamp which illuminates it to his vision, and also makes a momentary electric contact to register the stimulation. Single stimuli on each card could, of course, be presented in any order and without interruption to any amount. Otherwise it has been a somewhat less satisfactory instrument than the fall-screen. The fall-screen is the source of the results presented, the light-box figuring but incidentally in the present material.

For reactions with right and left hands, a telegraph key was mounted on each side of both the fall-screen and the light-box. For reactions using all fingers of one hand, a 5-finger key was especially made. Like the other pieces, it was finished in mahogany stain. It was placed on a table at the side of the fall-screen wherever desired. The only visible wiring in the room consisted of three 6-conductor and one 20-conductor Ulesote cables. These cables to the different pieces of apparatus were several feet in length, enabling the pieces to be shifted in the room according to convenience.

These cables are led through an aperture in the wall and immediately to a distributing board, through which any one may be readily connected with any terminal of the recording system. The

room containing this distributing board was used as a general shop and storage space, serving further to isolate the examining room from the distractions of the recording apparatus. This was installed in a large ventilated closet leading off of the second room.

Reactions were measured on a 6-pen ribbon recorder, spring driven, which had originally served as a burglar alarm register. The spring motor was stopped and started electrically, giving control from the examining room. The speed decreased considerably as the tension of the spring relaxed, a seconds time-line being employed. This was taken from a Porter electric clock. This circuit was also connected through a relay with a lamp in the examining room, which, not visible to the subject, gave the examiner a rhythm used in the experiments. Pen No. 6 on the recorder, operated by this circuit, also registered the stimuli on the fall-screen. The remaining five pens registered reactions of the five fingers, pens 1 and 2 those of right and left hands, also the stimuli of the light-box experiments.

	Series 20.	Series 10.	Series 50.
1.....	13245	13245	eoia
2.....	45321	45321	iaueo
3.....	21354	21354	ueoai
4.....	45123	45123	uioae
5.....	14523	14523	eoai
6.....	52431	52431	eiua
7.....	21345	21345	ouiae
8.....	13425	13425	ioeua
9.....	42153	42153	uaoei
10.....	42315	42315	euaoi
11.....	15432	15432	eioau
12.....	52341	52341	iaueo
13.....	15423	15423	oaeiu
14.....	51324	51324	uieao
15.....	34215	34215	uioea
16.....	24153	24153	iuoae
17.....	12354	12354	uaieo
18.....	15234	15234	oiauo
19.....	43521	43521	aoeui
20.....	21453	21435	ieua
21.....	54231	54231	aoeui
22.....	42315	42315	iaeou
23.....	13542	13542	uaioe
24.....	34152	34152	ieuoa
25.....	43152	43152	oieau

With this apparatus, there were made choice reaction experiments of five different kinds. No specific names were assigned to these, but they are known by the numbers 20, 10, 50, 110, 100, cited in the order in which they were uniformly presented to the subject. Each of these experimental series represents 25 stimuli for choice reactions of its particular type. The copy contained in the experimental series 20, 10 and 50 is reproduced on preceding page.²

The strip containing the experimental material was properly adjusted in the frame, and the stimuli successively exposed by tripping a hand-operated release. From 2-3 seconds after the subject had reacted to one stimulus, the next was given. This interval was controlled from the rhythmically winking lamp. The time intervening between the experimental series was that required to remove the strip and insert the next one, which is about 70-90 seconds. Between series 50 and 110 there was regularly a longer intermission, as at this point a new roll of paper had to be inserted in the recorder and the mechanism rewound.

The instructions to the subject for the individual series were presented to him in written form, and to reproduce these is probably also the best way of describing them to the reader. Oral explanations were given to questions if the subject asked any, and the character of these noted. The written instructions of the different series are as follows:

Series 20.—In the opening before you, where you see the white paper now, there will appear, one by one, sets of five figures, one of which is underscored,³ like this: 54312, or 13542, or 25413. As soon as the set of figures is seen, strike⁴ the telegraph key corresponding to the figure that

²For the material in series 100 and 110, cf. sections 10 and 14. The numerals set in black-faced type are in the copy underscored. Black-faced type was here used because of difficulties incurred in setting the separate figures with a line under them.

³The figures underscored in the tests here and subsequently referred to as underscored are set in black-faced type as explained in foregoing footnote.

⁴This movement momentarily closes the circuit through the recording pen. Previous reaction experiments with pathological subjects indicated the advisability of a reaction movement of this kind. The recording of the process by breaks instead of makes, while capable of greater accuracy, would have complicated the apparatus out of proportion to the degree of precision required.

is underscored. When the figure 1 is underscored, strike the first key with the thumb; when 2 is underscored, strike the second key with the forefinger; when 3 is underscored, strike the third key with the middle finger; when 4 is underscored, strike the fourth key with the fourth finger; when 5 is underscored, strike the last key with the little finger. Each new set will appear about 3 seconds after you have struck the key for the last one. Thus the first set above, 54312, would mean striking the third key (with the middle finger).

Do this as quickly as you can do it correctly. Strike each key with a quick, sharp motion so as to make sure of a good contact, but letting it up again as soon as a good contact has been made. (As a typewriter would be struck.)

Series 10.—In the opening before you, where you see the white paper now, there will appear, one by one, sets of five figures, like this: 24315, or 52413, or 35421. As soon as the set of figures is seen, strike the telegraph keys corresponding to the figures presented in the order in which they come in the set. For the figure 1, strike the first key with the thumb; for 2, strike the second key with the forefinger; for 3, strike the third key with the middle finger; for 4, strike the fourth key with the fourth finger; for 5, strike the last key with the little finger. Thus the first set of figures above, 24315, would mean striking the second key, then the fourth, then the third, then the first and then the fifth, with the corresponding fingers. Each new set will appear about 3 seconds after you have struck the keys for the last one.

Do this as quickly as you can do it correctly, etc.

Series 50.—In the opening before you, where you see the white paper now, there will appear, one by one, sets of the five vowel letters, aeiou, like this: ouiea, or euoia, or aouié. Strike the telegraph keys for them exactly as for the sets of five plain figures, a representing 1, e 2, i 3, o 4, u 5. Thus for a, strike the first key with the thumb, for e strike the second key with the forefinger, for i strike the third key with the middle finger, for o strike the fourth key with the fourth finger, and for u strike the last key with the little finger. For example, the first set of letters above, ouiea, would mean striking the fourth key, then the fifth, then the third, then the second, and then the first, with the corresponding fingers. Each new set will appear about 3 seconds after you have struck the keys for the last one.

Do this as quickly as you can do it correctly, etc.

Series 110.—In the opening before you, where you see the white paper now, there will appear, one by one, little sums, like this: $4 + 5 = 9$, or $6 + 8 = 14$. Sometimes these sums are correct, as above, but sometimes they are incorrect, as $4 + 3 = 8$, or $6 + 9 = 13$. As soon as you see the little sum, notice if it is right or wrong, and if it is right, strike with the right hand the telegraph key on that side of the stand; but if it is wrong, strike with the left hand the key on the other side. Thus in the examples given above, $4 + 5 = 9$ would mean striking the right hand key, and $6 + 9 = 13$ would mean striking the left hand key. Each new sum will appear about 3 seconds after you have struck the key for the last one.

Do this as quickly as you can do it correctly, etc.

Series 100.—In the opening before you, where you see the white paper now, there will appear, one by one, short sentences, like this: "horses have four feet," or "people live in houses." Sometimes what the sentence says is correct, as above, but sometimes it is incorrect, as, "eight inches make a foot," or "violets have thorns." As soon as you see the sentence, notice if it is right or wrong, and if it is right strike with the right hand the telegraph key on that side of the stand; but if it is wrong, strike with the left hand the key on the other side. Thus in the examples given above, "horses have four feet" would mean striking the right hand key, and "eight inches make a foot" would mean striking the left hand key. Each new sentence would appear about 3 seconds after you have struck the key for the last one.

Do this as quickly as you can do it correctly, etc.

The experimental procedure was refined as experience with the method was gained. It was endeavored to keep rather detailed notes of the subject's attitude and behavior, which was facilitated by a working knowledge of shorthand, and out of this there developed a more systematic method of noting the behavior differences observed in the subjects.

The physical features of the method were adapted for introspective reports, since series could be indefinitely interrupted at any point, and ample facilities for note-taking were at hand. At least one psychologist trained in introspection, who took part in the experiments, drew attention to the possibilities of the method in this direction. The actually negligible place of introspection in the study is conditioned by several factors, regarding which some comments may be made. The school in which the experimenter was reared tends, recognizedly, to consider an increased number of observations more important than elaborate introspective records. This writer has taken part in one experimental investigation where introspection was a prime factor, the relation of the psychogalvanic reflex to emotional reactions. Conditions in that study were more generally favorable to introspection, approaching, indeed, those of psychoanalysis. The impression was gained from this work that earlier introspections were relatively untrustworthy, to become more reliable with practise. With practise, resistances are broken down. Some of the normal persons considered here are fairly well practised in at least the laboratory type of introspection; but the pathological subjects have scarcely any such practise, to which must in some cases be added disinclination to the mental effort of introspection, and the direct influence of the psychosis in distorting it. The most fundamental consideration, however,

is that ordinary introspection, whoever performs it, reaches only that part of the mental process of which the person is aware. If anything stands out in the progress of psychological thought during the past ten years, it is recognizing the inadequacy of this part of mental process in the motivation of behavior. Given a false reaction with its attendant introspection of failed attention in terms of imaged or imageless thought, this is a rationalization which describes the false paths the mind followed rather than the force which impelled it along those paths. One gets no further with introspection under the attendant laboratory conditions, having at present no way to combine such complicated experimental routine with an exploration of the unconscious.

Interpretation of results is naturally governed by the character of the subjects from whom they are derived. The 14 individuals here included in the normal group are persons from 20-50 years old, who have up to the present adjusted themselves variously well at various levels, but all well enough for an existence of normally continuous independence. Three had special training in experimental psychology, and are men of recognized standing in it. Four others are as well known in the field of psychiatry. The remainder are at least in mental balance equal to these seven, and it is of course this characteristic that we are concerned with, rather than special abilities that make for distinction.

The 11 pathological subjects are all men, one being, however, a head-injury case. Of the others, six are of manic-depressive and four of dementia præcox type, all upon more or less psychopathic basis. It is doubtful if more than one of them had so much as ever reached an average adjustment to life. Detailed histories, while accessible, are dispensed with as not sufficiently relevant to the present study.

The normal subjects are designated by the letters B, C, E, H, J, K, L, M, R, S, T, W, X, Y. The pathological subjects are designated by the numbers 16, 17, 24, 31, 36, 71, 74, 75, 79, 84, 86.

There follows a bird's-eye view of the material to be presented, enumerating the several sections under which it is brought forward.

II. Correct reactions of normal subjects :

1. Series 20. Individual differences in reaction speed.
2. Series 20. Comparative work-curves.

3. Series 10. Individual differences in reaction speed (designated by the symbol r).
4. Series 10. Individual differences in speed of the total process (designated by the symbol t).
5. Series 10. Properties of time elapsing between the first reaction and the last reaction of a pattern (*i. e.*, $t-r$, designated by the symbol s).
6. Series 50. Individual differences in reaction speed.
7. Series 50. Individual differences in speed of the total process.
8. Series 50. Properties of the time elapsing between the first reaction and the last reaction of a pattern.
9. Series 110. Individual differences in general speed of reaction.
10. Series 110. Comparative speed of reaction to correct and incorrect propositions.
11. Series 110. Effect of degree of incorrectness on reaction speed.
12. Series 100. Individual differences in general speed of reaction.
13. Series 100. Comparative speed of reaction to correct and incorrect propositions.
14. Series 100. Topical data.

III. Correct reactions of pathological subjects compared with those of normal subjects :

15. Series 20. Comparison of normal and pathological groups in reaction speed.
16. Series 20. Comparison of normal and pathological groups in the work-curve.
17. Series 10. Comparison of normal and pathological groups in r speed.
18. Series 10. Comparison of normal and pathological groups in t speed.
19. Series 10. Comparison of normal and pathological groups in respect to the time s .
20. Series 50. Comparison of normal and pathological groups in r speed.
21. Series 50. Comparison of normal and pathological groups in t speed.
22. Series 50. Comparison of normal and pathological groups in respect to the time s .
23. Series 110. Comparison of normal and pathological groups in reaction speed.
24. Series 110. Comparison of normal and pathological groups in speed of reaction to correct and incorrect propositions.
25. Series 100. Comparison of normal and pathological groups in reaction speed.
26. Series 100. Comparison of normal and pathological groups in speed of reaction to correct and incorrect propositions.

IV. False reactions of normal subjects :

27. Account of Henmon's work: false reactions from misperception.
28. His data on the relation of false reactions to differences in stimulus.
29. His findings on individual differences in liability to false reactions.

30. His data on practise effect.
31. Comparison of present experimental series in yield of false reactions.
32. Range of individual differences in liability to false reactions.
33. Speed of false reactions.
34. Specific stimuli involving false reactions.
35. Correlation in falsity and speed.

V. False reactions of pathological subjects compared with those of normal subjects.

36. Yield of false reactions in different experimental series.
37. Comparative liability to false reactions, range of individual differences.
38. Speed of false reactions, specific conditions of stimulus involving false reactions.

VI.

39. Pathological records in relation to the clinical condition of the case.

II. CORRECT REACTIONS OF NORMAL SUBJECTS.

The above sections will now be taken up in order. The first 14 deal with the correct reactions of normal subjects. Reaction time measurements are given to the nearest hundredth of a second only.

1. *Series 20, Reaction Speed.*—In this series a pattern of five figures is shown, one of which is underscored. The subject strikes on a 5-finger key, the key corresponding to the figure underscored. Probably the speed with which this can be done varies with the finger employed, as well as with the position of the underscored figure in the pattern. These are not studied in the present report; the succession of stimuli was of course the same for all subjects.

Data on series 20 are present from 10 of the normal subjects. For the first experiment, the grand average reaction time is .84 second, with a range in central tendency from .57 in subject E to 1.10 in subject H, who are both among the psychiatrists. The three experimentalists did not show quicker times than the remainder. The normal choice time in this process is thus found to range from about .5 to 1 second.

2. *Series 20, Work-Curve.*—As the series of 25 reactions proceeds, practice makes itself evident. Averaged in groups of five reactions, the successive reaction times of the 10 subjects involved are .92, .85, .93, .74, .75. The tendency is not regular, and the lengthening of time in reactions 11-15 is a consistent feature of the

group, perhaps accounted for by the fact that reactions 11-15 chance to involve only the last three fingers. The mean variation of these subjects in reaction 1-5 is .17; in reactions 20-25 it is .11. The learning has reduced the individual differences, as need not surprise us in processes of this psychomotor level. In the writer, observations were made on three different days, without the appearance of day-to-day practise.

3. *Series 10, Initial Reaction Time.*—In this series a pattern of five figures is shown, and the subject must strike, in order, the keys corresponding. Two measurements are involved: First, the time for starting the response (designated by r), and second, the time required for the total five reactions (designated by t). Thirteen subjects give a grand average, r -time of .87, insignificantly longer than that of series 20. The mental adjustment differs from that in series 20 in that: (1) There is no need to examine the whole pattern for an underscored figure, and (2) the process is not ended, as in series 20, by striking a single key; all the others must also be struck in right succession. The latter factor, which would lengthen the initial reaction, at least counterbalances the former, which would shorten it. There is some gathering up in the mind of the whole pattern before starting the reaction at all. There is an "overlapping" in the mental processes of the initial and the subsequent reactions. The amount of this varies among the subjects. Two subjects take markedly less time to start the process in series 10 than for the single reaction of series 20. Three take much longer to start in series 10 than for the single reaction of series 20. Two of these, however, are quicker than the average to complete series 10, showing part of this initial time well spent in fixing the pattern for the total process. The general tendency to practise improvement is less marked in these r times than in the single reactions of series 20, but it is more regular.

4. *Series 10, Speed of Total Process (t).*—For striking the five keys in order, the grand average time of the normal subjects is 2.95 seconds. Some overlapping of the five movements is indicated, as this is but 3.4 times the interval required for single reactions of this nature. Individual difference ranges from 1.76 to 4.81, each made by a superior personality, the shorter by a man of experimental training. A professional stenographer in the group

was fourth from the fastest; the special motor training of this subject not making itself particularly effective. (The probability of interference from the figures of the typewriter keyboard is slight).

Series 20, which immediately preceded the present series in experimental routine, sets up the association between the exposed figures and certain finger movements, which series 10 develops more intensively. The association seems to be a fairly natural one for the normal subjects, as this series adds no great amount of learning to that of series 20. The average times for the successive groups of five exposures are 3.18, 3.04, 2.83, 2.82, 2.90. Mean variation for reactions 1-5 is .73, for reactions 20-25, .71. But in several subjects no learning is seen at all, nor is it the slowest operators who show the most learning. Observations on four different days with subject J and two with subject K did not show learning carried over from day to day.

5. When learning in this type of series takes place, it is of interest to know how different portions of the process are affected; how it alters the time of different parts of the total process. The main point of comparison is between the initial reaction time r , and the time for the *remainder* of the process; *i. e.*, total time minus initial time, designated by s . Fusion is shown in a decrease of the time s , more marked than decrease in the time r . In general, this fusion is questionable for series 10. The time s for the successive 5-exposure groups is 2.25, 2.15, 1.98, 1.96, 2.07; with m. v.'s increasing towards the end of the series, .57, .65, .61, .64, .69. The per cent of t time included in r time, is, for these successive 5-exposure groups, 29.3, 29.3, 30.1, 30.5, 28.6. If an equal time were spent on each unit of the pattern, this figure would be 20 per cent. The first reaction takes disproportionately long, but this proportion changes little as the series progresses. Individually, subject C shows much learning, but it affects the initial time as much as the total process. K, on the other hand, decreases the t time from 3.79 to 2.70, while r remains about 1.60. L shows marked decrease in s , 2.04 to 1.58, while the r time is nearly constant at 1.05. These two cases alone show notable fusion.

6. *Series 50, Individual Differences in "r" Speed.*—Series 50 is the same as series 10, except for using a more difficult type of

association. Instead of the natural association between the five fingers and the digits 1-5 it calls for association between the five fingers and the alphabetical order of the five vowels, a e i o u. The results differ correspondingly from series 10. The process takes longer and there is more learning. The general average r time is 1.41, the decrease through the 5-exposure groups being 1.61, 1.51, 1.41, 1.31, 1.23; m. v.'s about .30 throughout. The range in central tendency is from .97 in subject T to 2.02 in subject H, physicians of about equal standing. Substantial learning for the r time in the first experimental session is shown in all subjects except K, L and R, two experimentalists and a medical man who has done experimental work. The stenographer is somewhat slower than the average in reactions 1-5, and improves to as much faster than average in reactions 20-25. Repeated experiments in subjects E, J and K show considerable learning carried from day to day in the first two subjects.

7. *Series 50, Individual Difference in "t" Time.*—This is the longest of any process in the present study. Its general average, for 13 subjects, is 4.53 seconds. Its course through the 5-reaction groups is 5.76, 4.79, 4.29, 4.08, 3.72; with m. v. of 1.13 and .68 at beginning and end respectively. Its range in central tendency is from 3.78 to 7.20, both results from persons of the upper levels of distinction. The former is a trained experimentalist, and his record is nearly equaled by the stenographer. For a touch typist, as is this subject, different fingering from the typewriter keyboard is used for the reaction to a, e and u, but the same for i and o. She, with the college student, also a woman, show the most improvement through the series. All records are marked by fairly regular learning in this series.

8. *Fusion: Properties of the Time s.*—In series 10 there was little progressive fusion of the reaction processes as the series proceeded. In series 50, on the other hand, the initial reaction takes not only a larger proportion of the time than in series 10, but this proportion becomes larger as the series progresses. The general averages for the time s in the successive 5-exposure groups are 4.15, 3.27, 2.88, 2.77, 2.49, showing marked decrease in the length of the t time as compared with the r time. M. V. of these quantities is respectively 1.01, .79, .58, .72, .36. Thus a more equal relation between r and t is also indicated as the series progresses. Intro-

spection might disclose many different types of dealing with the mental task at the outset, of which practise eliminated the less efficient ones. Again significant is the percentage which the initial reaction is of the total process time. These percentages for the successive 5-exposure groups are 27.9, 31.5, 32.8, 32.3, 33.1. Progressively more of the entire adjustment becomes incorporated in the initial reaction. More than with the easier series 10 it is necessary to fix this unaccustomed pattern in the mind before an effective beginning can be made. The progressively greater tendency to this preliminary fixation of the pattern goes hand in hand with increased effectiveness in carrying it out.

9. *Series 110, Individual Difference in Reaction Speed.*—Simple mathematical sums are exposed; reaction is with the right hand if the sum is correct, with the left hand if it is incorrect. The general average time of these reactions in the 14 subjects is 1.17 seconds. The range is from .79 to 1.73 in a chief attendant and experimentalist respectively. The 5-exposure groups average 1.37, 1.17, 1.01, 1.28, 1.03; practise beyond a short initial stage being questionable.

10. *Series 110, Reactions to the Different Items.*—The separate sums exposed in this series, with the average reaction time to them, and the ratio of the m. v. to this time, are as follows:

Sum.	Av. reac- tion time.	M. V. average.	Sum.	Av. reac- tion time.	M. V. average.
1...5 + 6 = 12	1.64	.18	14...5 + 9 = 15	1.31	.16
2...5 + 1 = 6	1.18	.26	15...6 + 2 = 9	.99	.15
3...2 + 7 = 9	1.28	.38	16...3 + 2 = 5	.96	.23
4...5 + 2 = 8	1.25	.26	17...7 + 8 = 16	1.79	.42
5...8 + 9 = 19	1.55	.14	18...2 + 6 = 8	.97	.21
6...6 + 7 = 15	1.46	.16	19...5 + 8 = 13	1.70	.45
7...8 + 1 = 11	1.08	.12	20...4 + 2 = 8	1.11	.23
8...7 + 6 = 13	1.21	.23	21...4 + 5 = 9	.97	.20
9...8 + 1 = 10	1.07	.15	22...6 + 4 = 10	.79	.18
10...2 + 4 = 6	1.03	.15	23...2 + 7 = 11	.90	.16
11...3 + 7 = 10	.96	.11	24...9 + 8 = 17	1.53	.36
12...1 + 5 = 6	.87	.28	25...5 + 4 = 11	.98	.32
13...6 + 3 = 9	.94	.24			

In this series, 13 of the sums are correct and 12 are incorrect. The average reaction time to the correct sums is 1.11 seconds and that to the incorrect sums is 1.26 seconds.

11. *Time in Series 110 as Affected by Degree of Incorrectness.*—It has been established in the sensory field that the magnitude of difference bears a close relation to the ease of discrimination. In

the present series, six of the sums are incorrect by 1, and six others are incorrect by 2. The general average reaction time for the sums incorrect by 1 is 1.34 seconds; for those incorrect by 2 it is 1.18 seconds. If the difference were further increased, the difference between the reaction time to correct and incorrect sums might easily disappear or become negative.

Item.	Average reaction time.	M. V. average.
1. Snails can run fast.....	1.83	.17
2. Flies like sugar.....	1.36	.23
3. Snow comes in winter.....	1.13	.17
4. Eagles cannot fly.....	1.39	.28
5. Sugar is sweet.....	.95	.28
6. Iron melts in the sunshine.....	1.54	.16
7. Water is good to drink.....	1.08	.24
8. Mosquitoes are pleasant.....	1.20	.19
9. Wood floats on water.....	1.23	.15
10. Mice like cheese.....	1.21	.20
11. Crabs have claws.....	1.46	.19
12. The sun sets in the east.....	1.64	.33
13. Water runs down hill.....	1.22	.17
14. Cats have no claws.....	1.66	.41
15. Iron sinks in water.....	1.41	.24
16. Stealing is right.....	1.30	.17
17. Stones are good food.....	1.38	.12
18. Lemons are sour.....	1.35	.37
19. Spiders catch flies.....	1.81	.41
20. Roses have no smell.....	1.79	.46
21. Horses eat lions.....	1.42	.22
22. Potatoes are poisonous.....	1.42	.23
23. Bees gather honey.....	1.01	.13
24. Dogs eat meat.....	1.06	.18
25. Horses can talk.....	.97	.18

12. *Series 100, Individual Differences in Reaction Speed.*—In this series are presented simple verbal statements, correct or incorrect. Reaction is with the right hand if correct, with the left hand if incorrect. Reaction times to these are distinctly longer than for the sums, and progressive adaptation to the experiment is not indicated in shortening the reaction times. These are, for the successive 5-exposure groups, 1.52, 1.25, 1.46, 1.55, 1.19. The general average is 1.35. The range is from .98 to 2.01 in an experimentalist and attendant respectively. Repetition of the series in subjects J and K indicates considerable persistence of practise between the days.

13. *Series 100, Comparative Reaction Time to Correct and Incorrect Propositions.*—Thirteen of the statements in this series are correct and 12 are incorrect. The discrimination time of the correct statements is 1.25 seconds; for the incorrect statements it is 1.46 seconds. As it does not appear that the left hand is specifically slower in choice time than the right, these results and to some extent those of series 110 would seem to point to a generally greater difficulty of reaction to the incorrect propositions. Introspectively, the mental adjustment to the incorrect propositions appears harder to the present experimenter.

14. The table on preceding page gives the several items in the series, with the average reaction time of 11-12 subjects in each, and the *ratio* of the m. v. to this average.

The data do not lend themselves to generalization. It is singular that the longest average, save the initial one, should be so simple and commonplace a statement as *spiders catch flies*, which shows great variability also. It is likely that the length of the reaction is so much governed by the form and length of the statement as to vitiate comparisons between the separate items as such. Negatives like *cats have no claws*, or *roses have no smell* appear in themselves troublesome, though *eagles cannot fly* has a much shorter time. The ratio of m. v. to average varies considerably and is hardly consonant with differences of opinion on the topics. There is least variation about the edibility of stones, most about the smell of roses, and more than the mean about whether lemons are sour. What comes nearest a debatable proposition (*potatoes are poisonous*) shows relatively small variation in the judgment times. The significance of the experiment would have been clearer had it been constructed wholly of 3-word statements, such as *flies like sugar*, *stealing is right*, *lemons are sour*, *horses eat lions*. Its present data can be used for little beyond the comparison of normal with pathological performance that is the central theme of the study.

The chief of the above results which can be presented in tabular form are summarized below, for convenience of keeping them in mind to compare with the data on pathological subjects that are next to be taken up:

	Series: 20	10 r	10 f	50 r	50 f	110	100
General average.....	.84	.87	2.95	1.41	4.53	1.17	1.35
Fastest record.....	.57	.53	1.76	.97	3.78	.79	.98
Slowest record.....	1.10	1.37	4.81	2.02	7.20	1.73	2.01

III. CORRECT REACTIONS OF PATHOLOGICAL SUBJECTS COMPARED WITH THOSE OF NORMAL SUBJECTS.

The 11 paragraphs following present a comparison of the correct reactions in the normal and pathological subjects. The method will be to compare the performances of the single pathological cases with the normal ranges and central tendencies. It will appear whether the pathological cases fall within this normal range or on what side of it.

The normal subjects represent a fair variety of education, achievement and balance, and their performance must for present purposes be considered representative of normal limits. There is no significant difference in the social groups from which they came, and those from which the pathological subjects are derived. The latter are somewhat younger, and as a group have less education, but this is in a large part the direct outcome of the psychopathic traits. It is in mental balance that the essential difference is found. The normal group contains seven physicians, three workers in experimental psychology, two attendants, a college student and a stenographer. The pathological group contains a teacher, a physician, a salesman, a stenographer, three other men of business, and four subjects who through both youth and mental constitution have never obtained training for independent work.

15. *Series 20, Reaction Speed.*—A general slowing of the process in the pathological cases is apparent, though but two fall outside the range of the normal subjects. These are a young circular case a little depressed at the time, and a young paranoid schizophrenic. But one of the pathological group is as fast as the above normal average. Practise phenomena in some cases give good evidence of ability to attain the more rapid speeds shown by the normal subjects.

16. *Series 20, Work-Curve.*—While the reaction time in this series is thus consistently longer in the pathological cases, no pervasive change in the work-curve is noted. Regular tendency to practise improvement is shown, save in case 31, the schizophrenic above-mentioned. In him the successive 5-exposure groups show definite lengthening, as follows: 1.56, 1.59, 1.57, 1.71, 1.84 seconds. His two fellows in diagnosis do not show this anomaly. Observations repeated in the pathological subjects show shortening of the

times, even when the interval is several weeks; but this result is governed also by changes in the patients' condition, and is left for discussion from that angle.

17. *Series 10, Comparison in r Speed.*—Both normal and pathological subjects show a greater range in this function than in series 20, but this increased range is much more marked with the pathological cases. Six are slower than the slowest normal, one being the head injury case; of the others, three are circular and two schizophrenic cases. Three make this reaction faster than the normal average: respectively, a slight depression who is practised at the organ, a young circular depression, and an obscure case of probably schizophrenic origin. It thus appears that the r time in series 10 is relatively shorter than the single reaction of series 20, while in the normal subjects it was very slightly longer. This may be an expression of slower adaptation to the whole experiment in the pathological cases. All through this series these subjects are still making adjustments to the general situation, which the normal subjects have completed before series 10 is actually begun.

18. *Series 10, Comparison in t Speed.*—The variation of the pathological subjects from the normal is less accentuated than with the r time, only three being slower than the slowest normal. The young circular case, 79, is now alone faster than the normal average. In general, the times in series 10 are thus slower than the normal, and the difference is rather more pronounced than in series 20. The amount of learning within the series is less than for the normal subjects.

19. *Series 10, Comparison of the Time s .*—The time s is the time t minus the time r ; i. e., the time elapsing between the initial reaction and the final reaction of the 5-figure pattern. The greater this quantity s in proportion to r , the longer is the total reaction t in proportion to r . The smaller the ratio of s to r , the more fusion has taken place between the initial and the total process; the more the settings for the various portions of the reaction pattern have fused into a single setting during the initial period r . For the normal subjects, s is about 2.5 times r ; and, as was noted in section 5, this relation changes little as the series progresses. Among the pathological subjects, with their generally less efficient carrying out of the series, one might expect the capacity to fuse the reac-

tions of this pattern, to represent relatively superior psychomotor adjustments, but this does not appear. Of 10 pathological subjects, five show less fusion than the normal average, and five show more, two of these strikingly more. These two are the head injury and the schizophrenic case 31: two subjects as far apart in their essential mental constitution as two patients could well be.

20. *Comparison in Series 50, r Speed.*—In this more difficult analogue of series 10, the pathological subjects vary less than in 10 r. Four are slower than the slowest normal, as compared with five in 10 r. (Case 31 did not undergo this experiment.) They are the schizophrenic case 75, and the circular cases 74 and 71, and the head injury case 86. Only one is as fast as the normal average, as compared with three in 10 r; this is the manic case 16, who approaches the normal limit in speed. Some cases show marked learning, others none at all.

21. *Comparison in Series 50, t Speed.* All the pathological subjects but the manic physician 16 are slower than the normal average. Cases 71 and 75 have improved from their positions in 50 r to within normal limits; the circular depression 74 and the head injury 86 remain outside them. The mean *t* time of the pathological subjects is about 6.40, and only the three cases above-named show marked variation from this. While the subjects differ greatly in the amount of learning they show, this does not seem related to differences in the psychoses.

22. *Comparison in Series 50, Time s.*—From this measure, as pointed out in sections 5, 8 and 19, is derived the amount of fusion that takes place between the initial reaction time and the total process time; the extent to which the pattern is fixed before starting the reaction. Some fusion was found in series 10, but it was not progressive; neither did significant difference appear in the normal and pathological groups. In series 50, distinct progressive fusion is found in the normal subjects (section 8). The general tendency of the pathological subjects is to show less fusion than the normal, in conformity with their greater slowness. The five movements of the patterns are more discrete processes with them than with the normal subjects. Two cases, indeed, show a tendency to increase the time of the total process in proportion to the initial reaction time. These are the excited cases 16 and 36.

23. *Series 110, Comparison in Reaction Speed.*—Only two of the pathological subjects are faster than the normal average in this series. They are again the manic case 16, and the mild depression 24, whose occupation may have given him special facility with these simple arithmetical associations. The two subjects who are slower than the slowest normal are both young circular cases, with a strong psychopathic basis. The cases show here what is not usually seen, a greater tendency to practise improvement than do the normal subjects. Three schizophrenic subjects, 84, 75 and 31, and two circular cases, 74 and 36, show especially great improvement. The relative inefficiency of the pathological adjustment is greatest at the beginning of the series and is afterwards less conspicuous.

24. *Comparison in Series 110, Correct and Incorrect Propositions.*—Among the normal subjects, the average reaction time of the correct sums was 1.11 and that of the incorrect, 1.26 seconds. This difference is greater in the pathological subjects. Their average time for the correct sums is 1.27, and for the incorrect, 1.80 seconds. This suggests, for the pathological cases, a much more positive effect of the falsity in lengthening these reaction times than is present with the normal subjects.

25. *Series 100, Comparison in Reaction Speed.*—In this function, the separation of the pathological from the normal subjects is greater than in any other considered. Not one is as fast as the normal average. Over half are slower than the slowest normal. Of course, these cases are in a phase of inferior adjustment to the facts of life, and it is a rationally facile step from this to their inferior adjustments in recognizing the statements of natural fact. These are in general more difficult than the mathematical statements of series 110, and this difficulty is relatively accentuated for the pathological subjects. The result is suggestive of relationship with disturbance of the *fonction du réel* in these cases. This would be supported by the fact that the two most deluded cases of the group, 31 and 75, also show the slowest discrimination of these statements. But this relation is not elementary, for no such delusional extremes appear in other subjects slower than the slowest normal, nor are the more rapid cases relatively free from delusions. It may be noted that the two especially deluded cases, 31 and 75, were rapid in series 110 in comparison with their performance in

series 100. This forms one of the promising leads for further prosecution of the general research, with an experiment improved in construction, as indicated in paragraph 14.

26. *Comparison in Series 100, Correct and Incorrect Propositions.*—For the normal subjects, the average reaction time to the correct statements was 1.25, and for the incorrect, 1.46 seconds. As with series 110, this difference in favor of the correct statements is greater with the pathological subjects. Their average reaction time for the correct statements is 1.86, for incorrect statements, 2.57 seconds. The falsity of statements in both series 110 and series 100 makes more difficulty for the pathological group than it does for the normal. The capacity to distinguish correctness and incorrectness in natural fact as quickly as in mathematical fact, and the general ability to distinguish incorrect statements as quickly as correct ones, are features belonging distinctly to the normal as apart from the pathological group.

IV. FALSE REACTIONS OF NORMAL SUBJECTS.

Efficient adjustment to the environment consists in doing the right thing at the right time. By the convention of these experiments, the right thing to do is to tap certain keys; and the right time to do it is as soon as possible after perceiving a given stimulus. We have, therefore, two measures of efficiency in these experimental adaptations. One is whether the right keys are struck, the other is how quickly they are struck. We have been considering only the cases in which the right keys were struck, and the sole factor has been the time element in the adjustments. Reactions in which wrong keys are struck have not figured in the results hitherto presented, and are now to be taken up.

A reaction that is incorrect according to the experimental conventions is called a "false reaction." The tendency to false reactions is in theory more relevant to this investigation than is the time of correct reactions. We found, indeed, that the pathological subjects as a group did the right thing in these experiments more slowly than the normal. But it is elementary that the maladjustments that make these subjects psychopathic are not in doing the right thing too slowly, but in doing the wrong thing altogether. In mental disease the simple slowing of mental processes—"thinking difficulty"—is a definite symptom enough, but

one of restricted significance. The essence of mental maladjustment lies in false reaction at deeper levels than are accessible to experiment. Does this also show itself in a greater tendency to false reactions on the more superficial levels which these experiments reach?

27. A false reaction may result from disturbance in any part of the psychomotor arc. We distinguish two levels of these disturbances. In this section will be discussed that in which the real nature of the stimulus does not come to consciousness (misperception of stimulus). Section 28 takes up the cases where it does come to consciousness, but the reaction is false nevertheless.

If the stimulus is misperceived, the end result is false, though the association and motor mechanisms function perfectly. Such misperceptions of stimulus occur in the method of right and wrong cases, where the difference between the compared stimuli is minimal and not always to be correctly perceived. Important observations of this type of false reaction have been made with normal subjects by Henmon.^{*} He used discrimination of line lengths with a difference calculated to give in general 84 per cent of right perceptions. The subject reacted with the key on the side at which the longer or shorter line appeared, according to convention. The time of the reactions to wrong judgments in observations with three subjects was compared with the time of reaction to right judgments, and the general average for wrong judgments was among them somewhat longer than that for right judgments. The time of wrong judgments was found to vary in a way that indicated two types of wrong judgments: "those that are rendered too quickly, and those that are prolonged beyond the optimal time." Among those rendered too quickly may be premature reactions, which are not actual reactions to the stimulus, but have an even chance of appearing right or wrong. When a false reaction takes longer than the "optimal" limit, the delay is presumably a result rather than a cause of the falsity. The misperception of the stimulus in the first place prolongs the time of its getting into action.

But the governing factor seems to be the definiteness of the right perception or misperception. This is indicated by the intro-

^{*}The Relation of the Time of a Judgment to Its Accuracy. *Psychol. Rev.*, 1911, XVIII, 186-201.

spective "degree of confidence" of the judgment. Whether right or wrong, judgments with a high degree of confidence are in this group of subjects shorter than those with a low degree of confidence. Indeed, the longer average of the wrong judgments appears determined by the fact that these are relatively numerous in the low degrees of confidence, while the right judgments are relatively less frequent there. It would not then seem to be a result of this study that wrong judgments, as such, take longer than right ones to make, and this is confirmed by Henmon's tables on individual differences. Their longer average comes about in this way: The nearer the certainty of the discrimination approaches zero, the longer will the reaction naturally become, and the closer does likelihood of its being false approach its chance limit of 50 per cent. Given the same degree of confidence, there is no evidence that wrong judgments take longer than right ones. Their longer average is due to the heaping up of wrong judgments in the category which is long for another reason—its uncertainty.

While it is thus evident that misperception of stimulus is with small differences an important cause of false reaction, it comes less into question for the present experiments. The stimulus material is plainly legible, and its constitution such that errors from this source would hardly pass unnoticed. There was no evidence of them, and they are probably represented only by negligible accidents.

28. The type of false reaction we meet in the present experiments is that encountered in a previous and more extensive study by Henmon,^{*} where the differences are, as in the present case, calculated to obviate misperceptions. Here the numerous false reactions represent maladjustments forward of the perceptive process. It was the present experimenter's privilege to closely follow this study, which indeed gave initial impulse to the investigation now reported. The detail of the false reactions presented in this section was kindly furnished later by Professor Henmon.

Henmon's study is intensive in character, involving large numbers of observations with a small number of subjects. Differences were studied in the perception of color, line length, and pitch. Such data throw light on the general tendency to false reaction,

^{*}The Time of Perception as a Measure of Differences in Sensations. Arch. of Phil., Psych. and Sci. Methods, 1906, No. 8.)

how it is affected by the magnitude of the differences, and their relation to the time of the false reaction.

Besides the misperceptions of stimulus above-mentioned, there is a systematic and a random way in which false reactions can occur, which may be described in particular reference to these studies as follows:

(a) In Henmon's experiments, the subject sometimes reacted on the side on which the constant stimulus appeared, and sometimes on the side on which the varying stimuli appeared. If a subject's "set" were wrong in this respect, the reaction would be false independently of any failure to discriminate or react according to a recognized convention of the experiment. Reactions with this wrong "set" would be systematically false as long as the wrong "set" persisted.

(b) Other and irrelevant mental process conflict with, block and distort the discrimination reaction that is being studied. The motor process runs off to one hand or the other at random. These of course have an even chance of being superficially correct. Indeed some reactions, in which there was clear indication of irrelevant factors being intruded, were excluded from the averages in spite of superficial "correctness." However, there is no reason to suppose that all or most of the random reactions that chanced to be correct were eliminated in this way, and the number of truly "random" reactions may be nearly twice as great as those objectively appearing as "false."

The series of color differences ranged from red-yellow through a series of oranges progressively approximating the standard red, and denominated, R-Y, R-O, R-O²⁵, R-O⁵⁰, R-O⁷⁵. In the experiments with colors, the number of false reactions in 2200 reactions with each subject varied as follows according to the magnitude of difference in the stimuli:

	R-Y	R-O	R-O ²⁵	R-O ⁵⁰	R-O ⁷⁵
Subject I.....	2	12	5	5	4
Subject II.....	12	15	23	16	22

The line lengths studied differed by 3, 2½, 2, 1½, 1, ½ millimeters. The number of false reactions in 2400 observations with each subject varied as follows according to the magnitude of difference in the stimuli:

Millimeters:	3	2½	2	1½	1	½
Subject I.....	8	8	10	11	15	13
Subject III.....	14	19	17	25	50	39

The differences in pitch studied were of 16, 12, 8 and 4 vibrations. The number of false reactions in 1280 observations varied as follows according to the magnitude of difference in the stimuli:

	Vibrations: 16	12	8	4
Subject I.....	3	6	5	13
Subject II.....	4	6	9	24

In all cases save subject I for the colors, there is evident tendency for the false reactions to increase in number as the differences become smaller. This is in spite of the fact that the differences were in all cases above what is ordinarily thought of as a "threshold." It points to continuity between false reactions primarily of the misperception type noted in section 27, and those of the present experiments, which involve associational and motor factors relatively more. The apparatus of Henmon's experiments gave no record of the above false reactions when made; they were indicated by the subject verbally, who was thus always aware of a correct perception of the difference. It may be that correct perception did not become clear until after the false reaction had taken place. In the study reviewed in section 27, Henmon does not discuss the reactions contrary to the perception of the stimuli, and false from the viewpoint of this paragraph. It is still certain that lines must be drawn between ability to *perceive* a difference and ability to *react* to that perception. Or, to put it in more behavioristic terms, the capacity to make a *predetermined correct* reaction to a difference depends on the sort of reaction that is to be made. Other experiments, by the method of right and wrong cases, showed a lower threshold in pitch for II than for I (shorter simple reaction time in II was also found). When the *predetermined correct* reaction is to *say* whether the second of two tones is higher or lower, II reacts more correctly than I; when the reaction is a conventionalized move with a telegraph key I reacts more correctly than II. And in both cases the capacity for correct reaction is influenced by the magnitude of the difference.

This principle was met at the outset of the study, when it was brought out that reactions under the conventions of experiment might be quite different from analogous processes in the life environment governed by instinctive motives. "A fine target-shot may be a poor game-shot." But it seems that this parallel must be carried further to say that a good shot at one kind of target

may be a poor shot at another kind; a good shot with one kind of ammunition a poor shot with another kind.

Other evidence of perceptual factors in these false reactions is derivable from the reaction times. It is natural that the correct discrimination times should become longer as the differences to be discriminated become less. What is not so foreseeable, is that the time of the false reactions behaves in the same way. It takes longer to react falsely to red-orange-75 than it does to red-yellow. This is *prima facie* evidence that the discriminative process has taken place, and with a difference of this size it would be, *as a discrimination*, presumably correct. But the smaller the difference that is discriminated, the easier it becomes for extraneous factors to distort the required reaction to falsity. The following figures show the increase in false reaction time, roughly paralleling that of the correct reactions. The progression of differences in color, lines and pitch, is as given in the previous tables.

Subject.	—Differences decrease from left to right.—				
I color, false.....214	257	266	240	289	
I color, correct.....217	296	252	260	271	
II color, false.....246	269	236	301	286	
II color, correct.....256	268	274	281	291	
I lines, false.....285	252	303	304	320	348
I lines, correct.....296	298	305	313	323	344
III lines, false.....299	294	317	326	333	345
III lines, correct.....329	328	331	339	346	358
I pitch, false.....282	307	343	356		
I pitch, correct.....290	298	311	339		
II pitch, false.....275	517	428	435		
II pitch, correct.....344	355	396	470		

In the line lengths the average of correct reactions is uniformly longer than that for false reactions, but not greatly so. In other cases the difference is often reversed. As with the false justments of section 27 the time of right reactions differs insignificantly from wrong ones.¹

29. While only three subjects figured in the above results, there was marked individual difference in tendency to false reaction,

¹ A difference previously reported by Wells in these data seems to rest on an erroneous comparison of the median of false with the average of correct.

I showing fewer than II or III, as follows in the different types of experiment:

	Total for colors.	Total for lines.	Total for pitch.
Subject I.....	28	65	27
Subject II.....	88	...	43
Subject III.....	..	164	..

30. *Henmon's Findings on False Reactions and Practise.*—The unquestionable tendency of practise to diminish the number of false reactions coordinately with increasing reaction speed is not very evident in these experiments. Other series had been taken before these experiments were made, with a view to elimination practise effects, at least for reaction speed. Where more practise effect remains for accuracy than for speed, it indicates that the improvement in accuracy in the function is not so rapid as the gain in reaction time. The situation is sufficiently indicated in the following figures:

	Subject: Color		Lines		Pitch	
	I	II	I	III	I	II
Number of false reactions per series, first half of experiments.....	2.5	10.5	9.4	17.6	3.5	5.0
Number of false reactions per series, second half of experiments.....	2.6	5.0	3.6	15.2	3.3	5.8

31. *Present Material, False Reactions in the Different Experimental Series.*—The measure selected for this comparison is derived by considering the number of times each series was worked with the normal subjects, and dividing by this the total of false reactions observed in the series; thus obtaining for each series the average number of false reactions in it. These figures are,

	Series: 20	10	50	110	100
Number false reactions.....	1.2	1.3	4.1	1.1	1.0

Except for the outstanding position of series 50, no significance can be attached to these differences, nor do they run parallel to the differences in reaction time. It may be noted that while five proper movements are necessary for a correct reaction in series 10 and 50, and only one in series 20, 110 and 100, this fact shows little influence on the relative difficulty of the reactions. The number of false reactions is not significantly different in 20 and 10; the difference which is strongly marked is that between 50 and 10, showing that the essential factor is not the requirement of 1- or 5-finger movements.

32. *Range of Individual Difference in False Reaction.*—The measure selected for this comparison is derived by taking the sum of the false reactions in the *first performances* of the series 20, 10, etc., and dividing it by the number of series under consideration, which is, of course, uniformly 5. This gives the average number of false reactions in a single series per individual. The figures for S and T are approximations, since their series are incomplete, and the preponderance of false reactions in series 50 must be allowed for. The figures are,

	Subject: B	C	E	H	J	K	L
Average false reaction	1.6	1.0	.8	2.4	.6	2.6	2.0
	Subject: M	R	S	T	W	X	Y
Average false reaction .....	.8	2.2	2.2	5.0	.8	2.6	2.5

Subject T had 13 false reactions in series 50 alone.

33. *Speed of False Reactions.*—Comparison of false reaction time with that of correct reactions must be made with reservations. Small numbers of false reactions often make hazardous the statement of central tendency. Also they represent more varying processes than do the correct reactions. There are more ways to do a wrong thing than a right thing, because there are more wrong things to be done. Correct reactions result from following out a restricted pattern of discharge. Incorrect ones have an indefinite number of mechanisms. It remains to inquire if any characteristic manifestation of the disturbing factors is to be found in the reaction time.

That constant relation appears between false and correct reaction time is doubtful. A false reaction made in series 10 or 50 usually makes the *t* time of that response longer than the average, but this may well be a result of awareness of the error. This is manifestly the case where the subject takes time to correct it. Illustrations follow of different anomalies of the time factor in false reactions, without, however, finding in them a criterion of individual difference.

(a) False reactions with comparatively short times:

Item.	Error.	Time.	Central tendency of correct re- actions.
2 + 7 = 9.....	lefthd.	1.14	1.33
Lemons are sour.....	lefthd.	1.47	2.01
Key No. 1.....	key 5	.77	.90

(b) False reactions with comparatively long times:

Item.	Error.	Time.	Central tendency of correct re- actions.
Wood floats on water....	lefthd.	3.15	1.53
5 + 8 = 13	lefthd.	1.48	1.18
5 + 8 = 13	lefthd.	2.00	1.29

In series 10 and 50 a disturbance of the psychomotor adjustment prior to the actual false reaction may be shown in a very short r time or a very long one.

(c) False reactions following short r time.

Item.	Error.	r time.	Central tendency of correct r times.
aoeui	aoeui	.83	1.70
aoeui	aoiui	.69	1.09
aoeui	aoiue	.63	.83

(d) False reactions following long r times.

Item.	Error.	r time.	Central tendency of correct r times.
iaueo	iaoeu	1.14	.62
oaeiu	oeoua	3.57	1.37
iaeou	ioeui	2.98	1.22

Such psychomotor slowing preliminary to false reaction was also noted in observations on typewriting (Am. J. Psych., 1916, 27, p. 58).

A flaw in the instructions to the subjects (pp. 85-86-87) is that they say nothing about what is to be done if the subject catches himself in an error. Several cases occur in the records in which a subject, noting an error, corrected it before going on. It seems worth while to note the time taken to do this. The measure is from the moment the false reaction is recorded to the moment the correct reaction is recorded. These correction times are distributed as follows:

Time in .01 sec:	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140 and over.
No. cases	0	1	1	1	4	3	1	3	2	2	0	1	0	1	5

No correction time in series 10 or 50 is shorter than .70 second. The correction times run distinctly shorter than the reaction times; so much so as to suggest that in several cases the correct adjustment was in process of formation before the false one was com-

pleted in action. The relation of consciousness to the corrective process is more interesting than clear. At the level of practise with which we are dealing, it is hard to imagine so complex adjustments as these running off unconsciously. Occasionally, of course, we have the subject's own immediate and spontaneous testimony to his awareness of the error. But it is by no means sure that the corrective movement is preceded by consciousness. Though awareness normally *accompanies* psychomotor arcs of this level, it need not sustain any constant relation to the motor end-effect in these arcs. The time relation of the whole process is measurable in terms of motor end-effects, but the time relation to awareness is not so measured or measurable.

34. *Topical Data on False Reactions.*—For series 10 and 50 a schedule was made showing the relative involvement in false reactions of the different keys. In series 10, keys 1, 2 and 3 share equally in recording false reactions; keys 4 and 5 less frequently than they. The fewest errors are made when key 3 is called for, the most when key 1 is called for. In series 50, containing about three times as many errors, the distribution is not at all the same. The fewest errors are made when key 1 is called for. By far the most false reactions are recorded by key 3, which in series 10 shared this bad eminence equally with keys 1 and 2. This difference in the distribution of the errors is evidence against their being governed chiefly by *motor* maladjustments.

In series 110 and 100, the subjects as a group showed no difference in reacting falsely to correct and incorrect propositions. Each has about the same number of false reactions. Individual subjects may show a greater tendency to react falsely to one or the other type of proposition. *Lemons are sour* was the only item of series 100 eliciting false reaction in subject J, and did so twice in him. The negatives conduce somewhat to false reaction, *cats have no claws* eliciting false reaction in three subjects. The two false reactions of subject S in this series were to this item and to *roses have no smell*. In such propositions there are pairs of ideas which are strongly associated; and the occurrence of such a pair in a proposition induces of itself a positive attitude.

35. *Correlations in Speed and Accuracy.*—Series 50 afforded the only acceptable opportunity for a correlation of reaction speed

and accuracy. It is somewhat negative for both normal and pathological subjects, the r 's being $-.28$ and $-.21$ respectively. This is patently associated with the beginning of practise, since individuals practised in this kind of reaction are both faster and more accurate than the unpractised.

Other correlations in reaction speed between different series showed such relationships as one would expect. In normal subjects the closest correlation found was between series 110 and 100, $r = .50$. Between 50t and 10t it was $.41$, between 50t and 100 it was $.20$. All are positive, but their moderate degrees are in line with general indications that motor speed is rather specific to the given function.

V. FALSE REACTIONS OF PATHOLOGICAL SUBJECTS COMPARED WITH THOSE OF NORMAL SUBJECTS.

36. *Comparison of Normal and Pathological Subjects in False Reactions per Experimental Series.*—The measure described in section 31, namely, the average number of false reactions per series, is for the pathological subjects as follows:

	Series: 20	10	50	110	100
Number false reactions .....	.7	1.2	2.8	.4	.7

More difference in the liability to false reaction appears than with the normal subjects. Series 110 is relatively freer from them and series 10 has more, 50 having naturally the most. These numbers are derived from all the experiments made. Only one set was made with most of the normal subjects, but with most of the pathological subjects the series were repeated several times.

37. *Comparison of Normal and Pathological Subjects in Tendency to False Reaction.*—The measure described in section 32, the average number of false reactions in the first performance of all series, is for the pathological subjects as follows:

	Subject: 74	75	36	31	71	84	16	17	79	24	86
Av. false reactions....	1.6	.6	.8	1.0	2.6	.6	2.2	1.4	.4	4.6	1.2

The figures for subjects 36 and 31 are approximations from incomplete series.

This result is an emphatic negative to the question whether the pathological group as such is more subject to false reaction than

the normal. There is actually less tendency to false reaction in the pathological group. Of the 11 in the pathological group, eight show fewer false reactions than the normal average. Six of the 14 normal subjects are below their average. Of all persons entering into the results, the most false reactions are made by a normal subject, a physician, and the fewest by a young circular case. It is not possible within the pathological group to show fundamental relationship with the character of the psychosis, though the dementia præcox cases do make fewer false reactions than the manic-depressive.

38. *Other Comparisons.*—Twenty per cent of the false reactions were spontaneously corrected by the pathological subjects; of the false reactions of the normal subjects, 33 per cent were spontaneously corrected. The correction times are somewhat longer in the pathological group, being distributed as follows:

Time in .01 sec.:	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140 and over.
No. cases....	0	0	0	1	3	2	2	0	1	2	3	0	2	1	13

Thirteen times are over 1.40 seconds as against five with the normal. Three cases appear in which a reaction was correctly made and then falsely changed. They are the following, one appearing premature:

Item.	Correct reaction.	Elapsed time to false reaction.
5 + 8 = 13.....	1.13	1.04
7 + 8 = 15.....	.09	1.24
5 + 9 = 15.....	2.06	1.25

As with the normal subjects, no difference is found in the number of false reactions made with the right and left hands. No comparisons are made upon the other points noted from the normal subjects.

VI. PATHOLOGICAL RECORDS IN RELATION TO THE CLINICAL CONDITION OF THE CASE.

39. As experiments with single pathological subjects might extend over periods of many weeks, one would naturally expect to encounter some fluctuations of condition. It was thought worth while to examine the results, and compare them with clinical observations, to see if any such fluctuations were reflected in the experi-

mental performances. Findings on this point will be briefly presented for each subject.

Case 76, age 36, typical dementia præcox on a shut-in basis. Early in the psychosis he showed a wealth of paranoid ideas of religious and sexual coloring. Since then delusion formation seems less active, though still brought out by questioning; characterized at the time of the experiments by passive acceptance of his situation, and vague delusions. In the midst of this he was singularly amenable to laboratory conditions of all sorts, following their routine almost like a ritual. His condition throughout the time of the experiments was quite stable. No change of condition or attitude is noted either by the experimenter or in his clinical records.

The experiments were made on six days, five weekly in January and February, one towards the end of March. A variation outside the limits of chance or practise appears on the fourth experimental day when very short times are recorded in every series, and again two days later in a repetition of series 110 and 100. There is no evidence of correlated change in the patient's mental economy. This case produced very few false reactions, much fewer than the normal average. This was striking to observe in a case whose more vital adaptations were so completely broken down.

Case 17, age 36, is a dementia præcox case of more recent standing. At the time of the experiments emotionally depressed, slovenly in habits, delusion formation rather slight. The two experimental days are only a week apart and no significant change is reflected in notes or experiments. There was more agitation in this case than in 75, and this is the most plausible interpretation of the considerably greater tendency to false reaction.

Case 74, age 26, is a typical manic-depressive case with circular attacks, the present being the fourth. It belongs among the mixed phases, showing overactivity and flight along with depression of mood. Complete records are at hand for two days, some 11 weeks apart; both the clinical notes and those made during the experiments point to somewhat greater excitement at the time of the second experiment. The difference between the experiments is marked, the second showing the greater speed, and slightly fewer false reactions.

Case 36, age 22, is one of a similar character so far as present interpretations are concerned, manic-depressive on a psychopathic basis, but the excitement is more typical. Two experiments, three weeks apart, were made during a period of apparently subsiding excitement. The effect is opposite to that indicated in the previous case, the less excited record showing much shorter times than the first. The change seems too marked for a practise effect in the ordinary sense of the term. Four false reactions occur in the first experiment and none at all in the second, in accord with expectation.

Case 16, age 39, is another circular case in a fifth attack, excited phase. Four experiments are recorded during a period of slightly over three months. The general course of the psychosis during this time was one of subsiding excitement with occasional relapses, or even flurries of depression. The immediate experimental notes show distinct excitement for the first three experimental days, which had considerably subsided at the time of the last day. The reaction speeds are irregular, and no difference can be traced in the records except that the third and fourth experiments show somewhat shorter times than the first and second. There were many more false reactions in the earlier experiments; 12 and 15 as against one and four.

Case 79, age 20, is another circular manic-depressive, who, during the period of three and one-half months covered by the experiments, passed from a slightly depressed condition into an excitement too great for laboratory observation, and then again into a mildly depressed state. He was perceptibly keyed up on the third experimental day, more than on the first or second. Complete records for these first two days are not available; but the third day shows comparatively lengthened times in 107, 110 and 100; shorter times in 104 and 20. There are also more false reactions, especially in 100. Compared to the later changes in his condition, which ended in recovery from the attack, this third series, under excitement, shows longer times throughout, and the fifth experimental day marks improvement over the fourth, which preceded by some six weeks. False reactions are again practically eliminated.

Case 24, age 45, represents a progressing recovery from a mild depression. Clinically, it may be regarded as certain that the depression was less on the second of the two experimental days; they were two weeks apart. In general the reaction times are also shorter on the second day, but a more noticeable change is that the false reactions, 23 on the first day, the greatest number but one observed for any single experiment, diminished in the second experiment to seven.

Case 71, age 20, is of marked constitutional neuroticism associated with psychotic episodes whose diagnostic interpretation is not wholly clear. Like 75, he is a rather critical case for an inquiry like the present, his condition being one continued maladaptation, without observed change during the period of the experiments, and without likelihood of reaching a normal adjustment to life. Three experiments were made at intervals of about a month. The first two have slow speed and many falsities, the third is fairly quick with no falsities. Notes on the third experiment are lacking, but it is safe to say that the long times in the first two as such are not significant for present purposes. They are associated with unusual clumsiness on the motor side of his adjustment to the experimental task. Thus, contrary to instructions, he fingered unsystematically in series 10 and 50, this compelling him to work by sight. This inefficiency is of a "motor" rather than a "psycho-motor" level.

About 18 months later this case voluntarily presented himself for further examination, saying he had not really tried in the previous tests, and now wished to establish his sound mental condition. He manifested much concern over their outcome. Reaction speed was greater in series 10 and 50, slower in series 110 and 100, than in the previous experiment. There were also six false reactions in this fourth experiment as opposed to none in the third. The gain in 10 and 50 is fully accounted for in that the subject now fingers systematically, according to instructions. Though the notes of the third day are not found, it seems probable that the greater speeds of the third day are also due to improvements of this kind. The gains are not correlative to change in the psychotic constitution of the patient; they represent more willing cooperation, better adjustments of strictly motor character, or both.

VII. CRITICISM AND CONCLUSION.

Dementia præcox and manic-depressive psychoses show certain types of reaction to the environment. Certain individuals react in these ways because their adaptive capacity is not equal to the demands the environment puts upon it. When this capacity is strained to the breaking point, the psychosis is precipitated. Dementia præcox seems to be precipitated chiefly by the sexual adjustments called for upon attaining maturity in the presence of incapacity for making them. A definite type of predisposition to this reaction has been made out—the “shut-in personality.” The manic-depressive psychosis represents more temporary withdrawals from reality. Sometimes, as in cases here studied, psychopathic defect is evident when the patient is “normal” for him. In other cases, no psychopathic traits have been found except in the definitely psychotic periods. In the dementia præcox group, and in the present manic-depressive cases, we have to deal with individuals whose maladaptation to life is constitutional.

There are two sides to the question of demonstrating this maladaptation at the psychomotor, laboratory, conventional level. If it is so demonstrable, we shall expect to find it most marked during periods of actual psychosis, where the present study has looked for it. Finding psychomotor deficiency here, the logical progress of the investigation would take up manic-depressive psychoses during periods of recovery, prospective dementia præcox cases before onset, or during remission.

Failing to find such psychomotor deficiency, the most reasonable interpretation is that the factors (instinctive, emotional, volitional) upon which psychosis or sanity depends, are essentially dissociated from the superficial psychomotor capacities represented in these experiments. (It is possible to suppose a sort of compensatory relation between the two, but the conjecture cannot here be profitably discussed.)

Independence and dissociation of the functions governing vital adaptation from those governing psychomotor adaptations is the chief indication of the present results. Their inter-relationship should have shown itself most clearly in a greater tendency of the psychopathic cases to false reaction. The contrary was found, and cases of the more serious maladjustment, dementia præcox, actually showed the fewer false reactions.

While the psychomotor adaptations of the pathological cases, as a group, take longer time than those of the normal, a simpler explanation of this is indicated than that of constitutional difference between the two groups. If this difference in the two groups is one of constitution, it ought to persist with relative independence of the patient's immediate clinical status. The evidence we have points in the opposite direction. The psychomotor adjustments are too dependent on symptomatic and incidental factors of the condition to be regarded as the expression of constitutional tendencies. Both reaction time and false reaction contribute data on this topic. Of the dementia præcox cases, 75 was much more broken down mentally than 71, but 75 was emotionally calm, while 71 was agitated. The result that 71 was quicker but made more false reactions than 75, is easier to reconcile with the immediate emotional factor. In case 16, a period of clinically subsiding excitement corresponds generally to a shortening of reaction time and great reduction of false reactions. The change is best interpreted as a lessened distractibility. In case 79, false reactions increase with the state of excitement, and are eliminated with its subsidence. In case 24, they decrease markedly with a subsidence of depression. The rule is improvement with the subsidence of superficial symptoms, such as would themselves cause a poorer performance. An exception is shown in case 26, where better performance is shown in a somewhat greater excitement. Thus the changes in the pathological groups appear to result from factors secondary to the psychosis. When these factors disappear, the psychopathic constitution of the cases does not differentiate their experimental performance from the normal.

From the standpoint of the experiments it is not a fortunate circumstance that such practise as there is in the experiments generally coincides with periods of improvement. The meager control data point to considerable variation from day to day in the normal, not consistently in either direction. This is true for both speed and false reactions. Consistent improvement in the performance of pathological cases associated with improvement in clinical status seems better explained by this than by practise effects, especially when the experimental days are far apart.

That these pathological groups are not constitutionally differentiated from the normal on the psychomotor level, is the most

certain result of this study; the departures from the normal which are seen may, with reasonable probability, be related to symptomatic features of the disorders. In formulating results beyond this, one is hampered by insufficiency of data. Many things were found, and are stated in their appropriate sections, but they require substantiation from further work before assuming general validity.

Among these may be recalled the singular separation of the normal from the pathological groups found in the statements of natural fact (series 100) and the greater difficulty experienced in the pathological group with incorrect statements of both natural and mathematical fact. The greater tendency of normal individuals to spontaneous correction of false reactions might also be mentioned because of the more natural and unconventional character of this response.

It has been postulated that a false reaction is as such a more pathological performance than a slow one. But it has clearly not the same sort of pathology that is concerned in the manic-depressive and dementia præcox psychoses. It originates on a more superficial level. The false reaction results from an incidental disturbance of mental processes, and the susceptibility to false reactions is a measure of constitutional liability to such disturbances. It has been shown that this is a different constitutional character from that which makes for certain functional psychoses. It has been difficult to acquire knowledge as to the positive meaning of susceptibility to false reaction because no satisfactory measure of individual difference in it has existed. Under ordinary conditions of experiment one does not get enough false reactions to serve as a basis for comparison. They deserve consideration in other rôles than as a disturbing element in studying the time of correct reactions. To study them in and for themselves one should have conditions more favorable for their occurrence, the usual experiment being designed to favor correct reactions.

One means of bringing out more false reactions is to increase the complexity of the reaction patterns. This is the effect in the use of the typewriter, though that instrument has obvious limitations on account of different individual capacities due to special practise. Comparable to increasing the complexity of the reaction

patterns is diminishing the differences in the stimuli to be distinguished, approaching the border-line where misperception becomes a greater factor in the false reaction than maladjustment of the psychomotor mechanism.

The greater space in this study has been given to reaction time, because the nature of the experiments was such as to yield more material on it. Item for item, the tendency to false reactions is the more suggestive. There are very few situations in practical life where anything depends on the small amount of individual difference that exists in reaction time. There is usually time enough to pull the right lever; the important thing is to pull it in the right direction, or not to get hold of the wrong one. The opinion must be reiterated that the facility of time measurements has led to their playing a part in psychology disproportionate to their value for the study of the mind, while measurements of correctness in choice have had too little attention. The present study in the pathology of choice reactions results in delimiting the problem in reference to the psychoses. The pathological features seen in the choice reactions of psychotics are secondary to incidental symptoms. The problem is to be approached for its relation to normal psychology; to the "psychopathology of every-day life." With this it has as many points of contact as there are systematic choice reaction processes in the conduct of civilized life, and these are without number.

SOME FAMILIAL AND HEREDITARY FEATURES OF AMAUROTIC IDIOCY.

By ISADOR H. CORIAT, M. D., BOSTON, MASS.,

*First Assistant Visiting Physician for Diseases of the Nervous System,
Boston City Hospital.*

Within the last few years, a study has been made of 12 families in which occurred cases of amaurotic idiocy, in order to determine, if possible, the hereditary, familial and social features of the disorder with the hope that perhaps such a study would help to solve the much discussed and important question of the nature of the disease process and its racial psychopathology. My former studies¹ on amaurotic idiocy have been limited to its clinical aspects and to a discussion of some new symptoms of the disease, particularly certain reflex phenomena which were interpreted as being produced by the removal of inhibitions in the central nervous system caused by extensive destruction of the neuro-fibrils. The racial psychopathology of the disorder, its practical limitation to children of Jewish parentage and the social aspects of the disease, open up problems which have been very difficult of solution. It was with the idea of contributing to a new theory of the disease, based upon a conception of organ inferiority, that the following study was undertaken.

The following is the outline of the 12 families studied, nearly all of which have been seen and examined in person.

FAMILY HISTORIES IN AMAUROTIC FAMILY IDIOCY.*

FAMILY I.—The father and mother are Russian Jews. Father non-alcoholic and non-syphilitic. Maternal grandfather, a Russian Jew, became blind at 30, before birth of the mother. Maternal and paternal grandparents otherwise healthy. No consanguinity of parents. Later the mother showed symptoms of hyperthyroidism, but in time this disappeared and she developed a typical neurasthenia.

¹ Isador H. Coriat: Amaurotic Family Idiocy, Archives of Pediatrics, June, 1913. Some New Symptoms in Amaurotic Family Idiocy, Boston Medical & Surg. Journal, July, 1915.

^{*} The cases in Families V, VI, X, XI and XII are from the Neurological Clinic of the Children's Hospital.

Children in family, 6.

1. Girl, 8 years, healthy.
2. Girl, $5\frac{1}{2}$ years, healthy.
3. Boy, $3\frac{1}{2}$ years, healthy.
4. Girl, 23 months. Amaurotic family idiocy.

5 and 6. Twins (boys) born after death of the amaurotic idiot, showed no signs of amaurotic idiocy even after repeated examinations, and at the age of two, remained normal and healthy with normal fundi. An analysis of a specimen of the mother's milk showed it to be normal in chemical composition. No miscarriages and no children have died except the amaurotic idiot, who died suddenly from bulbar paralysis. All the children were breast fed.

FAMILY II.—Father and mother, Russian Jews. Mother was 24 years old when the patient was born, father 33. Father has been nervous concerning business matters. Maternal and paternal grandparents healthy. No consanguinity or nervous or mental disease in family.

Children in family, 3.

1. Girl, 6 years, healthy.
2. Miscarriage with dead child at 9 months.
3. Boy, 17 months, amaurotic family idiocy. All the children were breast fed.

FAMILY III.—Father and mother, Russian Jews, healthy, no consanguinity, no syphilis. All the grandparents healthy. Maternal granduncles are brothers. The maternal granduncle (mother's father's brother) had a son who died from amaurotic family idiocy (the boy in Family II) and is therefore a second cousin to the girl in Family III, who had the same disease.

Children in family, 2.

1. Boy, died when eight days old of subdural hemorrhage.
2. Girl, amaurotic family idiocy.

FAMILY IV.—Father and mother are Russian Jews. Mother neurotic. Father a weakling. No miscarriages of mother.

Children in family, 5.

1. Girl, 22 years, anxiety hysteria.
2. Boy, 16 years, weak heart.
3. Boy, 14 years, feeble-minded, juvenile delinquent, stammering, disseminated choroiditis.
4. Boy, died at 21 months of amaurotic family idiocy and hydrocephalus.
5. Boy, died at 20 months of amaurotic family idiocy, hydrocephalus and rickets. The two boys with amaurotic family idiocy were both born in America.

FAMILY V.—Father and mother, Russian Jews, healthy. All the children breast fed.

Children in family, 8.

One boy died at three weeks, not blind. Two boys died at one year, blind (amaurotic family idiocy?). Boy, amaurotic family idiocy, died at the age of 15 months. Ages and sequence of the other children unknown.

FAMILY VI.—Father and mother healthy. No consanguinity. A second cousin on father's side was a case of dementia præcox with hysterical episodes.

Children in family, 2.

1. One healthy.
2. Boy, had amaurotic family idiocy.

FAMILY VII.—Maternal and paternal grandparents healthy. Father, syphilitic and died of tuberculosis. Mother, hysterical. No consanguinity. Ancestors born in Russia, the others in America. All the children were breast fed.

Children in family, 5.

1. Girl, 13 years, healthy.
2. Girl, 7 years, healthy.
3. Boy, died of amaurotic idiocy and also had a probable cretinism.
4. Boy, typical amaurotic idiocy and rachitis.
5. Girl, apathetic, had optic atrophy with strange position of optic nerve, partially blind.

FAMILY VIII.—Father and mother Polish Jews. No consanguinity. The family history concerning nervous and mental diseases is negative.

Children in family, 4.

The mother had three children by first husband, one boy and two girls, all healthy. Mother highly myopic. Husband also married twice, no children by first wife. Patient (a boy) was a typical case of amaurotic idiocy and is the first and only child by second marriage. Breast fed.

FAMILY IX.—Father and mother and all the ancestors are Russian Jews. Maternal grandfather died of heart trouble. No nervous or mental diseases of father, mother, grandparents, uncles, aunts or cousins.

Children in family, 3.

1. Boy, still born at full term.
2. Girl, 4 years, healthy.
3. Girl, had typical amaurotic idiocy.

FAMILY X.—*Children in family, 2.*

Only two children in family (boy and girl) both of whom had amaurotic family idiocy.

FAMILY XI.—No consanguinity of parents and no nervous or mental disease. Russian Jews. All the children were breast fed.

Children in family, 7.

One died at 27 months of amaurotic idiocy. Within three years, *twins* were born, one (a girl) at one year showed typical amaurotic idiocy, the other twin (a boy) was perfectly healthy. The other four children were healthy.

FAMILY XII.—*Children in family, 4.*

Four children. Two healthy. *Twins* (one boy) had amaurotic idiocy, the other boy died soon after birth, cause unknown.

An analysis of these 12 families reveals some interesting material. There were 51 children in all. The pathological cases in both the adults and children, may be grouped as follows:

Amaurotic family idiocy, 15 cases.

Optic atrophy, 1 case.

Died at one year, blind, 1 case.

Stammering and disseminated choroiditis, 1 case.

Blind at 30, 1 case.

Hyperthyroidism, 1 case.

Subdural hemorrhage, 1 case.

Anxiety hysteria, 1 case.

Dementia præcox, 1 case.

Syphilis and tuberculosis, 1 case.

Hysteria, 1 case.

If we add to the 15 genuine cases of amaurotic family idiocy the cases of optic atrophy and also the child who was blind at the time of its death when one year old, as being in all probability the same disease, we have 17 cases of amaurotic idiocy out of 51 children, or 33.3 per cent.

The outcome and clinical features of some of these cases of amaurotic idiocy, where it was possible to study them over a long period of time, presented certain points of interest. The disease was nearly twice as frequent in males as in females, in the proportion of 11 boys to 6 girls. The course of these cases, in the various families designated, is as follows:

FAMILY I.—(Girl.) Hydrocephalus, abnormal reflex phenomena,^{*} bulbar symptoms, nystagmus, typical fundus changes, rigidity of limbs, emaciation. The child died suddenly when 2½ years old of bulbar paralysis.

FAMILY II.—(Boy.) Typical case with abnormal reflex phenomena. The child died at 20 months of emaciation and broncho-pneumonia.

FAMILY III.—(Girl.) The child was still living at the age of 18 months, but had grown feebler and shown marked rigidity of the limbs.

FAMILY V.—(Boy.) Typical case. Died at 15 months, cause unknown.

FAMILY VII.—(Boy.) Typical case with atypical fundus changes (optic atrophy with grayish-purple area in the macula) and constant nystagmus. The child was living at the age of 3½ years, but was markedly rachitic. The other child in the family, a boy, died of marasmus, while the sister was living at the age of 2½ years, but was apathetic, had an optic atrophy and was partially blind.

^{*}For description of these abnormal reflex phenomena, see my paper, "Some New Symptoms in Amaurotic Family Idiocy," *loc. cit.*

FAMILY VIII.—(Boy.) Typical case. The child died at the age of $1\frac{1}{2}$ years, cause unknown.

FAMILY IX.—(Girl.) Typical case with abnormal reflex phenomena and lateral nystagmus. The child died at the age of $1\frac{3}{4}$ years, much emaciated.

It will be noted that emaciation and marasmus was a frequent feature of the disease as a terminal disorder and in a large majority of cases, was fatal in its outcome.

It is very doubtful if genuine amaurotic family idiocy, according to my experience, can be found among Christian children, or if so, it is so rare, that it is extremely improbable that one-third of Christian children in the families in which the disease is alleged to have occurred, could suffer from the disorder, as in the Jewish families. The cases in non-Jewish children are far less characteristic than in Jewish, in that the eye findings are less typical and in many instances the diagnosis remains doubtful.

Out of 86 cases amaurotic idiocy collected by Vogt⁴ there were 61 Jewish cases, seven Christian cases, while in 11 cases, the race was not designated. One of the Christian cases, a girl 11 months old, showed an autopsy tubercles of the corpora mamillaria and tuberculosis of the internal organs, this limiting the cases occurring in non-Jewish children to six. In a case recorded by Williams,⁵ the clinical pictures of amaurotic idiocy was simulated by a tumor of the interpeduncular space. In the cases reported by Wandless⁶ occurring in an Irish family, the findings rendered the diagnosis of amaurotic idiocy extremely doubtful, since the onset was late, at about eight years of age, the changes in the macular region were not characteristic, while the cytological alterations were not typical of the disease.

The results in Mongolian idiocy are exactly opposite, for instance out of 37 cases of Mongolian idiocy, in only three of these were the parents Jewish. The largest number of cases of Mongolian idiocy seem to occur in children of Irish birth or descent.

⁴Heinrich Vogt: Ueber familiäre amaurotische Idiotie und verwandte krankheits bilder, *Monat f. Psychiatrie und Neurologie*, August, 1905.

⁵E. C. Williams: *British Journal of Children's Diseases*, October, 1907.

⁶H. W. Wandless: Amaurotic Family Idiocy, *New York Medical Journal*, May 8, 1909.

In all the families in which amaurotic idiocy occurred, there was a strong neuropathic or psychopathic background, in the form of juvenile delinquency, stammering, disseminated choroiditis, dementia præcox, hysteria, syphilis and tuberculosis, although concerning the two latter, none of the cases of amaurotic idiocy could be said to be tubercular or syphilitic in origin.

Now what is the cause of this disease and why does it seem practically limited to Jewish families, particularly to those families which have been subjected to persecution with its attendant emotional strain. The disease occurs not only in the immigrant Russian Jew in America and England, but is likewise reported from Russia itself.¹ In none of the families studied was there any history of consanguinity.

The pathology of the disease seems to offer the best explanation for its nature and origin. In amaurotic family idiocy the cells are large, pale and swollen, practically the same cytological changes as are found in Cajals foetal cells, which can be demonstrated in post-embryonic life in idiocy, juvenile paresis, congenital syphilis and in certain familial types of infantile spastic paraplegia. These cells appear in the cortex from the third to the fifth foetal month. As early as the sixth foetal month, they begin to show regressive changes, until in the last month of foetal life and in the brain of the newly-born, they have completely disappeared.²

In a careful anatomical study of a case of amaurotic idiocy, Naville³ calls attention to the fact that the brain was of the foetal type. This was shown by the poverty of the white substance in relation to the gray, and in addition, the myelinization of the brain was that of a foetus of from 6 to 7 months.

However, in the organic brain diseases already indicated they persist, and the cell changes in amaurotic family idiocy strongly

¹ See on this point the six cases described by Kowarski (Jahrbuch f. Kinderheilkunde, July, 1912) from Wilna, Russia. He states that 21 cases in all have been reported from Russia.

² Joseph Gortsmann: Beitrag. zur Kenntniss der Entwicklungsstörungen in der Hirnrinde bei genuiner Epilepsie, Idiotie, juveniler Paralyse und Dementia Præcox, Abh. a. d. Neurol. Inst. der Wiener Universität, Bd XXI, H. I. 2: 1914.

³ F. Naville: Etude Anatomique du Névrase dans un Cas d'Idiotie Familiale Amaurotique de Sachs-Schweizer Archiv. für Neurologie und Psychiatrie I, 1917.

resemble the persistent foetal cells of Cajal. So the child born with these persistent foetal types of cells, is, from the neurological standpoint, an under-developed child, it possesses an inferior nervous system and this nervous system is unable to withstand the various stimuli which are suddenly poured into the brain of the newly born infant through the various senses and from contact with a new environment. As a consequence, after a certain time, there follows a rapid deterioration. In other words, the disease is developmental, arising on the basis of an inferior brain. Obersteiner²⁰ has shown, that the anatomical findings in hereditary ataxia, amaurotic idiocy and other nervous diseases, are also developmental in nature.

The relation between amaurotic idiocy and other familial diseases of evolution is clearly shown in the Jewish family of four sisters reported by Higier, in which there were two cases of essential optic atrophy, one case of the cerebellar ataxia of Marie with an optic nerve atrophy and one case of amaurotic idiocy with the typical macular changes. There was no consanguinity and no history of syphilis.

Why amaurotic idiocy should be practically limited to Jewish families, is very difficult to understand, unless we assume that the Jew possesses certain racial characteristics of organic inferiority through which he differs from the non-Jew. Whether or not the Jew is a racial unity, has been the subject of long and hair-splitting controversy and is by no means settled. From the standpoint of physical anthropology, it has been claimed by some that the Jew does not conform to any one racial type, that he is merely a diversified group bound together by a common faith, whereas others state that the Jew is a distinct psychic unity, which alone can be taken as a safe criterion of any race.

In amaurotic idiocy, the inferior organ is the brain, particularly the visual system. As a rule, there is a strong background of neuropathic and psychopathic tendencies in all these cases, so much so, that in certain of the offspring, something is lacking, in other words, in a Mendelian sense, amaurotic family idiocy is a recessive disease. Since the germ cell is the carrier of hereditary

²⁰ Obersteiner: Die Bedeutung des endogenen Factors für die Pathogenese der Nervenkrankheiten-Neurol. Centralblatt, Bd. 34: 1915.

traits, therefore in these cases, the cell fails to carry something and consequently the brain with its neuronc architecture, becomes an inferior organ. Not all the children have the disease, some in the family escape, while the afflicted ones are born with an inferior brain. The high percentage of amaurotic idiocy in Jewish families is probably due to the fact that the Jew possesses a greater tendency to special types of organ inferiority in the central nervous system than the non-Jew. Why one twin should have the disease and the other be free from it (as in Families XI and XII) can be explained on the basis of binovular pregnancy, whereas if the pregnancy were uniovular, the twins would either be free from the disease or both would have it.

Adler's work on organ inferiority seems in its various methods of approach, to offer the best theory of the disease. As stated by Adler :

I lay stress on the fact that organic inferiority includes incompleteness in such organs, the frequently demonstrable arrests of development or functional maturity, the functional failure in the post-fœtal period and the fœtal character of organs and systems of organs. With the release from the maternal organism there begins for these inferior organs or systems of organs the struggle with the outside world, which must of necessity ensue and which is initiated with greater vehemence than in the more normally developed apparatus. This struggle is accompanied by greater mortality and morbidity rates.¹¹

A certain probability, which is in accord with biological conditions, would have it appear that fundamentally just the most highly developed differentiated cells and cell complexes have come out the worst, while the tissues of lesser capacity, which owe their development to an earlier embryologic epoch, may be normally or even supernormally developed. . . . But just as often, perhaps the hour comes when the insufficiency of the organ is revealed, when the external and internal hindrances can no longer be controlled. The normal structure and wear and tear of the organ give place to regressive phenomena, which are just as much determined in their nature by the morphologic inferiority of the organ, as by the special causes setting the disease in action. . . . Organic nerve diseases, however, are, according to our premises only special cases in which the localized inferiority is inclined to inflammatory or degenerative transformation.¹²

The theory that the disease is due to an organic inferiority of the central nervous system, harmonizes with Shaffer's conception

¹¹ Alfred Adler : *The Neurotic Constitution*, 1917.

¹² Alfred Adler : *Study of Organ Inferiority and its Psychical Compensation*, 1917.

in his painstaking studies of the disorder. According to Shaffer,¹³ the wide extent of the pathological process and the primary character of this disease point to a subnormal development of the nervous system, which tends to degenerate when called into function. One of the most striking features of the disease is that neither vascular nor infectious processes play any part in its production, neither is there any evidence for the assumption of an auto-intoxication or a polyglandular disorder.

This theory of organic inferiority has also been recently utilized to explain some of the perplexing problems of paresis.¹⁴ Here however, we are dealing with a parenchymatous syphilitic infection of the nervous system, while in amaurotic idiocy, so far as we are able to judge from clinical and pathological material, a toxic or infectious origin may be eliminated. Concerning this application of Adler's conception to the problem of paresis, Osnato states as follows:

It has for many years puzzled psychiatrists and other clinicians, why it is that of the great number of persons who are infected with syphilis, only a few, probably less than 3 per cent of the total number of syphilitics, eventually end as paretics. If we, therefore, postulate in these patients the presence of a defect in the nervous system, particularly the brain, which exists either as an hereditary or acquired weakness, then Adler's conception of organic inferiority helps to explain the problem. Adler conceives that the neurotic is somatically inferior, also that this inferiority affects more than one organ and that, as an overcompensation medium, the central nervous system is always involved. In other words, if one can prove before the onset of his psychosis, the psychotic patient is practically always a neurotic, then we can go further and say that paresis has developed in him because the central nervous system is an inferior organ and the inferiority seems to determine the location of the characteristic destructive process caused by his syphilitic infection.

In amaurotic idiocy we are confronted with a similar problem. The entire central nervous system of the potential amaurotic idiot at birth is an inferior organ, as shown by the fact that the characteristic morphological changes of the disease are found not only in the cells of the motor cortex and in the Purkinje cells

¹³ K. S. Schaffer: *Zur Pathogenese der Tay, Sachs' schen amaurotischen Idiotie*, Neurol. Centralblatt, 1905.

¹⁴ Michael Osnato: *Personality in Paresis*, Journal American Medical Association, Vol. LXX, No. 7, Feb. 16, 1918.

of the cerebellum, but likewise in the anterior horn cells of the spinal cord and in the ganglionic layer of the retina. Furthermore, the frontal cortex and the pyramidal tracts, which are myelinated late, are as badly affected as the visual cortex which is myelinated early, probably in the ninth foetal month. In all these cases also, as detailed in the family histories, there is a strong neurotic and psychopathic background.

An organic or functional inferiority of the nervous system in certain individuals of Jewish birth or descent, probably explains the affective make-up of the Jew with his exaggerated emotional reactions. This elucidates his liability to the functional psychoses and the psychoneuroses, particularly those disturbances of the sympathetic nervous system so often designated as Jewish neurasthenia or Hebraic debility. As a result of this inferior sympathetic nervous system, he becomes abnormally sensitive to emotions, leading to palpitation of the heart, flushing, gastro-intestinal disturbances, trembling, sweating and fatigue, in other words the typical picture of Jewish neurasthenia dependent on emotional stimulation of the ductless glands, probably the adrenal system. Cannon's statement may be applied to this group of cases:

It is possible that disturbances in the realm of the sympathetic, although initiated by nervous discharge, are automatically augmented and prolonged through chemical effects of adrenal secretion.¹⁴

Since from a therapeutic standpoint, amaurotic idiocy is a hopeless disease and always has a fatal outcome, usually from an intercurrent disorder occurring during the terminal marasmus, we ought, if possible, to direct our efforts to prevention of the disease. But here again, prevention of the disease presents just as hopeless and pessimistic a problem as the therapeutic attempts. We do not know when a case of this disease may suddenly appear in a family of healthy children and even if the disease is recognized in its early stages, any attempt to retard its development is just as hopeless in this stage as in a later period of the disorder.

Referring again to the family histories, it will be noted that in none of the families, did the first-born child or the first few children have amaurotic idiocy. There was only one exception

¹⁴ W. B. Cannon: *Bodily Changes in Pain, Hunger, Fear and Rage*, 1915.

to the rule, namely, in Family VII. In this case the mother had three healthy children by her first husband, but only one child with her second husband. This child was an amaurotic idiot, which would suggest that the cause of the disease lay in the father rather than in the mother. It seems also from an analysis of our material that the disease appears suddenly after a group of otherwise healthy children, but its appearance cannot be predicted and once the disease appears, it tends to repeat itself in the children that follow, as two or even as three successive cases of the disease. In only one family were healthy children born after the disease had once appeared.

We may safely assume then, that the sudden appearance of the disease is in the nature of a recessive mutation, which follows a sequence of normal children. The disease appears, not because of repeated pregnancies in the mother, since the same repeated pregnancies may occur in non-Jewish families where the disease is absent, but because the child is born with an inferior central nervous system. It is this inferior nervous system which undergoes the rapid degeneration which leads to this serious and fatal disease. Not only are the pyramidal tracts affected, as shown by the spasticity and the hyperacusis, but the frontal lobes as evidenced by the dementia and finally the peripheral and central visual neurones, leading to the optic atrophy, the macular degeneration and the consequent blindness.

For this organic inferiority as the basis of amaurotic idiocy, there is no attempt at compensation, since a compensation or repair would be impossible in the presence of the rapid and fatal degenerative processes in the central nervous system.

THE RELATION OF ALCOHOL TO MENTAL STATES.*

By MAJOR SIR ROBERT ARMSTRONG-JONES, M. D., R. A. M. C.,
*Consulting Physician in Mental Diseases to the London Military Command,
and Lecturer on Mental Diseases to St. Bartholomew's Hospital.*

I have been requested by your secretary to deliver a short address upon the subject of alcohol in relation to various mental conditions, in order to stimulate a discussion upon this point, and, as may be known to some of my hearers, I have been engaged during the greater part of my professional life in the study and care and treatment of mental departures from health, much of which was due directly to the excessive use of alcohol, although probably more was indirectly due, or in close relationship to, its employment as a common beverage. From the point of view of personal experience therefore, it may be appropriate and pertinent that I should endeavor to stimulate a debate and thus to elicit the views and the opinions of others among my audience whose experience may well supplement my own. I propose to deal with the subject in a controversial rather than in an authoritative manner, and to divide my theme into two sections: Firstly, the evident meaning attached to my title, viz., the different forms of mental abnormality resulting from excessive drinking in the individual, and secondly, the different mental states exhibited, or the different points of view adopted by the community responsible for the methods of its sale and use, and as a consequence for the maintenance of public order. In dealing with the latter section I shall pass in review the different legal measures that have been adopted to control its sale and the various steps that have been taken to safeguard the health of the people in connection with it.

The question of the effects of alcohol upon the human organism is an important medical point as well as being an interesting economic and sociological one; for it has a concern with the vitality and with the output of work of the individual, as also with his relation to the state which protects him and of which he forms a component part. As to the use of alcohol in health, all experiments are in accord, and it would be useless to occupy space with a repe-

* Read before The Society for the Study of Inebriety in England, January 8, 1918.

tition of the results obtained. Broadly, they are, that alcohol stimulates the heart and circulation; in other words, it increases the force and frequency of the pulse and the functional activity of the nervous system; but it tends also to lower the temperature of the body, because it checks tissue changes. It is evident, therefore, that we have in alcohol a drug which can afford temporary relief in certain abnormal bodily states, but the very relief afforded in one particular direction, viz., as a cerebral stimulant, doubles the temptation to its frequent use, and as the body becomes habituated to its action and the dose has to be increased more and more, the habit of frequent stimulation grows almost of necessity into drunkenness. For this reason I am of opinion that no physician is ever justified in prescribing alcohol for its purely soothing, stimulating or narcotic effects, and I have never used it nor advocated its use for the mental conditions described as painful emotional states, because I consider its legitimate use to be for those extremely serious nutritional disturbances such as threaten to be the last moments of life, and in these states I have known it to prolong the life struggle. Personally I have no sympathy under ordinary circumstances with the daily use of alcohol by healthy persons who are not beyond middle life, and even such use in health has moral and politico-moral issues which cannot be discussed here; but under conditions of unaccustomed exposure to wet and cold, when the extremities are numbed and have lost or are losing their proper feeling, I have been informed by both officers and men from the trenches that the "rum ration" has enabled these men to withstand the continuous exposure to intense cold and wet. This fact is not in contradiction of the physiological experience already quoted, that alcohol lowers the body temperature and has no heating power. It only means that the chill of sudden exposure, the stiffness from benumbed extremities and the bronchitis that may follow are the result of cold, which drives the blood from the skin and the general surface of the body to the extremities; that as a consequence of long exposure the circulation fails in the skin, the functions of which are suspended, with the result that the skin ceases to excrete the body waste normally carried out with perspiration, and that these waste products are thrown upon the internal organs, which are already in a state of passive congestion. The relief obtained is properly explained by

the physiological effects of alcohol which maintain the increased circulation and keep the external surface supplied with fresh, warm blood from the internal and engorged bodily organs. The obvious danger of prescribing alcohol in health is to induce intemperance; but it is only right to state that intemperance is also often the effect of brain weakness and brain disease; indeed, some writers have gone so far as to state that in practically all cases of mental disease associated with intemperance, the latter is a consequence of mental weakness and not the cause—a statement which is probably less than half the truth.

In regard to alcohol, physiology teaches us that alcohol is primarily a strong dehydrating agent. It takes away water from living matter, and as a fixed amount of water is a necessity for the life of a healthy protoplasm, this dehydrating action must prove to be highly injurious, hence its effect upon living tissues is to cause a degeneration and decay, which can be seen in the pyramidal or the essentially psychic cells of the brain, with consequent loss of their function and with marked intellectual degradation when they are affected. The higher will power is impaired, the will loses its grip, normal inhibition is removed, so that the person is easily tempted to other forms of indulgences, and we know that the great campaign of the National Council for combating Venereal Diseases cannot afford to disregard the connection between alcohol and the social evil. I have seen young officers, barely 20 years of age, whose army career has been ruined by drink and debauchery. The disposition in those who drink to excess changes into querulousness and impulsiveness; in fact, the most marked mental effect of excessive drinking is the tendency towards the development of a hostile attitude of mind, with the consequent liability to react furiously and intolerantly. Alcohol attacks the hierarchy of the tissues, for it has a special affinity for the nervous system; there is a shedding by degrees of the most highly evolved faculties; there is a loss of prevision, an impairment of the judgment and a failure in the power of discrimination; later on, the memory becomes affected and no amount of reasoning is able to persuade the person who has got into the habit of drinking to give it up, even if it be clearly pointed out to him that he and his family dependent upon him are being pauperized by it.

It is always very difficult to estimate the exact etiology even in the most common diseases, but it is impossible to arrive at accurate conclusions in regard to the causation of mental diseases; yet, in connection with alcohol, the Lunacy Commissioners in their Report for 1905 made the precise and definite statement that alcohol in their opinion was a "brain poison." Whether it be justifiable to describe as a deleterious poison an organic substance useless to the individual under ordinary conditions of health, may be a matter for legitimate differences of opinion, but the Lunacy Commissioners made in addition the further statement that although some counties with a comparatively low rate of insanity had a high proportion of cases with a history of intemperance admitted into asylums, there were other counties with a high rate of insanity but with a low proportion of cases suffering from alcoholic intemperance; nevertheless, in those areas in which there was an association of intemperance and insanity, there was also the definite association of intemperance and crime, which appears to justify the inference that in those areas where there may be a high incidence of intemperance, there will also be a high proportion of insanity and crime—it is the considered conclusion from the definite observation of all social workers that where there is intemperance there also are crime and insanity. It is interesting to note that when statistics as to the causation of insanity are taken over a series of years, the number of cases appearing as caused by alcohol as well as by other causes show but little variation from year to year, and it is computed that alcoholic intemperance may correctly and without any doubt be attributed as the assigned cause of insanity in no less than 20 per cent of all males admitted into asylums and in no less than 10 per cent of all the females; and when the total number of admissions for the last year of which we have record, viz., 1915, was quoted as 8600 males and 10,000 females, we can readily see that alcohol was in one year responsible for over 2700 cases of mental disease in England and Wales, *i. e.*, of persons who had to be compulsorily detained against their will and who in consequence of drink were deprived of their social, civil, domestic and financial rights, and of whom it may be observed a number will continue under detention for the remainder of their lives. It may be surmised that about 3000 persons every year become insane through drink in England and Wales.

I have referred to the difficulty there is in arriving at the exact factor of causation in mental diseases, and as may well be appreciated in this illness, the patient himself is unable to assist the investigator, as, owing to the clouding of his reason, the statements he makes are unreliable, and further, the information vouchsafed by the friends does not help to elucidate the cause, for the reason that they only relate such antecedents in the history as appear to them to bear upon the illness, which are rarely either accurate or full. Moreover, in many instances the cause attributed by the friends only stands in some immediate relation to the illness and forms no true part of the cause; indeed, it often has little or no connection with it, the real factor being some inherited or acquired frailty or some weakness in the nervous co-ordination which the friends have either minimized or overlooked or have carefully attempted to suppress. So often is this the case, owing to the stigma attaching to mental disease, that a studious effort is made by all the relations to lessen the importance of a faulty family history and to give prominence to trivial and unrelated factors having no definite causative effect. From what I may claim to be an extensive personal experience, I am more than ever convinced that in mental disease there exists some *locus, resistentia minoris* in the brain tissue, which renders the individual more prone to be affected by circumstances which in the healthy person would have less influence; and although several antecedents may combine in the ultimate production of a mental breakdown, it is logical to assume that any one of several causes may be the immediate agent responsible for the final breakdown. In regard to this, much depends upon the so-called "immunity" or the individual resistance shown by the person affected, and as we know when several persons are exposed continuously to the same infectious fevers, some always escape and do not contract the infection, whilst others appear to take the disease repeatedly and to suffer in turns from almost all the other ills to which flesh is heir. No fact in biology is more striking than the difference in susceptibility to disease conditions exhibited by different persons and different races, or even by different animals. It accounts for the very different symptoms produced by the same dose of the same kind of alcohol upon different persons. We know from medical experience how, in regard to drink, some persons may break down from arteriosclerosis, hæmorrhage, and cerebral softening; whilst others may

suffer from infiltration of the glandular structures, *e. g.*, the liver or kidneys; whilst others again rarely suffer from nervous or mental lesions at all, but they break down from more gross tissue changes and become physical rather than mental cripples. Drink in small doses is literally death to some persons, whereas others tolerate it in large quantities, and the brain worker rather than the manual laborer shows the least resistance to it. As we know, one person may become morbidly irritable and quarrelsome, another may be ludicrously affectionate, a third stupid, a fourth vain and boastful, and a fifth silly; all these differences denoting differences of susceptibility to the same dose of the same kind of alcohol. The same susceptibility to alcohol and to disease that is seen in persons is also exhibited in the history of races, *e. g.*, the native races in many parts of the world are comparatively insusceptible to yellow fever, to enteric and to malaria; and we know the same condition to exist in animals, for dogs and goats are rarely tubercular, and rats which are not susceptible to anthrax are only so after fatigue or when fed upon an exclusively vegetable diet, which helps to render the blood alkaline, a reaction which favors the growth of the bacillus; we know again that tetanus, for instance, is never met with in fowls. These facts demonstrate that there is a natural immunity or a natural insusceptibility on the part of certain races, individuals and animals to certain diseases which may in the same persons even vary at different ages, *e. g.*, as age advances, the immunity to diphtheria and to scarlet fever becomes more marked and definite, and this immunity may be either partial or complete. Precisely the same sort of immunity or insusceptibility which occurs in disease is met with in the use of alcohol, and we are therefore unable to foretell the particular group of neurons likely to suffer in any special case of alcoholic indulgence; nor can we foretell the progress of the symptoms when a group of neurons has been attacked. All we can assert is that for every individual there is a spot or place of weakest resistance which has been arranged for him through natural selection and heredity. For long periods of time, many of the different races have been exposed to alcohol, but the susceptible ones have been weeded out, whilst the survivors transmit their insusceptibility to their descendants, and although this is an observed fact, yet it gives us no physiological explanation of the greater immunity of the insusceptible ones. It is possible

that more proteolytic enzymes are produced by the organs of one individual than by those of another in order to destroy or to modify such a toxin as alcohol, with the result that a greater immunity exists in one person than in another. Whether the explanation of this phenomenon be afforded by the *humoral* hypothesis, which ascribes immunity to the action of certain substances existing in or generated by the body fluids, or the explanation be afforded by the *cellular* theory of the more active phagocytic action of the polymorphonuclear leucocytes, or to the *cellulo-humoral* theory of the production of alexins or bacteriolysins in the blood cannot now be discussed; but it is a well ascertained and an incontrovertible fact that alcohol acts differently upon different persons, and this personal equation of the individual should be taken into consideration not only when discussing the symptoms of alcohol, but also when urging legislation for the control of its sale. I have mentioned the subject of immunity in order to show that whilst alcohol may be regarded as a poison—and clearly in this particular what is one man's meat is another man's poison—yet, like many other poisons, it can under certain circumstances be of distinct service to mankind. I may say that I believe the consensus of opinion among medical men in the present day is that in many instances the use of alcohol is to some extent beneficial; but there is a strong section of the thinking public which realizes that alcohol is a lethal weapon which can work the most fell and deadly effects, and that its general use therefore needs the most careful and earnest control. We know personally in too many instances brought to our notice that alcohol reduces energy, lowers vigor, diminishes initiative and paralyzes enterprise, and therefore many persons abstain from it altogether, and they use untiring efforts to prohibit its use by others and this through the highest motives; but it must not be forgotten that total prohibition breeds vices in regard to drugs, sedatives and anodynes. At the moment, the public feeling generally is, that under the control of the normal reasoning and moral faculties the moderate demands of working men and women should be satisfied, *i. e.*, within strict limitations, which is interpreted to apply to its use at meals only and only by those who find it helpful in their daily work. It is often felt by those who watch events that the logic of facts has to be carefully weighed against the sentiment of an ideal, and if true progress in regard to temperance is to be

encouraged, the watchword must be *festina lente*. However excellent the motives, however firm the zeal and unwavering the devotion, progress cannot be forced, and it cannot be pushed far in advance of public opinion. I know, in regard to the control of the liquor traffic, that both feeling and sentiment have run high and with regrettable consequences. It is necessary in regard to this aspect of the question to take cognizance of the state of feeling in all classes of the people, and at the moment there seems to be an irresistible popular feeling against the complete prohibition of alcoholic drink, which that great and useful movement, the "War-time Prohibition" or the "Strength of Britain movement," has already had to experience; nevertheless, it has achieved much useful success in its educational campaign, for it has drawn special attention to a social problem that has been too largely ignored. In discussing this problem, various aspects of the drink question come under review, and the hygienic, medical, sociological and ethical aspects all come up for consideration.

In this paper I propose to deal exclusively with the mental symptoms, viz., those that result from the influence of alcohol upon the nervous system, and in discussing this aspect it may be appropriate to state that there is evidence that every psychological state has a corresponding physical state in the brain, for to every physical process there are special physical and chemical changes in the nervous substance corresponding to them, hence the maxim, "To every psychosis there is an appropriate neurosis," which means that every mental act has its appropriate physical correlation. This parallel relationship has been proved both by observation and experiment; it is a joint conclusion of psychology and physiology, and can be definitely supported by clinical and pathological research. Different parts of the brain, as we know, subserve different physiological functions; thus, one part is concerned with vision, one with sensation, and another with bodily movements and speech; yet the whole brain acts together, so that when these various parts are affected by alcohol there occur visual and sensory illusions upon which are based delusions. In consequence of affections of touch there arise mistaken ideas and complaints about electricity, machinery, hot irons, or the gnawing lacerations of wild animals. It is these sensory disturbances which so often originate delusions of persecution and the violent and impulsive

retaliations so often associated with drink. There is no better ascertained fact in medicine than that alcohol has a peculiar affinity for that part of the brain which is connected with the "muscular sense." It destroys the co-ordination of the fine sense which interprets the equilibrium of the upright position and that of the limbs, and as we see in drunkenness it may bring about motor paralysis. Even before ordinary sensation is affected, the muscular sense may be attacked; so that engineers, delicate instrument makers, mechanics, typewriters, pianists, draughtsmen and those who do fine work need to be especially on guard if their educated and delicate muscular sense is to be preserved to them. It is our fine perceptions that give us the experience upon which we act, and two of our perceptions especially, viz., sight and touch, have been very fully studied experimentally, and these are the ones mostly affected by alcohol. In regard to touch, a composite sensation, we know there are four distinct external receiving organs in the skin: Firstly, that giving the measure of pure touch ascertained by the pressure on the skin of fine hairs mounted in wooden handles and attached to a balance; secondly, the pain spots indicated by pressing with metallic points; thirdly, heat spots, and fourthly, cold spots indicated by hot or cold blunt rods. In every instance is the response to these varied by alcohol; the first to go is pain, the next heat and cold and the last pure touch. These are facts that can be demonstrated by experiment and are the same as occur when the nerve to the skin is divided. In speaking of the mind as related to the brain, we realize that its study implies a close investigation of the various senses which are the avenues leading into the mind. Formerly the study of the mind was limited to the field of introspection only; but of late years investigation has been carried into mental phenomena by means of experiments, and these have enabled us to examine our sense perceptions with much more accuracy and precision both under normal conditions and under the influence of graduated doses of alcohol. It is usual to speak of the mind as composed of three types of conscious activities, viz., cognition, or the state of knowing, of feeling and sensation, and lastly of the will, the two latter being now grouped in the subdivision of interest; but the will is the highest and essentially the most human characteristic of the mind. Of the powers of the mind, the memory is one of the most fundamental as well as the

most important, for without memory we should be unable to co-ordinate the different states of consciousness and we should also lose our personality, results which we see occurring after the excessive use of alcohol. The facts which come into the mind to be grouped together by association—like to like and unlike contrasted with unlike—remain endorsed upon it through memory, and the main facts in education are to form time-saving and correct associations. Discipline is a matter of association—a body of well-trained troops only needs to hear the first of a series of orders to carry out the whole train, as one is linked to the next by association. The power of constructing and carrying out trains of thought by association is described as the power of apperception, which is the focussing power of the mind, and it is the attention which is the first to be impaired by alcohol. It may be temporarily suspended or it may be permanently destroyed.

There has been much confusion as to the use of terms in dealing with the effects of alcohol, and the term alcoholism has received widely different meanings. Mr. Leif Jones (president of the United Kingdom Alliance), in an address to the International Congress at the Hague in 1911, used it as signifying the total consumption of alcohol by a people; whereas others use it to imply the measure of the mortality from strong drink indicated by mental and physical symptoms leading to fatal results and recorded in the registrar-general's statistics. The most common effect of the excessive use of alcohol is drunkenness, and the symptoms of this are too well-known to need description. But there are three very different types of drunkenness: Firstly, there is the periodic drinker or the dipsomaniac who imbibes freely and deeply, but at intervals only, and during these intervals he may abstain completely; secondly, there is the person who literally sops in alcohol, who is hardly ever sober and is the person described as the "habitual drunkard," who swells the police court lists until, eventually, owing to the progressive lesions and their lasting effects, his death is recorded in the registrar-general's statistics as a case of alcoholism; and thirdly, there is the ordinary drunkard who drinks from pure conviviality and only needs the congenial pals to spend all or most of his money whenever he gets it, and thus to lower his productive efficiency. He is the typical Saturday-night and Sunday drinker, and he almost invariably gets into the hands of the police

and figures in their statistics. It is this person who is the average worker upon whom the state depends. Broadly speaking, neither of these terms signifies the amount of alcohol consumed, although the statistics of drunkenness may be the most reliable index. As we know, there may be a considerable consumption of alcohol with a comparative absence of drunkenness, and for this reason it would be more convenient to regard alcoholism as a social disease of which drunkenness—whether of the periodic, the chronic or the occasional kind—is one of its forms. If drunkenness may be taken as an index of the amount of drink consumed, the number of deaths from cirrhosis, delirium tremens, dropsy or Bright's disease may be taken as an index of the incidence of the social disease. It has been asserted by some critics that a diminution in the number of cases of drunkenness may imply even more rather than less drinking, because those persons who, under the present restrictions have a difficulty in obtaining alcohol, may drink privately and secretly in their own homes; but this is denied by all social workers and is contrary to the observed experience and the recorded inferences of all those who know the homes of the people. Whatever importance or value we give to these terms, it must be the question of immunity or the insusceptibility or the vulnerability of the different organs of the body which is the determining factor as to whether a person comes under the definition of drunkenness or habitual drunkard or of alcoholism. We employ the latter term to signify all the pathological changes which result from alcohol and to include all the varying symptoms, whether mental or physical, and whether these occur in hospitals, asylums, police courts or the private home of the individual. Alcoholism must be the total effects of the use of alcohol, of which drunkenness is probably the most convenient if superficial indication, and it is drunkenness in one of its many forms—sensory, motor, mental or moral—which is the most common indication of excess.

Of the various forms of mental impairment caused by alcohol, the most dangerous because the most violent and impulsive is *delirium tremens*, which occurs in consequence of continuous alcoholic intoxication in those persons who are liable to mental and sensory hyperæsthesia, and is associated with extreme agitation, tremors, night hallucinations and insomnia. The symptoms are too familiar to be further detailed, but probably thousands of

these occur annually. Another form of mental affection not uncommon among the civil population, although fortunately rare among the military, is that of multiple neuritis associated with mental symptoms and commonly called Korsakoff's psychosis. It is characterized by a loss of memory of a peculiar kind. There are gaps in the recollection of past events, which the person fills up with events that have never happened; these being suggested by some trifling incident in the environment at the moment, and for this reason he is said to lie shamefacedly, but this is only because the memory is a blank and he is unable to retain impressions of his own statements, causing a peculiar forgetfulness as to time and place and a loss of orientation. There is an impairment of that special adhesive quality of the nerve cells by which the healthy brain is able to retain the images of past sensations and by means of which thoughts are retained in a clear, regular and logical order. This form of loss of memory is described as *paramnesia* and is most indicative of alcoholic indulgence. A third form of mental affection through drink is one closely related to epilepsy and this is greatly favored by a head injury or some predisposition to mental disease. It is accompanied with sudden frenzy and fury and is not infrequently associated with unconsciousness, and possibly also epileptic convulsions; but if these are absent there is a marked "automatism" and a complete forgetfulness of what has previously occurred. In these attacks the person may commit acts of serious violence, even suicide or homicide, and there is an imagined hostility to his environment which calls for resistance or retaliation; but this condition ceases entirely with abstention from alcohol, although an immediate relapse may occur when excessive drinking is again resumed, and it may be noted that this excess may be a very small amount of alcohol, as in these persons there is a marked susceptibility to its effects. I have met these cases repeatedly in civil practice and also in the case of young officers who have suffered from head injuries. A fourth form of mental affection is an unrestrained excitement caused by the presence of vivid hallucinations, and again it is the susceptible brain that suffers rather than the normal person, for very little alcohol may produce these delusions which are vivid and terrifying. The hallucinations may induce a chronic delusional state from which there is no recovery, and this condition much resembles that of

paranoia, with delusions of suspicion and persecution. It is essentially a chronic form. Lastly, there is the state of terminal dementia, in which the mind gradually fails until the mental wreckage is complete. Whether a case evolves from slight mental confusion through the different mental states into fatuity and dementia as the result of alcohol, must depend more upon what has already been referred to as the peculiar susceptibility of each individual rather than upon the quantity or the quality of the alcohol imbibed. It is certain that all young persons in health are better and fitter without it, as also all older persons with a neurotic family history.

It may be correctly stated that there is much in common between all the forms of mental disorder associated with alcohol; there is an undue suspicion in all against their environment and if delusions are present they tend to be of a persecutory nature; even if they partake of a grandiose character, there is frequently the suspicion that the victims have been robbed of their rank, position and wealth. Their hallucinations mostly relate to sight and touch; imaginary objects are seen moving, crawling or creeping over them, and they complain of being burnt, electrified or tortured; the memory is invariably affected for recent events, although more correct for remote events, and their actions are predominantly impulsive, purposeless and unreflective; they make imaginary journeys and relate what seem to be plausible assaults committed upon them, which they resent and which they intend to repay their fancied enemies with interest; lastly, there is the invariable moral and intellectual deterioration shown by the offences committed against public decency and against the amenities and conventions formerly so correctly observed, so that the alcoholic ends by becoming an object of reproach to all his former friends and associates.

I have already referred to the impulsive and dangerous acts committed by persons under the influence of alcohol. In some instances these resemble the uncontrollable fury of epileptic mania, which in my opinion is the most furious and savage violence that can be seen in any individual, for it seems like a tornado of wild, impetuous, destructive violence. Under the influence of alcohol the most rancorous and loathsome cruelties have been perpetrated upon innocent victims; the most bitter hatred has been shown; prudence and moderation and altruism have disappeared under its

influence. We have it officially recorded that the most brutal excesses followed in the track of the drunken German troops in Belgium and in northern France, after they had emptied the cellars of the French châteaux they ransacked the furniture and priceless contents, and then lay upon the floors in stuporous semiconsciousness; whilst at Rheims they behaved with ferocious cruelty, and in the dug-outs of the Somme battle our men found German officers helplessly drunk and filthy. The account of eight drunken German soldiers returning from Malines is authoritatively quoted and relates that when a little child ran out into the street as these drunken Huns passed by she was bayoneted by one of their number, slung up and thus carried away whilst his comrades sang. The organized cruelties carried out by gangs of drunken German soldiers, the assaults committed upon helpless women and children, are an eternal disgrace to the military forces of Germany and those in authority over them. The German medals struck to commemorate the foul murder of the helpless passengers on board the *Lusitania* will forever remain a shame and a reproach to German honor. I have personally witnessed the mental breakdown of innocent women from Flanders who were driven into madness by the coarse savagery of German officers and men, whose animal nature was set loose and whose instincts and brutal desires through drink were no longer inhibited by the control of the higher faculties.

I have already referred to the use of alcoholic liquor as an ordinary article of diet, and I consider it a dangerous temptation to the younger officers. The following extract from the letter of a young officer supports my view. It is written from a divisional headquarters, "Somewhere in France," and it runs as follows: . . . "It is very hard for the teetotaler out here, as it is not safe to drink the water unless it has chloride of lime in it, and this makes it taste simply foul. I am at present drinking very light French beer, which is much better for me than whiskey. I am afraid the present way of keeping the mess bill will not work, as they order cases of whiskey and port and the cost is shared by all members whether they drink it or not." This is a matter that needs the urgent attention of the authorities, for there is no reason to penalize the abstainer to save the pockets of those who are not. Abstinence, like the custom of drinking, is a habit, and it is imperative that young men who are ready to make the extreme sacrifice for their country should not be sacrificed on the road which is not

the road to victory but the short cut to all the other vices. Quite different in my opinion is the use of the "rum ration" in the trenches. I have spoken to army chaplains about this matter; some of these are life abstainers and have served in the front trenches; these men speak of the value of medicinal doses of alcohol against cold and wet and exposure, but one and all condemn the *estaminets* where the men are served with mixed poisons with special intoxicants of their own, yet all are labelled with the indefinite name, alcohol. The chaplains are naturally in favor of the dry canteens, which many of them manage, but most of them are in favor of permitting light wines, beer and spirits during meals, if only the *estaminets* could be considered by the commanding officers to be "out of bounds," and some of the chaplains are ready to buy and sell drink at the canteens for the sake of the men, if their use is limited to meal times and the *estaminets* are forbidden. That this matter is a most difficult one will at once be acknowledged, and that there are different views in regard to it is also natural. The two letters which appeared in the *Times* on December 17 last, show this to be the case and also show the different mental states from which the critics view the present condition of things in regard to alcohol. One of the letters is from Dr. Grenfell of Labrador, who is well known to members of this society. He states that the American soldiers show an absolute freedom from drunkenness and a small amount of immorality, but when they get to England and France "they will get all the alcohol they want and therefore also the danger that comes with it." In the same number of the *Times*, Mr. W. T. Ellis writes that he has just arrived in London from Russia and his own impression after four days of observation was in striking contrast to the suggestion of Dr. Grenfell, a strong prohibitionist. Mr. Ellis writes, "I have yet to see a drunken soldier here, or one behaving in any way that reflects discredit upon the Allied flags." To the man in the street the real truth must lie between these two extremities, and it is interesting to reflect upon the mental state of the critics themselves. I may add that during the whole of Christmas week whilst going about freely in London I did not meet a single drunken person. As to the effects of alcohol upon the mind we may repeat: Firstly, that there are the various degrees of mental confusion and motor inco-ordination described as drunkenness, which are mainly of three types, viz., the periodic kind, shown in the dipsomaniac, the more

or less continuous form seen in the habitual drunkard and the occasional; secondly, the state described as *delirium tremens*; thirdly, the combined condition of neuritis and psychosis; fourthly, the convulsive and automatic state; fifthly, that of chronic hallucinations and delusions, and, lastly, the terminal state of fatuity and dementia. It may be stated broadly that all forms of mental affections brought on by alcohol or associated with it may be subdivided or referred to one or other of these groups.

Let me now take the second section of my theme and briefly refer to the mental states shown by those responsible for the sale and control of alcoholic drink, which have ranged between a mild endurance and extreme intolerance, and, as we know, the question of drink is by no means a new one in this country; indeed, drunkenness as the consequence of drinking is the oldest of the vices and has been known in every country from very ancient times, whereas alcoholism or the pathological conditions produced by alcohol is a development of civilization.

The statutory licensing of ale-houses began as far back as 1495, but it was not until 1606—to use the words of the act—that “the loathsome and odious sin of drunkenness was made a statutory offence punishable by fine or confinement in the stocks.” Throughout the Middle Ages the provincial and the diocesan ecclesiastical courts exercised an active and strict jurisdiction in regard to moral correction, and sternly punished the “infamous and offensive” sin of drunkenness. Apart from special local legislation the early statutes of 1606 continued until 1872, when the Licensing Act of that year made it an offence punishable on summons by fine to be found drunk in any public place or on any licensed premises. There was more activity in regard to drink legislation during the '70's than in any consecutive ten years before or after, and not until the Licensing Act which came into force on January 1, 1903—as a result of a special Royal Commission described as the Peel Commission—was there any concerted effort made to diminish the number of public houses proportionately to the population. This act made it a penal offence for a person to be drunk and incapable on any licensed premises or in any public place, and a drunken person if in charge of a child under seven years of age became liable to imprisonment with hard labor for the period of one month, and information in respect of

this offence and even the arrest itself may be made by any person. A special feature of this act was the "black list"—a system by which the offender if convicted for drunkenness four times in the same year may be either fined or sent compulsorily into a reformatory for any period up to three years. The police provide photographs of the offender (with details of previous convictions) to all licensed premises and to all secretaries of clubs within the district of the court, and if drink is afterwards supplied heavy fines may be imposed upon those who sell. This act aimed at protecting the home and it *tended* to make it impossible for drunkenness to become the curse and ruin of an innocent family, and in addition the act gives power to control the structural arrangements of all public houses, so that no alteration is possible without the consent of the licensing justices. The act was an effort to repress the abuse of alcohol rather than to restrict the sober person; yet, since the passing of the act and for several years up to 1914, there has been a gradual rise in convictions for drunkenness of both males and females; the "black list" also in spite of good intentions has become a dead letter, so that although there has been a steady diminution and reduction of public houses, partly by order of the licensing justices and partly also by arrangement with the brewers, it was not an infrequent occurrence for county councils and other authorities as well as for local residents to petition the licensing justices to diminish the number of public houses on the grounds that facilities to obtain drink not only increased the temptation for people to drink but also encouraged the desire; the petitioners felt deeply that the class of the very poor should not be swelled with continual recruits through drunkards and their families being brought into them from all the other classes. Indeed so serious had matters become six months after the war through drunkenness, impairment of health, loss of workmen's time and general bad temper where a large population had congregated for munitions and other government work, that the present prime minister described the drink as a worse enemy than the submarine, and in June, 1915, the Liquor Traffic Control Board (with Lord D'Abernon as Chairman and Mr. J. C. G. Sykes as Secretary) was instituted by the Parliament of the people under the Defence of the Realm Act, and it must not be forgotten that the enactments and regulations of this Board have the force of an Act of Parlia-

ment. This Board set to work at once with a definite policy, which was to stop continuous drinking and modify drinking at frequent intervals, especially during working hours, as these indulgences were believed to be the root of most of the physical and mental troubles and disabilities among workers, and the Board hoped to discourage all drinking except at meals. The work carried out by the Board in such areas as Carlisle and Enfield reads like a romance, but it would have been probably impossible if Parliament had gone to the country asking for the powers they have exercised. In Carlisle the Board have closed many of the public houses and some of the breweries, and have themselves taken over the enterprises carried on formerly by these as well as the wine merchants. They have placed disinterested managers in charge of their houses, and managers were not to profit by the sale of drink, but only by the sale of food; the hours of opening were restricted to those of meal time, the sale of spirits was to be discouraged and none was to be issued to those under 18 years of age; and a very important feature, all drinks were permitted to be diluted. They have arranged for entertainment and recreation to be provided for persons frequenting their premises. They also have power to provide postal and banking facilities for their customers. Moreover, they have arranged for their own inspectors to visit and examine all premises and clubs within their controlled areas in order to insist that the regulations were carried out, and lastly they have established Sunday closing. It is not fully appreciated by the public to what extent the regulations of the Board have succeeded, but it is only short of marvellous to realize that these control 38,000,000 of the population of this country, and it may be surprising also to know that the Board have not acted in a single instance without an application to do so being presented by the local naval, military, transport or munition authority. May we ask with what results the Board have acted? Throughout London and in 40 towns with over 100,000 inhabitants, 159,000 convictions for drunkenness in both sexes occurred before the war, whereas in 1916 these had diminished to 77,000, or less than one-half. In London alone last year nearly 20,000 arrests were made by the police for drunkenness, with "incapability" and disorderliness as qualifications, and this number is less than half the number during the first year of the war. In all the areas where the Board have exercised their powers,

the streets have become more decorous, the station platforms more orderly, the people more tranquil and crowds less excitable; workers have been healthier and their minds less irritable; there has been more contentment among the mass of the people—they are more reasonable and have got through more work. In addition, there has been a reduction by one-half in the number of cases of *delirium tremens*, especially in places like Woolwich where men collected in large numbers and many of them drifted through drink into the Poor Law Infirmaries. The results in all areas have been perfectly astonishing, although these are only a few of the attainments of the Board, and these results have been testified to by chief constables, medical officers of health, district workers, nurses, and even by members of the licensing trade itself. The police court statistics have supported the statement made that drunkenness among men and women has diminished by one-half. Yet what do we find among some of the critics, viz., those who are described as extreme temperance advocates; persons whose wholehearted efforts are said to be in the public interest, yet who in regard to the control of the liquor traffic are “neck or nothing”? They offer to the policy of the Board an uncompromising opposition, and in place of the scheme of purchase and control so successfully carried out by the Board they advocate a scheme of total prohibition. They offer a flat contradiction to the Board’s statistics, and to support their opposition they urge that in spite of the restrictions generally imposed by the Board the fact that there has been a continuous increase since the war of expenditure on intoxicants—which was 12 per cent higher in 1916 than in 1915, and 24 per cent higher than in 1914—and that the amount of money spent upon alcoholic liquor in 1916 was higher than in any previously recorded year and the highest yet recorded; still this can be accounted for by the high price paid for drink, which means that although the nation spent more it drunk less and the revenue received less money. These opponents also assert that if there has been a diminution of drunkenness, which is not admitted by them, there has been more private drinking, which is denied by all those most competent to judge. What are we to think of mental states that can direct such a virulent and vehement crusade against the work of the Board of Liquor Control? The following is the criticism made in the leading article of the *Times* of December 26, 1917: “The

diminution of intemperance among women will not be welcomed by those intemperate advocates of temperance who regard the total prohibition of the liquor traffic as an absolute good in itself. Some people seem actually to prefer an increase to a diminution of drunkenness, because it is a lever for promoting their cause, and they will criticize and deny the evidence quoted in the report to the Board, viz., the fact that there has been a diminution of drunkenness as shown by the average weekly number of convictions—which has fallen from 700 in 1914 to 239 in 1917. These specious critics assert that police statistics are notoriously unreliable and that the fall in these has been more than overbalanced by an increased home drunkenness, that public excesses have been replaced by secret drinking,” which, of course, is not the case. The local *Carlisle Journal's* reply to this criticism reads as follows: “The improvement (in Carlisle) is as noticeable in the orderliness of the streets as in the official figures of decrease in convictions for drunkenness and to the citizens this return to good order must be highly gratifying, and not only are the numbers decreasing in comparison with previous years, but the improvement still continues and is very pronounced.” Nor has this hostility been limited to the work of the Board; one member of the Board himself has been the recipient of the most unmerited abuse and contempt on the part of this extreme wing of the temperance party. Nor was it long before their example was taken up by other discontents. The Labor Council in Carlisle saw in Sunday-closing an interference with the workmen's comfort and freedom, and they naturally demanded a reconsideration of this matter by the Central Board with a request to return to the former hours of opening. The whole matter was referred to the Local Advisory Board, which apparently took the side of the Labor Council, but the Central Board very wisely decided there was not sufficient reason to go back upon their decision, suggesting that whatever determination was arrived at would always find some conflict of opinion either for or against. The matter is possibly not yet closed, because the Labor Council have decided to make further representations, and it is earnestly hoped that the trouble started by the extreme wing of the temperance party will not be the means of stirring up labor troubles in Carlisle. In addition to the complaints of the Labor Council, there has arisen an acute opposition

from the Midlands and again on behalf of the Prohibitionists, but apparently originating in an insignificant quarter.

It is quite well known that before the Central Board came into being, the policy of regulation and restriction under private ownership had already received a fair trial throughout the country, but it is also equally well known that it had reached its effective limits and something practical and immediate had to be done. No one denies that to the idealist temperance reformer—may we say not only to the mind of the total abstainer—prohibition as an ideal has undoubted public advantages over any system of state purchase, precisely as this has merits that are immeasurably superior to the scheme of the Improved Public House, as it is called, advocated by the self-denominated True Temperance Association; but the work of the Central Liquor Traffic Control Board has by an overwhelming consensus of public opinion advanced the cause of temperance, yet there has been this incomprehensible attitude against its members and against its work, and more incomprehensible still, this attitude has been excited and fomented by those who should be its best friends. What is the psychological explanation of such opposition? I am of opinion that this intolerant exhibition of superiority deliberately shown by this extreme section is based upon egoism; it is a consequence of self-gratulation and self-esteem which borders upon an obsession and is regarded by some authorities as pathological. Most of us will acknowledge that all excellences require some comparison to demonstrate their advantages, but when specious reasons are advanced to support them and these are mingled with personal attacks, then such criticism passes beyond the limits of legitimate argument. A person who argues from selfish ends and from a feeling of personal superiority over others is very apt to dry up the wells of truth in order to justify his standpoint. Nor is such a person contented to stand alone, but, as we see in this instance, he courts the sympathy of others—whoever they may be—and so long as his own views are furthered, he will even sacrifice his own sense of honor in his effort to bring the opinion of society against this opponent and to throw discredit upon his views. No form of hostile criticism is so unendurable to a sensitive high-spirited nature as the disapprobation of his fellowmen and fellow workers, and it is a favorite device with the advocate of a weak cause that he should not only excite

public opinion against his opponent, but also that he should heap upon him as much private contempt as possible, with the sole object of forcing him through this vituperation and scorn to modify his attitude, and this irrespective of the public good. We have used strong words in criticizing this conduct of the extremists and we know that this virulent and vehement opposition is not supported by public opinion. Let us be thankful that in the best interests of this country we have had a strong and energetic committee that has created a great change in the habits of the people as a war-time measure. It behoves us to think of what is to happen after the war is over. The period of demobilization is going to be a serious trial, especially to us who have to bring our brave men home from far distant seats of war, and all our men will be returning to find things very different from what they were. As Major Eccles said, "Scenes of drunkenness will be a dishonor to a nation that has been fighting for right and righteousness." It is the duty of this society to urge that the best conditions for employment shall be provided for our damaged men. There will be many difficulties after the war; there may be destitution; there certainly will be shortage of food and money. The question of the control of drink must be one of the first considerations, and are we giving it the amount of thought it needs? Our present mental attitude is too apathetic, and if we do not awaken now we shall be confronted with far greater menaces than we have hitherto faced; at any rate we can rely upon the standing example of what has been achieved by this Board even during the stress of war.

HISTORICAL PATHOLOGY: THE CASE OF KING LOUIS XI OF FRANCE.

By CHALFANT ROBINSON,

Assistant Professor of History in Princeton University.

The idea that disease has played an influential part in shaping the general course of history contains no novelty. Epidemics of all times have been the object of scientific investigation, and their political, social, and economic influence has been definitely weighed. The black death in England, malaria and the decline of Greek civilization, small-pox, cholera, and yellow fever, occur at once to the mind as examples of diseases which have been undeniable factors in history. Many of these have been studied with painstaking thoroughness. Yet, however true this may be of epidemics affecting masses of people, it is not true of individual cases. There is scant reason why it should be. The diseases of individuals, of rulers, let us say, certainly have little historical significance excepting in so far as they bear upon the mental integrity of the sufferer. As a matter of fact, only recently has very much attention been given to the historical value of mental pathology, and to the abnormal conduct of historical persons which has been so frequently the result of their bodily afflictions.¹ This factor is, nevertheless, of definite historical importance.

It is the purpose of this paper, therefore, to raise the question, first, whether the historian should not devote to the study of historical pathology his serious attention; and, second, to attempt to show from examples, especially the example of Louis XI, the desirability of its employment in the study of medieval biography.

At the outset Bernheim's indorsement inspires confidence in the soundness of this method of investigation. He says:

A theoretical knowledge of mental troubles is quite indispensable to an understanding of the numerous phenomena of character and of numerous actions; I do not speak of the Cæsarean madness, now become a commonplace, but of the phenomena which recur so frequently in the biographies of

¹ Ueber den Einfluss acuter Krankheiten auf die Entstehung von Geisteskrankheiten, von Dr. Emil Kraepelin, Archiv für Psychiatrie, Vol. XI, XII.

historical persons, such as religious exaltation which passes over into hallucination and fixed ideas. . . . Here the realms of psychology and psychiatry touch, and the historian cannot but profit by a study of the fundamental aspects of the latter. In what a different light, for example, would the actions and motives of the unfortunate Louis II of Bavaria be understood if they could be explained rather from the psychopathic conditions of his mental affliction than from the analogy of normal mentality. How readily the layman mistakes for genial caprice, or for fantastic extravagance, what the alienist recognizes as precursors, or symptoms, of mental disease.²

Viewed from this angle, the writer of biography will seek in personal eccentricities a new source of evidence, and in the manifestations of mental disease an additional field for historical investigation; since in many cases he will have to determine whether certain actions call for a pathological or a political explanation.

That the whole interpretation of a reign may turn upon just such a choice is clearly shown in the case of King Edward the Second of England. While he was upon the throne the barons took away his power; his wife left him; and England was in a condition of confusion hard to explain. When, however, it was made clear from the chroniclers that King Edward was a hereditary degenerate³ the unexplained incidents of his reign found a ready and satisfactory solution.

²“Eine theoretische Kenntniss der Seelenstörungen [ist] für das Verständnis zahlreicher Charaktererscheinungen und Handlungen geradezu unentbehrlich: Ich will hier nicht von dem zum Schlagwort gewordenen. Cäsarenwahnsinn reden, sondern von den so häufig in Biographien historischer Persönlichkeiten wiederkehrenden Erscheinungen, wie die religiöse Exaltation, die sich bis zu Hallucinationen und fixen Ideen steigert, . . . Hier berührt sich die Psychologie mit der Psychiatrie, und es kann dem Historiker nur zum Vorteil gereichen, wenn er sich mit den Grundzügen der letzteren vertraut macht. Wie anders versteht man z. b. manche Handlungen und Motive des unglücklichen Königs Ludwig II von Bayern, wenn man sie im Zusammenhange mit seiner psychischen Erkrankung aus psychopathischen Bedingungen herzuleiten vermag, als wenn man sie aus den Analogieen eines normalen Seelenlebens erklären wollte! Wie leicht hält der Unkundige für geniale Laune oder phantastische Ueberschwenglichkeit, was der Kenner der Psychiatrie als Vorboten oder Symptome von Geistesstörung interpretiert!”—Bernheim, *Lehrbuch der historischen Methode und der Geschichtsphilosophie*. (Leipzig, 1903, p. 604.)

³Was King Edward the Second a Degenerate? A consideration of his reign from that point of view. Chalfant Robinson, *American Journal of Insanity*, Vol. LXVI, No. 3.

Without any doubt the subject is difficult for the historian to approach, but too much attention cannot be directed to heredity; for the biographer must have scientific information as to the physical inheritance of his subject if his conclusions are to have any value whatever.

This statement does not overlook the obvious fact that of the two recognized dominant factors in determining character, heredity and environment, historical biography has been, in the main, concerned with the latter. Historical setting, or the political and social environment of the monarch, has generally occupied the field to the exclusion of the equally important factor of heredity. Yet in most cases of medieval royal biography, where the personality of the ruler counts for so much, the factor of heredity is of such importance that properly it may not be disregarded.

The close intermarriages in royal families will have special weight, moreover, if we bear in mind the fact that they give such force to the law of heredity as to make the ruler far more often mentally aberrant than the subject. The insanity of King Charles the Sixth of France, for example, may be traced to the fact that he was the descendant of two sons of Louis VIII, married to two sisters, and that not a single marriage for 235 years took place outside this family save one, and that the tainted inheritance converged upon Charles the Sixth.⁴

The medieval monarch was under little necessity for restraint in his personal conduct and was encouraged by his surroundings to give rein to his impulses. Due to this very lack of inhibition, indeed, his mental symptoms were often revealed to his contemporaries with perfect frankness, because their significance was not understood, and to posterity, frequently with scientific definiteness, by the chroniclers.⁵

⁴Brachet, CXXXVII.

⁵Higden's Polychronicon, VIII, p. 298. This writer shows a surprising degree of scientific accuracy in cataloging several of the essential traits of the degeneracy of King Edward the Second. He says in his description of the King: "Not caring to associate with the nobles, he clave to buffoons, singers, actors, grooms, laborers, rowers, sailors, and other mechanics; indulging in drink, readily betraying secrets, striking bystanders on light occasions, following rather the advice of some one else than his own; lavish in giving, magnificent in entertaining, voluble in speech, varied in employments, unfortunate against his enemies, harsh toward his own men . . ."

Though imagining that he was answerable for his actions to no law but his own will and responsible to God alone, the medieval prince really was governed by the rigid biological law of his being, determined for him by his ancestors.

Another science will thus claim the right to share in the results of the investigations of the historian. For, while the historian insists that it is his province to collect, analyze, and verify the recorded facts according to strict historical methods, the biologist observes that certain of these facts collected by the historian have for mental science a very special scientific significance. This he sets forth, and the historian cannot escape the duty of reinterpreting his history in the light of biology. Plainly, many of the problems in history lie between these two fields, or in both of them. For their proper solution the historian must avail himself of the biological sciences, such as the study of mental pathology, and the biologist, such as the alienist, must acquaint himself with the historical facts.

It is this double interpretation of history in the light of the historical records and of the laws of mental pathology which asks recognition for itself as a new science under the name of historical pathology.

Brachet, the eminent pupil of Littré, editor of the works of Hippocrates and founder of the science, gives the following definition: "Historical pathology is, properly speaking, the explanation by means of biological science of the data which historical texts furnish, data organized and checked according to the rules of scientific criticism, with the double aim of serving both the medical and historical sciences."*

In view of this definition and what has gone before, the difficulty of handling the material is further apparent. The historian who attempts it may be compared to a lawyer who, in an intricate case, calls in his scientific experts to aid him in constructing a reasonable hypothesis for his client's past actions which shall take everything into account, and which shall contradict none of the known facts.

*La pathologie historique est proprement l'explication, par la science biologique, des données que nous fournissent les textes historique, données réunies et contrôlées suivant les règles de la critique scientifique, dans le double but de servir, tantôt à la science médicale, tantôt à la science historique. Auguste Brachet, *Pathologie Mentale des Rois de France* (Paris, 1903), Introduction, XII.

The difficulties multiply as we proceed, but they are not insuperable, although it will be plain that historical pathology must demand that the investigator shall have not only a thorough knowledge of the historical facts and of the principles of historical criticism, but a knowledge, as well, of the theory and practice of medieval medicine, and that he shall be in a position to make a clinical examination of his facts before he can interpret them.

So much for its general application. What kind of problems give to it specific illustration? A few may be stated as historical examples, thus: What account have his biographers taken of the fact that when the body of Philip the Fair, of France, was examined after his death his heart was found to be "not larger," according to a contemporary, "than that of a newborn child, or a bird,"⁷ raising the question whether a man with a physiological defect of this kind could have developed the energy to accomplish the tremendous tasks with which he is credited, and perhaps confirming the estimate of his contemporary, the Bishop of Palmiers, "the King is of no account whatever; he is not a man nor a beast, but an image, and all that he can do is to stare at people."⁸

If Pope Boniface VIII suffered from senile dementia, as it seems probable he did, were not his extravagant claims for the Papacy in 1300 rather psychopathic than canonical?

If the separation of Ingeborge of Denmark from Philip Augustus, so long an unsolved mystery, resolves itself into a question of nervous disequilibrium on the King's part, consequent upon a severe illness in Palestine, should not his aversion for Ingeborge be treated as purely pathological, and the incident be interpreted in the light of that assumption?⁹

Has the fact any historical significance that Don Carlos of Spain, always neurotic, died quite insane as a result of an access of

⁷ Cor autem dicti regis, ut dicitur, adeo erat parvum sicut est cor alicujus pueri qui hodie prodiit ex utero matris sue; ymo intellexi quod illi qui viderunt comparant illud cordi alicujus avis. La mort et les funérailles de Philippe le Bel d'après un compte rendu à la cour marjorque. P. P. Ch. Baudon le mony (Bibl. de l'école des Chartes, LVIII, 1897, p. 12). Brachet, *Pathologie Mentale*, p. 454.

⁸ Item quod dictus Episcopus dixit quod dominus noster Rex nihil omnino valebat—quod non erat homo, nec bestia, sed imago—quod nihil omnino sciebat nisi respicere homines. Dupuy, *Hist. du différend d'entre le pape Boniface VIII et Philipe le Bel* (Paris, 1665), p. 653. Brachet, p. 444.

⁹ Brachet, *Pathologie Mentale*, pp. 307-335.

malarial fever and not at all of poison? ¹⁰ This last question must be answered in the affirmative, for the case of Don Carlos became historic in modern medical research, since it illustrates the now generally accepted hypothesis that in neurotic cases there almost invariably follows in the train of malarial or other severe fevers, frequent abnormal nervous or mental manifestations, and that these are governed not by the laws of the disease but by the neurotic inheritance of the patient; by the terrain, in other words, upon which the fever operates. Or, stated in medical terms, "The law of neurosis, in the case of post-infections of those predisposed by heredity to psychopathic conditions, is that the form of post-infection is a function, not of the nature of the infection, but of the heredity of the subject." ¹¹ This law is far-reaching for historical pathology, since it means that a neurotic subject, of determined psychopathic ancestry, under normal conditions irritable, eccentric, lacking in self-control, impulsive, and precipitate in his actions, if attacked by a severe illness, like typhoid, malarial fever, grippe or pneumonia, would be quite likely to develop some of the characteristic stigmata of degeneracy: Fixed ideas, obsessions, maniacal delusions, or some one of the various phobias. These might produce changes in his character apparently quite new, and otherwise quite inexplicable. ¹²

It is desirable to keep this law or hypothesis clearly in mind in considering the personality of King Louis XI of France, the next example.

In interpreting his actions, biographers of Louis XI have taken little account of these statements, cited by Brachet, made by the King's contemporaries concerning his health. "He was often sick." (N. Gilles, Fol. CXX, V.) "His maladies were indeed great and grievous to him." (Commines, Éd. Dupont, II, 270.) "He was tormented almost to death by several different and pitiable maladies." (Oliver de la Marche, *Memoires*, Éd. Beaune et d'Arbaumont, 1883-88, I, p. 180.) "Before his death he was

¹⁰ Brachet, *Path. Ment.*, Introd., XIII.

¹¹ Brachet calls it one of the most precious conquests of the modern clinic in the realm of prognostic. *Path. Ment.*, pp. 291-292, where he cites the conclusive demonstration of this law by Tessier, in his *Leçons cliniques sur la grippe*.

¹² Ueber den Einfluss acuter Krankheiten auf die Entstehung von Geisteskrankheiten, von Dr. Emil Kraepelin, *Archiv für Psychiatrie*, XI, XII.

troubled with several maladies, for the purpose of healing which the physicians who had charge of the King's health had recourse to terrible and marvellous medicines." (Jean de Roye, *Chron. Scand.*, Éd. B. de Mandrot, II, p. 138.) So far from being negligible, however, the state of the King's health must form the basis of scientific inquiry. Indeed, incidents in the life of Louis XI, irritable,¹⁸ impulsive, and in many ways eccentric,¹⁹ furnish concrete illustrations of a class of questions which the political historian is at a loss to answer, but which are more or less readily and satisfactorily solved in the light of historical pathology. For example: (1) Does it have any historical significance that Louis, always concerned about his health, should send gifts, as he did, to a certain shrine in order that prayers might be offered there that it might please God to send him the quartain fever?²⁰ (2) How account for the fact that the same Louis, whose reign was replete with cruelty,²¹ who kept Cardinal Balue in a small wooden cage for 11 years, thus removing him, as he remarked, from the temptations of the world, could be so tender-hearted as to have a sick dog or a

¹⁸ " When he came home at night he was often weary and generally in a violent passion with some of his courtiers or huntsmen." Commynes, ed. Scobel, II, p. 81.

¹⁹ "He did many odd things, which made some believe his senses were impaired." Commynes, II, p. 43. "In short, he behaved after so strange a manner that he was more formidable than he had ever been before." II, p. 58.

²⁰ Raynal, *Hist. du Berry*, III, 132. Brachet, *Introd.*, LXXX.

²¹ "The king had ordered several cruel prisons to be made; some were cages of iron and some of wood, but all were covered with iron plates, both within and without, with terrible locks, about 8 feet wide and 7 feet high. . . . He also ordered heavy and terrible fetters to be made in Germany, and particularly, a certain ring for the feet which was extremely hard to be opened, and fitted like an iron collar, with a thick weighty chain and a great globe of iron at the end, most unreasonably heavy." Commynes, ed. Scobel, II, p. 75. Thomas Basin says that the days are not long enough to cite individual instances of where, without show of justice, many persons were drowned and otherwise made away with, or wasted away in the filth of the King's dungeons. "*Dies me deficiet, si casus singulos referre velim eorum quos vel in aquarum gurgitibus, vel aliis poenarum generibus, quamvis insontes, variis modis perire fecit, vel squalore carcerum macerari et constringi nullo juris et justitiae ordine observato.*" Basin, *Historiarum a Ludovico XI*, Lib. VII, p. 173. Elsewhere he compares the King's cruelty to that of the Emperor Domitian. *Hist. Lud.*, VII, 168.

rabbit carefully transported for miles in a royal two-horse chariot? (3) Or, what changed the avaricious close-fisted ruler, who always wore old clothes by preference and looked like a scarecrow," into a lavish spendthrift, who dressed in velvets and furs," paid many times the value of the things he bought, and gave away money and fine clothes without even being asked? (4) Or, what led the king, who struck down his enemies with a ruthless hand and who terrorized friend and foe alike by his masterful dealings," to become so apprehensive that he dismissed even the servants of his household for fear some of them might diminish or take from him his royal power."³ (5) Or, how account for the fact that the affable, approachable Louis, who went everywhere and saw everyone, changed into a recluse, defended in his castle from the approach of anyone from the outside by engines of war, archers, and caltrops

³ He dressed so abominably that once he was cursed as an impostor, and was hooted and followed by a mob through the streets of a village where he was not known and had claimed to be the King. ". . . . Accidit ut, eo transeunte per suburbanum oppidi, quidam eum interrogaret quando rex venire deberet; nulla enim, neque facie, neque apparatu, neque vestium ornatu vel splendore, plus quam famulus aliquis et vilis conditionis dignitatis indicia ostentabat. Cui cum rex ipse responderet quod ipsemet rex esset, statim idem qui interrogabat, movens cachinnum, in eum maledictum jecit, respondens sermone vulgari: '*Vous estes voz fièvres quartaines!*' et cum sociis suis, qui una ad videndum regem confluerant, eum ostenderet, dicens eis: '*Videte istum garcionem, qui regem se esse dixit,*' quotquot illud audientes erant, similis probri maledictum in eum cumulant, sibi, tanquam ridiculo alicui ganeoni, per totius suburbani spatium illudentes et post cum acclamantes." Basin, *Hist. Ludovici XI*, Lib. VII, pp. 167-168 (Soc. de l'histoire de France).

⁴ ". . . . His clothes were richer now and more magnificent than they had ever been before; his gowns were all of crimson satin, lined with rich marten's furs, of which he gave away several without being requested, for no person durst ask a favor of him, or scarce speak to him of anything." Commynes, ed. Scobel, II, p. 56.

⁵ "His subjects trembled before him; whatever he commanded was instantly executed without the slightest difficulty or hesitation." Commynes, ed. Scobel, II, p. 66.

⁶ "He was afraid of nothing so much as the loss of his regal authority." Commynes, ed. Scobel, II, p. 38. ". . . . For he was grown marvellously jealous of all his courtiers, and afraid they would either depose him or deprive him of some part of his authority." Ibid., II, p. 42. He was "Afraid of his own children and relatives, and changed every day those very servants whom he had brought up and advanced, . . . yet he durst not trust any of them." Ibid., II, p. 78.

scattered along the roads," and who would not be seen even through a window? (6) Louis, personally brave, who went into the very lair of his enemy at Péronne to beard him, what changed him into a cringing coward who fawned at the feet of an illiterate hermit and begged him to save his life," and who was so obsessed by the fear of dying that he forbade his courtiers to mention even the name of death?"

Incidents like these are to be found in the life history of more than one of the medieval monarchs. Not generally regarded as possessing any definite historical value, they have been set down, as a rule, as interesting peculiarities only. Viewed from the standpoint of historical pathology, however, every evidence of eccentricity, it must be repeated, as well as every malady of the King has a definite scientific value.

The reign of Louis XI serves so well to illustrate further these general principles that an interpretation of his pathological history will be profitable. In the discussion which follows the writer keeps very close to the argument and citations found in Brachet's *Pathologie Mentale des Rois de France*.²¹

The King's health throughout is the theme. Let us take for examination first the statements of two contemporary writers, Robert Gaguin and Jean Le Roye, about a seemingly trifling incident:

(i) Returned to Tours, he thought to lighten the burden of sickness by music. Wherefore he commanded that players of musical instruments of

²¹ Commines, ed. Scobel, II, p. 76.

²² Commines, II, p. 56.

²³ Ibid., II, p. 72.

²⁴ Dr. Brachet began in 1880 the labor of collecting material for his monumental work on the mental pathology of the Kings of France. By 1896 he had so much material, principally from manuscript sources, that he decided to publish privately what he had collected, with some brief explanations. This he did in four volumes, one being notes and comments, the other three made up of extracts from the sources. Unfortunately these were never made available to the public, and are not yet. His regrettable death prevented the completion in ordered form of his life work; but that the labor of so many years might not be lost to the world of scholarship, his widow, Mme. Anna Brachet, née Korff, arranged the notes and manuscripts as she found them, and in 1903 published the remarkable treasure-house of data for the study of historical pathology, which is known under the title of *Pathologie Mentale des Rois de France*—a scientific examination of the mental pathology of all the ascendants of Louis XI as far back as Hugh Capet.

all kinds should be summoned, of whom 120 were got together. Among these were certain shepherds, who for many days, not far from the bed-chamber of the king, played softly for the sake of comforting him, and in order that he might not fall asleep, which would make him worse. He commanded to come to Tours, besides this class of people, another quite different kind—anchorites and hermits, holy men and women, to whom he commanded that they pray God continually that, health restored to the King, he might continue to live. So eager was Louis to live longer.²⁵

(ii) At this time the King summoned a great number of players upon low and sweet instruments, whom he lodged at Saint Cosime near Tours, where they assembled to the number of 120; among them were several shepherds from Poitou, who often played before the King, but they did not see him, in order that he might enjoy there these instruments and while away the time and to prevent him from falling asleep. And, on the other hand, he assembled a great number of devout men and women and holy persons such as hermits and saints to pray God without ceasing that He would grant that the King should not die and that He would permit him still to live.²⁶

These two accounts, except for the statements that the instruments were low and sweet, and that the King kept out of sight, are alike. They are all that we have from the chroniclers about the incident. Commynes, the King's official biographer, for reasons of his own, does not speak of the shepherds, and mentions only one hermit.

²⁵ "Turorum reversus, excogitavit a musica valitudinis levamen quaerere. Quamobrem accersiri mandat omnis generi musici instrumenti lusores quos centum et viginti convenisse constat. Inter quos assuerunt ovium pastores: qui multos dies non procul a regis cubiculo continenter modulabantur, ejus consolandi causa, et ne somno, quo gravabatur, succumberet. Jussit, præter hoc hominum genus, alterum longe diversum ad se convenire. Solitarii et qui eremum incolebant homines—fœminæ quoque spectatæ religionis Turorum convenerunt, quibus negotium mandatum est: Deum indesinenter orare: ut regi salute restituta maneret ipse diu superstes. Jam appetens diutissime vivendi fuit Ludovicus." Robert Gaguin, *Ann.* 1482, f. 281, ed. 1560. Brachet, p. xviii.

²⁶ "Dudit temps, le roy fist venir grant nombre et grant quantité de joueurs de bas et doulx instruments qu'il fist loger à Saint Cosme près Tours, où illec ilz se assemblerent jusques au nombre de six vingtz; entre lesquelz y vint plusieurs bergiers du pays de Poictou, qui souvent jouerent devant le logis du roy, mais ilz ne le veoyent pas, affin que ausdiz instrumens le roy y prensist plaisir et passe temps et pour le garder de dormir. Et d'ung autre costé, y fist aussy venir grant nombre de bigotz, bigottes et gens de devocion comme hermites et saintes creatures pour sans cesser prier à Dieu qu'il permist qu'il ne mourust point et qu'il le laissant encores vivre." *Journal de Jean de Roye, ou Chron. Scandaleuse*, Éd. de B. de Mandrot, II, 122, *Ann.* 1482. Brachet, XVIII.

If they are examined as material for historical pathology, the details are very suggestive. In the first place, does the intercession of the holy men and women have any particular significance? Apparently not. It was the common practice of the time, and their part may be dismissed without comment. It is quite another matter with the shepherds and their melodies, however, for here there arise, as to the therapeutic value of music and as to the class of afflictions for which it was employed, the following questions: (a) In the treatment of what disease would recourse be had to music as a tonic stimulant? (b) In what class of maladies would sleep in the daytime be prohibited as harmful? (c) In what would the tonic action of the stimulant have to be moderate and sedative? The textbooks of medieval medicine recommend musicotherapy as a familiar treatment for cases of extreme nervous disorder. Healing by means of music, indeed, is much older than the Middle Ages, as old as the Old Testament at least, for David played before Saul to soothe the monarch when the "evil spirit of the Lord was upon him," and he sought to smite David to the wall with his javelin.

Together, under one head, in the system of medieval medicine, insanity, melancholia, and epilepsy are grouped. Exhibiting the traits characteristic of psychoneuroses, they differ in species but are alike in genera.

The shepherds might certainly have been employed for a therapeutic purpose. This inference, however, to be of any value will have to be confirmed by examples from the medical practice of the time. For this purpose the following citations are interesting and more or less specific:

Bernard de Gordon, in his *Lilium Medicinæ*, Part II, Cap. XIX, De Mania et Melancholia, says: "The first thing to be sought in curing it is light-heartedness and rejoicing—jesting ought to be indulged in, and musical instruments; in short, everything that will cheer the mind."

"*Primum quod competit in curatione est gaudium et lætitia . . . et multa jocalia præsentare debent et ibi esse instrumenta musica et breviter omnia quæ lætificant animam.*" Bernard de Gordon, *Lilium Medicinæ*, Part II, Cap. XIX, De Mania et Melancholia (1363). Brachet, XXVIII. Textbooks of this kind are very hard to get hold of by the student. The writer takes this occasion to express his grateful thanks to the Surgeon General's library at Washington for the use of a copy of the *Lilium Medicinæ*.

Barthelemy L'Anglois, in his *Grant Proprietaire des Choses*, says: "This is a kind of madness which physicians call *amentia*, others call it *mania*, The treatment is to have singing and the sound of instruments of music, but in moderation."²²

Avicenne, in his *Canon*, calls attention to the fact that while some persons are benefited by music, others are made worse,²³ and the *Lilium Medicinæ* says that loud sounds often bring on attacks of epilepsy.²⁴ Both imply the moderation which modern medicine insists upon. "The tonic effect of the music should never be so great as to provoke convulsions."²⁵ Hence the low and sweet instruments in Louis' case, as a clue as to why the shepherds played before the King's chamber.

In this class of afflictions, medieval medicine recommended that the sense of smell be stimulated (odorotherapy) also and for the same purpose. It is quite significant to find from manuscript sources in the Archives Nationale and from the Egerton Mss. in the British Museum records showing that from 1480 to 1482 the King's servants were scouring the country for roses and rosebuds, coquemint, sweet marjoram, and violets to keep continually fresh in the King's room.²⁶

²² "Il est une espece de follie que les physiiciens appellent amence: et les autres l'appellent manie. . . . La medecine est faire chanter et sonner des instrumens de musique et si les doit on faire travailler moyennement. Barthelemy L'Anglois, *Le grant proprietaire des Choses*, Trad. P. Corbichon, Lib. VI, Cap. V., Brachet, XXVIII.

²³ "Et quidam homines sunt, quos sanat lætitia et auditus cantilenæ, et quidam sunt quos illud augmentat." Avicenne, *Canon*, Lib. III, Tr. 4, Cap. XXIX, de cura Melancholiæ. Brachet, XXIX.

²⁴ [Epilepsia.] "Provenit etiam ex aspectu terribili, sicut est aspectus fulgaris, aut sono maximo, sicut est tonitrum, aut tympani magni et similia." *Lilium Med.*, p. 273.

²⁵ Ch. Féré, *La Pathologie des Emotions*, p. 95.

²⁶ "28 Juillet 1480. A Nicholas Mesnagier, varlet de Fourrière, 27 l. 12 s. 8 d. t.,—pour avoir envoyé deux hommes à cheval of La Mothe d'Esgry à Paris et Prouvins quérir des rozes et boutens. Où il y ont vacqué, tant à aller que retourner dix jours entiers. (Arch. Nat. kk-64, fol. 62), Brachet, XXXII. A Guillaume du Jardin, tapissier dudit siegneur, pour avoir fourny durant ledit mois de juillet et août, dudit an, de cormente et autres hères, pour metre es chambres et retraict dudit sieur, 2 s. 60. T. Par. Jour. Vallent 7 l. 15 s. t. (27 Septembre, 1480.) (Id., *ibid.*, fol. 65.) Brach., XXXII. A Jehau le Nonnant, varlet de fourrière dudit seigneur, 23 l. 2 s. 4 d.—Pour avoir fourny par chasoun jour depuis le douzième jour

The following extracts lead to the conclusion that these flowers were for something else than for ornamenting the King's room simply: Avicenne, Canon, *De cura melancholiæ*, says: "Let him sit in places where the temperature is good and let the air of the room be moist and fragrant. It is universally desirable that in breathing odors he should smell pleasant odors and fragrant flowers."¹ That actual flowers in nervous troubles were not indispensable the following prescription shows: "Let the epileptic smell day and night this confection [of calamint and rosewater]. It can be made into an apple, and when he wakes in the morning he can hold it in his hand."² But the next shows that they seem to have been frequently preferred: . . . "The room of the epileptic should be suffused with hyssop, rhue, stryax, and calamint,"³ and "the house should be well lighted, without pictures, and there should be a great deal of fragrance."⁴

de juing jusque au 15 jour d'aoust ensuivant de roses fresches pour mettre ès chambres et retraict dudit seigneur, pour en avoir envoyé chercher a Montbazon, Montoire, Montdoubleau et autres lieux. (11 mars, 1481.) (British Museum, Mss. Egerton, 833, fol. 43.) Brach., XXXII. A Robert Gautier, tapissier dudit seigneur, pour avoir fourny de coqmente et autres herbes pour mettre es chambres dudit seigneur par tous les lieux où il a esté durant le moys de septembre dudit an. (16 dec. 1481.) (Id., *ibid.*, fol. 34.) Brach., XXXIII. A Jean Gebert 64 s.—Pour avoir fourny du rouy marin et marjolaine pour mettre ès chambres dudit seigneur depuis le jour de Noël jusques au vingt sixiesme jour de janvier ensuivant." (6 mars, 1482.) (Id., *ibid.*, fol. 26.) Brach., XXXIII. A Patrix Gebert 8 l. 17 s. 8 d.—Pour ses paynes et sallaies d'avoir fourny et porté en la chambre dudit seigneur des violectes, fleurs d'espines, adglentiers, groseliers et autres nouveaulxtez depuis le 20 jour de mars jusques au derrenier jour d'avril, 1482." (Id., fol. 72.) Brachet, XXXIII.

¹"Et sedeat in locis temperatis et humectetur aer hospitii ejus et odorificetur, sternendo odorifera in ipso, et universaliter oportet, ut semper olfaciat odores bonos, et flores boni odoris." Avicenne, Canon, Lib. III, Tr. 4, XX, Brachet, XXX.

²"De cura epilepsiæ. "Utatur epilepticus ista confectione in qua inveni magnum juvamentum: ambræ grisæ calamintæ ana i conficiantur cum aqua ros. optima. Odoret epilepticus die ac nocte totam confectionem, vel fiat pomum de ista confectione, quod teneat in manu. Cum mane surrexerit et teneat pomum dictum in manu." *Lilium Medicinæ*, II, p. 25. Brachet, XXX.

³"De cura epilepsiæ. "Camera epileptici suffumigetur cum hyssopo ruta et strace et calaminta." (Id., *ibid.*, II, p. 25.)

⁴"Domus debet esse clara luminosa, sine picturis et debent ibi esse multa odorifera." (Id., *ibid.*, II, Cap. XIX.)

This stimulation of the olfactory nerve bears the same testimony as musicotherapy that the King was being treated for some form of nervous disorder. There is as yet no specific indication as to the disease, but the suspicion as to what it may be is confirmed by an examination of the things especially to be avoided in epilepsy: (a) Sleep in the daytime; the *Lilium Medicinæ* says: "Sleep in the daytime should be especially avoided."³⁷ "He should not sleep in the daytime, for a long heavy slumber is very harmful."³⁸ "Sleep in the afternoon is very bad, and in general much sleep does harm."³⁹ It will be recalled that the shepherds played to keep the King from falling asleep. (b) Allowing the head to be cold. This induces sleep,⁴⁰ and since, according to Hippocrates (*Coaques*, Section 342, Ed. Littre, V. 657) excessive sleep is provocative of epilepsy, the epileptic should have his head well covered. (c) Insulation. The *Lilium Medicinæ* says of things to be avoided in epilepsy: "Too great cold, and everything that suddenly makes the head warm, such as long exposure to the sun."⁴¹ The Canon of Avicenne says: "All excessive heat of the sun, and cold, is conducive to epilepsy,"⁴² and, ". . . it is especially desirable that the head be protected against excessive heat and cold."⁴³ The traditional likeness of Louis XI, wearing the old felt hat, from which he was inseparable, at once occurs to the mind, and this hat becomes very significant when the reason he wore it so constantly is made plain. Apparently he had adopted a very definite means for pro-

³⁷ "Potissimè vitet somnum diurnum." *Lilium Medicinæ*, Particula II; *De passionibus capitis*, Cap. XXV. *Quæ vitanda in epilepsia*. Brachet, XXXVIII.

³⁸ "Non dormiat de die, somnus enim profundus multum nocet et longus." (*Id.*, *ibid.*, XXVI.)

³⁹ Avicenne, Canon, Lib. III, Tr. 5, Cap. XI, *de cura epilepsiæ*. "Et multum dormire post meridiem nocet; et universaliter somnus multus nocet." Brachet, XXXVIII.

⁴⁰ Galen, *De locis affectis*, L. III, Cap. V, edit. Venise, 1576, folio T. IV, p. 16, v. f.

⁴¹ *Lilium Medicinæ*, II, 25, "Quæ vitanda in epilepsia. Frigiditas nimia et omne illud quod subito calefacit caput sicut est longa mora in sole." Brachet, XL.

⁴² Avicenne, Canon, Lib. III, Tr. 5, Cap. X. "De causis moventibus epilepsiam. Et epilepsiam quidem commovet omnis calor superfluous solaris, et omne frigus." Brachet, XL.

⁴³ "De cura epilepsiæ. Immo oportet, ut caput muniatur ab omni calore superfluo aut a frigore superfluo." *Id.*, *ibid.*, Cap. XL. Brachet, XL.

tecting his head from heat and cold, for the MSS. sources, cited in Brachet, from 1468 on, show that for this purpose the King was regularly being supplied with caps or bonnets, which he never went without, day or night.

They were uniformly double; a scarlet one when he rode horse-back and a double white or black nightcap over which he drew at night a scarlet bonnet tied with six strings. Sometimes, apparently for greater insulation, they were lined with felt or with beaver."

(d) The head should be kept elevated. This is enjoined in Avicenne's Canon, *De cura epilepsiæ*; "He should take care to keep his head elevated, and as far as possible not to bend over." "And the same thing is repeated in the *Lilium Medicinæ*: [The epileptic] "should particularly avoid lying upon his back, and with his head hanging down. He should not sleep in the daytime, as has been said, and he should sleep with his head raised." "Louis apparently

" "Pour deux tocques d'escarlade doubles pour servir au Roy à porter de jour quant il chevauche par pays." (Arch. Nat. Comptes de L'Argenterie, kk. 61, fol. 29, Nov., 1468.) "Pour deux bonnetz noirs doubles pour servir audit seigneur à porter de jour." (Id., *ibid.*, fol. 20, Nov., 1468.) "Pour deux tocques blanches doubles pour servir au Roy à mettre de nuyt, 60 s. Pour ung bonnet d'escarlade fait à six fils pour servir audit seigneur à metre par dessus lesdites tocques, 35 s." (Id., *ibid.*, fol. 39, Avril, 1469.) "Pour deux tocques blanches doubles à mettre de nuyt pour ledit seigneur, 60 s. Et pour ung fin bonnet d'escarlade fais à six fils pour audit seigneur à mettre de nuyt pardessus les dictes tocques, 35 s." (Id., *ibid.*, fol. 47, Septembre, 1469.) "Audit Glaude Lambert, la somme de 60 l. 5 s. tant pour un voyage d'estre allé et venu de la ville de Montpellier à Romme echapter et payier treize chapeaux de bièvre, et iceulx avoir apportez en ladite ville de Montpellier pour la personne du Roy comme pour l'achapt d'iceulx.

"Audit Thomas Cardonne dit l'Enfant de Rouhan, chappelier, la somme de 212 l. 4 s. 9 d. tant pour le façon de neuf autres chapeaux pour la personne dudit seigneur en ladite ville de Montpellier que pour l'echapt de layne et autres fraiz nécessaires qu'il a convenu faire." (Comptes originaux de règne de Louis XI, Oct., 1478-Oct., 1479, Bibl. Nat. f. fr. 23265, fol. 6.) Brachet, XLI-XLII.

" "De cura epilepsiæ, et studeat ut caput suum sit elevatum et caveat ne ipsum pendere faciat in quantum possibile est" Avicenne, Canon, l. III, tr. 50, Cap. XI. Brachet, XLL.

"Quæ vitanda in epilepsia. "Vitentur omnes causæ quæ dictæ sunt; potissime vitet jacere supra dorsum et capite inclinato. Non dormiat de die ut dictum est, et jaceat capite elevato." *Lilium medicinæ*, particula II: de passionibus capitis, Cap. XXV. Brachet, XL.

thought these precautions were worth following, for the manuscripts discovered by Brachet in the Archives Nationales and in the British Museum show that in 1481-1482 he carried about with him, everywhere he went, a special headboard, apparently for the purpose."

Nothing would seem to be more evident from these remedies than that the King was following the advice of his physicians in being treated for some very severe nervous affliction which looks like epilepsy, a disease which might prepare the way for later mental disturbances but which would not necessarily impair the King's political acumen. This hypothesis offers a reasonable explanation, at least from the standpoint of pathology, of the mysterious passage about the shepherds in Gaguin and in the Scandalous Chronicle.

On the other hand, the political historians in the past, lacking this biological basis, have been forced to draw many times upon their imaginations for a plausible explanation of the very serious incidents related by the chroniclers. In pointing out the obvious fact that these accounts are unreliable as history, it need not be remarked that they illustrate, nevertheless, a very important principle. The extracts which follow, most of them found in Brachet, are taken from standard histories of France and deal with the passage about the shepherds. Chateaubriand says: "The honesty and rustic simplicity of the country lads and lassies who came to figure in the donjons of Plessis served to smooth the brow of the

" "A Guillaume Genou 40 l. 2 s. 1 d. pour cheval de poil bay pour servir à porter après lui le dossier de la chambre dudit seigneur." 30 juin, 1481. (Arch. nat. kk. 64, fol. 140.) "A Guillaume Genou dit Rondelet 25 l. 2 s. 6 d., pour avoir mené et conduit sur ung cheval le dossier pour servir au lit dudit seigneur depuis le vingt cinquiesme jour de juing jusques au derrenier jour d'aoust ensuivant." 9 sept., 1481. (Arch. nat. kk. 64, fol. 167.) "Claude Foulon 27 l., pour avoir mené sur ung cheval sommier dedans ung bahu de cuir un gros loudier pour servir ès logiez dudit seigneur à mettre derrière le chevet de son lit par tous les lieux où il esté depuis le 18 jour de novembre jusque au premier jour de fevrier ensuivant." 5 fevrier, 1482. (British Museum Mss. Egerton 883, fol. 29.) "A Gilles Genest 47 l., pour avoir mené sur ung cheval sommier ung dossier de boys pour servir es logiez dudit seigneur à mettre derrière son lit où il a vacqué depuis le premier jour de septembre jusques au premier jour de janivier ensuivant." (Id., *ibid.*, fol. 29, 10 mai, 1482.) Brachet, XL-XLI.)

tyrant.”⁴⁰ If the reader will recall just what Gaguin and Jean Le Roye say about the shepherds, the following historical embroideries will be interesting. Zevort, a modern writer, makes this contribution: “The greatest distraction of Louis was on Sunday to watch the joyous gambols of the young men and women who danced before the château.”⁴¹ Even so reliable a historian as Henri Martin follows the errors of the others. He says: “He [Louis] abandoned himself to a thousand fantasies to secure a moment from the ennui which consumed him. He summoned from all sides players on ‘low and sweet instruments,’ and had shepherds come who played airs before him and danced the dances of their native country. But nothing succeeded in distracting him; the object of his caprice once attained caused him only impatience and disgust.”⁴² An older history adds considerably to what the chroniclers recount. “Shepherds and shepherdesses,” it says, “gathered together from Poitou; they were divided into several bands. Some played on their rustic instruments; others sang and danced in the meadows. Louis sometimes at the window and sometimes walking in the gallery saw and tried to participate in these harmless and innocent pleasures, but if he saw that he was observed, or that anyone was watching him he withdrew and did not dare to appear again.”⁴³ The two accounts next following

“Des danses de jeunes paysans et al jeunes paysannes qui venient figurer dans les donjons du Plessis le bonheur et l’innocense champêtre servaient a dérider le front du tyran. Chateaubriand, *Analyse raisonnée de l’histoire de France*, I, 185.

“La plus grande distraction de Louis XI était le dimanche, de regarder les joyeux ebats des jeunes gens et des jeunes filles qui dansaient sur la place du château.” Edgar Zevort, *Hist. nationale*, 1890, 31^e edit., p. 31.

“Il s’abandonnait à mille fantaisies pour secourir un moment l’ennui qui le rongait . . . Il mandait de tout parts des joueurs de ‘bas et doux instruments’; il faisait venir des bergers qui jouaient devant lui les airs et dansient les danses de leur pays. Mais rien ne réussissait à le distraire; l’objet de son caprice, à peine atteint, ne lui causait plus qu’impatience et dégoût.” Henri Martin, *Hist. de France*, VII, 140.

“On rassembla les bergers et les bergères du Poitou; on les partagea en plusieurs bandes, les uns jouolent de leurs instruments champêtres; les autres chantoient et dansoient dans la prairie; Louis, tantôt aux tenêtres de son appartement et tantôt promenant dans une galerie voyoit et tâchoit de partager ces plaisirs vrais et innocents; mais s’il venoit à s’apercevoir que quelqu’un le regardait, il se retiroit, promptement, et il n’osoit plus paraître.” Velly, Villaret, Garnier, *Hist. de France*, 1768 XIX, 117.

state either frankly or covertly what their authors suspect that the chroniclers have been led to conceal. "There is a pleasure in reading in the histories all that the fear of actual death and the loss of authority made King Louis do in the closing years of his reign; the dance of young girls before his lodgings and the bands of flute players collected from all sides to divert him,"¹⁸ and "without believing at all the strange and ferocious tales of the last acts of this Tiberius, sick and voluntary prisoner, and without pretending that he bathed in the blood of children, that young girls came to dance lascivious dances in his chamber, it is certain that his cruelty and defiance redoubled at the approach of death."¹⁹ Even so recent a biographer as Christopher Hare (1907) offers the traditional explanation that the shepherds played for the King to beguile the long hours.²⁰

All these accounts are wrong as history. This does not mean, however, that they have not been carefully written. Most of them have been. It does mean that no explanation of incidents in royal biography is safe until the possibility of a pathological interpretation has been eliminated.

To continue with the remedies: The Scandalous Chronicle says: "To heal these maladies there were made for him terrible and marvelous remedies by the physicians and doctors who had care of the King's person."²¹ Gaguin says in 1482: "Every day Louis was

¹⁸ "Il y a plaisir de lire dans les histoires tout ce que la crainte de la mort réellé et ceile de perdre son autorité, faisoient faire au Roi Louis durant les dernières années de son règne. Les danses de jeunes filles à l'entour de son logis, et les bandes de joueurs de flûtes qu'on amassait de toutes parts pour le divertir, etc." Mezeray, *Abrégé Chronolog. de France*, II, 618.

¹⁹ "Sans croire tout ce qu'on a raconté d'étrange et de féroce sur les derniers actes de ce Tibère malade et volontairement prisonnier, sans prétendre qu'il prenait des bains de sang d'enfants, que de jeunes filles venaient danser sa chambre des danses lascives, il est certain que sa cruauté et defiance redoublèrent aux approches de la mort." Charles Lacreteile, *Louis XI*, p. 68. The extracts quoted above are from Brachet, *LI-LII*.

²⁰ "While he was watching death approach step by step we do not wonder that he sent for musicians, 'joueurs de doux et bas instruments,' to beguile the long hours of suffering and isolation." *The Life of Louis XI*, Christopher Hare, New York, 1907, p. 258.

²¹ "... l'our le guérir desquelles maladies furent faictes pour lui, par les médecins qui avoient la cure de sa personne, de terrible et merveilleses médecines." *Chron. Scandaleuse*, éd. mandrot, II, 138. Brachet, *XLVI*.

more and more sick, and his physicians offered remedies to him of a marvelous kind, for he vehemently hoped to acquire health by means of human blood drawn from certain youths, which he drank and bathed in." "The shock that comes with this reference to the use of human blood is natural, and the historians, in their ignorance of medieval medical practice, are justified in their incredulity or horror of it." But the use of human blood takes on quite a different aspect when it becomes plain that it was a remedy pure and simple for a specific disease. Galen prescribes human blood for epileptics—a sovereign remedy for this disease from the time of antiquity "until the eighteenth century at least"—and modern medicine, of course, recognizes in the transfusion of blood a valu-

"Tous les jours de plus estoit Loys mallade et ne lui prouffitoient les médecines quises en merueilleuses manières. . . . Car vénémentement esperoit acquerir santé par le sang humain qu'il but et huma de quelques enfans." Robert Gaguin, 1482, éd. 1508, f. CCII, V°. Brachet, XLV.

"On avait si mauvaise opinion de lui, que les rumeurs les plus bizarres et les plus atroces s'accréditèrent au sujet des remèdes qu'il employait pour retarder a fin. On prétendit que Louis, par l'ordonnance de Coictier, 'buvoit et humoit' le sang des enfans afin de réchauffer son sang appauvri." Henri Martin, *Hist. de France*, p. 153.

"Une chronique dit qu'on lui faisait boire du sang d'enfans nouvellement égorgés, remède plus convenable au caractère d'un tyran qu'à la santé d'un malade. Crime horrible, péché mortel." Liskenne, *Hist. de Louis XI*, p. 301.

"Puis il buvait du sang de petits enfans pour se redonner de la jeunesse; remède qui semblait tout à fait approprié au tempérament du malade." Chateaubriand, *Analyse Raisonnée de l'Histoire de France*, I, 185.

"La profonde réclusion dans laquelle il vivait faisait croire qu'il se passait des choses bien extraordinaires dans ce château impénétrable. On alla jusqu'à répandre le bruit que l'on y rassemblait des enfans que l'on saignait, et dont on lui faisait boire le sang pour corriger l'âcreté du sien." Anquetil, *Hist. de France*, II, 207. Brachet, XLVI-VII.

"Epileptics (comitiales morbi) drank the blood of gladiators, also, as from living cups." *Sanguinem quoque gladiatorum bibunt, ut viventibus poculis.* (Pliny, XXVIII, 2. Brachet, XLIV.)

"Human blood.—Virtues: Human blood, fresh and drunk warm, is said to benefit epilepsy." *Sanguis humanus.—Vires: Sanguis humanus (recens adhuc et calde potus) conferre dicitur ad epilepsiam.* (Magnet, *Rerum ad Pharmacia Galenico Chymicam Spectantium Thesaurus*, 1703, I, 1, p. 987. Brachet, XLIV.)

"All the writers recommend human blood for healing epilepsy." Tous les auteurs recommandent le sang human pour la guérison de l'épilepsie." (*Pharmacopée Royale Galénique et Chimique.* Moses Charas, edit. de 1773, t. II, p. 418. Brachet, XLV.)

able restorative. Louis probably did take human blood for his malady, although we have only a hint as to how he got it.⁹⁰ He also probably submitted to the heroic treatment of having his head cauterized with a hot iron,⁹¹ a recognized therapeutic agent in epilepsy in the Middle Ages.⁹²

Medieval medicine further suggests a solution of gold to be drunk as medicine in psychoneurotic cases. Avicenne, Canon, says: "The limatura of gold is good for tremor of the heart [Louis complained of this] and for depression of the mind and for him who talks alone."⁹³ Indeed, the salts of gold is a recognized modern remedy in cases of spasms and convulsions. The records show that in 1483 a certain man received the sum of 192 livres of gold for a beverage called "potable gold" ordered for the King by his physicians (Legeay, Louis XI, II, pp. 506), and Louis probably took this, too.

Furthermore, it is interesting to notice another means of obtaining relief from sickness in the Middle Ages, which furnishes an indirect means of diagnosing a disease. This is hagiotherapy, or the invocation of the saints which protect against certain afflictions. Taken alone, this agency should not serve as a basis for any conclusion as to the disease itself, but it is a very useful check upon other data as indicating from his prayers and gifts to certain saints what the patient himself thought was the matter with him. The documents in the various archives show conclusively that Louis XI had frequent recourse to the intercession of the saints who were to be specifically invoked in epilepsy, spasms, and convulsions—St. John the Evangelist, St. Giles, St. Claude, and St. Paul, for example.⁹⁴ Moreover, the gifts of Louis to the saints invoked for

⁹⁰ In the royal accounts for this date there is a receipt which reads as follows: "To John Pellart, the sum of £9 12 s. 6 d. ordered paid to him by the said lord (Louis) the aforesaid day for having been bled by the order and command of the said lord on two occasions for demonstration (espreuve). A Jehan Pellart la somme de £9 12 s. 6 d. a luy ordonnée par ledit seigneur ledit jour pour avoir este seigné par l'ordonnance et commandement dudit seigneur par deux fois pour espreuve." 29 juin, 1482. (British Museum. Mss. Egerton, 883, fol. 62. Brachet, XLVI.)

⁹¹ Brachet, XXXI-XXXII, 13.

⁹² Avicenne, Canon, l. III, Tr. 4, Cap. X, de cura melancholiæ. "Et quandoque oportet ut caput ejus secundum crucem cauterization, si nihil aliud confert."

⁹³ Avicenne, Canon, Bk. II, Tract. 2, Cap. LXXVIII. Brachet, XXXV.

⁹⁴ Du Broc de Segagne, Les Saints Patrons (cited in Brachet, XLVIII.)

epilepsy became finally so great that Parlement again and again opposed the alienation of parts of the royal domain for this purpose.*

Now, it seems fair, from the symptoms and from the remedies employed by Louis, to conclude that the King was very sick with some nervous malady, and that the particular malady could not be anything else than epilepsy.

But if Louis had epilepsy, why did not the physician announce the fact? The reason in the Middle Ages, even more than to-day, was that epilepsy was a reflection on the patient and upon his parents, and its existence was always concealed when it was possible. Hence, for example, the silence of Commynes upon the remedies taken by the King.

This fact explains why Louis had recourse to a strange procedure: He made gifts and asked the intercession of the saint protecting against the quartain fever, not that he might be spared, but that it might please God to send him that disease. "Because," he explains, "the doctors say that I have a sickness of which I may never be cured unless I have the quartain fever." **

History as such cannot explain this strange request, but medieval medicine does so without trouble and in this way. Hippocrates 2000 years ago laid down the principle of the substitution of one disease for another. "Persons taken with the quartain fever," he says, "are never taken with the great sickness [epilepsy], and, if taken first with that affection they get the quartain fever, the first is healed by the second." ***

Louis had epilepsy, and any lingering doubt as to the fact is dispelled by the direct statement of Gaguin that he had it: "At that time [1480] Louis began to be very sick. For the comitial sickness [epilepsy], which for a long time had oppressed him, demanded the most diligent efforts of his physicians." ****

* Brachet, L., British Museum, Egerton Mss. No. 1668, fol. 299.

** Arch. du Cher, Fonds du Chapitre, d. Raynal, Hist. du Berry, III, 132. Brachet, LXXX.

*** "Les individus pris de fièvre quarte ne sont jamais atteints de la grande maladie (l'épilepsie); et, si, pris d'abord de cette affection, la fièvre quarte leur survient, celle-ci les guérit de celle-là." Hippocrates, Epidémies, VI, 6, 5 (tr. Littré, V, 325). Brachet, LXXXII.

**** ". . . Sed per id tempus aegrotare maxime Ludovicus coepit. Nam comitali morbo cum inter dum premeretur, . . . Quamobrem medicorum diligenti opera usus est." Robert Gaguin, f. 279, Brachet, LXXIX.

It is perfectly clear, therefore, that Louis was not a Tiberius, exhausting every means to please his jaded senses, but a miserable nervous wreck, trying to recover his health by the most advanced scientific treatment of his age, and if he is not an object of compassion, his actions, at least, demand sympathetic interpretation.

The fact that Louis suffered many years from attacks of epilepsy is in itself sufficient indication of a very serious nervous condition, whatever produced it. He had a bad inheritance of gout, insanity mania, and obsessions of one kind or another from his various ancestors. Space does not permit of a discussion of this statement, but Brachet's researches²⁰ furnish ample warrant for the assertion that the terrain in the King's case was very bad indeed.

Before going further, it is desirable to recall the medical hypothesis mentioned earlier, that in cases of hereditary neurasthenics, after a severe or exhausting illness, some form of mental disturbance is a more or less certain sequence.

The pathological history of Louis XI forms no exception to the general formula, and, following his bitter experience at Péronne, in 1468, and his very serious illness in 1479, there are recorded the following acts which can be interpreted only as psychopathic outbursts, latent or repressed before, but common in one form or other to all hereditary degenerates: (a) Louis develops a mania for lavish expenditures (a form of megalomania) so foreign to his general character; (b) a morbid fear of death, an obsession with Louis (thanatophobia); (c) a mania for collecting things, simply for the sake of collection (collectomania); (d) an irresponsible mania for seizing things which he wanted (kleptomania); and finally, (e) a morbid love for animals (zoophilia).

His illness in 1479 was so severe as to lead to the report that the King was not only helpless, but was actually dead.²¹ The pivotal

²⁰ His *Pathologie Mentale* devotes something like 700 pages to the subject.

²¹ "... Wherefore the report was widely spread throughout all the lands of the Duke that the King himself had declined into such weakness of body that he could neither ride horseback nor be conveyed in a chariot, nor could he get any better either by the aid or diligence of his physicians. This popular rumor filled not only the lands of the Duke, but very many of the provinces of the realm as well, so that many reviled him and secretly cursed him as not sick but dead." "... Ex eo re rumor increbuit per omnes terras ducis quod ipse rex in talem corporis sui invaletudinem incurrerat, quod nunquam nec equo, nec carru vectari posset, nec inde ulla

point of his reign is here, and by reason of that very sickness. For it is from this illness that a series of acts may be dated which should be classed as explosions of megalomania.

He purchased 22 caps at once, during the winter of 1478-79, for example, paying 700 francs apiece for them—a very significant change from the avaricious Louis. After this year he changed his habits completely, dressed extravagantly, and gave away lavishly. Commynes, of the earlier part of his reign, says: "The King dresses very shabbily, so badly that it could not be worse. The material is bad enough at any time, and he wears an old hat, different from the rest, with a lead image on it."ⁿ But after 1479 Commynes is obliged to record the fact, already cited, that he "dressed richly, a thing which he had never been accustomed to do before, and wore only satin robes lined with good marten fur, and he gave some of these to persons without their asking." Further evidence of this lavish giving is found in the sums which he gave his physician,ⁿ and in his excessive gifts to the saints.ⁿ

He had a morbid fear of death. For a long time during his reign the fact that the King was terribly afraid of death was known and played upon. He released Cardinal Balue and Bishop Berdun from their cages because of the fear that God would send judgment upon him for keeping a cardinal and a bishop in chains. Furthermore, his fear that he would die was so great that he became an absolute slave to his physician,ⁿ Coictier, to whom,

medicorum ope aut industria convalescere. Qui rumor nedum terras ducis, sed plurimas etiam regni provincias vulgo adimplevit; ita ut etiam eum, nedum ægrotum, sed mortuum esse plures susurrarent et clanculo jactitarent." Basin, *Hist. Ludow. XI*, vol. 3, Lib. VI, Cap. XIII, pp. 40-50.

ⁿ "Nostre roy se habilloit fort court, et si mal que pis ne pouvoit, et essez mauvais drap aucunes fois, et portoit ung mauvais chapeau, different des autres, et ung imaige de plom dessus." (Commynes, ed Dupont, I, 166. Brachet, Cl.)

ⁿ In less than eight months he gave to Coictier, his physician, 98,000 crowns.

ⁿ ". . . . A great part of the domains were in this way disposed of, and had he lived a few years longer the revenues of the kingdom would have passed into the hands of the churchmen." Duclos, *Louis XI*, II, 319.

ⁿ ". . . . The doctor used him very roughly indeed; one would not have given such outrageous language to one's servants as he gave to the King, who stood in such awe of him that he durst not forbid him his presence." Commynes, Scobel, edit. II, 74.

according to Commines,¹⁶ he paid 10,000 crowns a month in the hope that he would lengthen the King's life and all that Coictier had to do to get anything that he wanted was to threaten to leave.¹⁷ Everyone apparently knew about this fear, for Sixtus IV, to win his favor, let Louis know that he had granted indulgence to all such as should visit churches to pray for his recovery. Even Charles the Bold seems to have known the abject terror to which the King gave way; and Commines was, of course, thoroughly familiar with it. His account leaves no doubt at all about the fact, for he says: "Never was a man more fearful of death nor used more means to prevent it. He had, all his life long, commanded and requested his servants . . . that whenever we saw him in any danger of death we should not tell him of it, but merely admonish him to confess himself, without ever mentioning that cruel and shocking word 'death,'"¹⁸ and Commines, otherwise so careful of the reputation of the King, nevertheless confesses that when St. Francis de Paul came to him from Rome, Louis fell upon his knees before the hermit and besought him to prolong his life.¹⁹

His voluntary isolation, which historians have found so hard to explain, may have been a sign of his morbid mental condition after 1479, but it seems plausible to assume that Louis was again following the advice of his physicians. The records show that in the winter of 1478-79 Louis was very sick, and that it was difficult to see him. It was in 1479 that, to avoid being seen and to render access to his person even more difficult, the King had the contrivance of sharp stakes, called "caltrops," placed along the roads approaching his castle, and he continued to shun meeting anyone.

It is profitable to compare the statement of the medical authorities upon this question of seclusion with that of the historians. From a medical standpoint, above all things else prescribed for epileptics was isolation. The *Grant Proprietaire des Choses* says: "Above all things should the epileptic avoid harmful foods and association with people, because his malady takes him thus more often than when he is alone."²⁰ Barante, as an example

¹⁶ *Ibid.*, II, 71.

¹⁷ *Ibid.*, 74-75.

¹⁸ Commines, ed. Scobel, II, 72.

¹⁹ *Ibid.*, II, 56.

²⁰ ". . . . Devant toutes choses ilz se doivent garder de viands nuisibles et de trop habiter en la compagnie des gens, car leur mal les prend plus tost que quand ilz sont tous seulz." *Liv.*, VII, Chap. IX; Brachet, XCV.

of the historians, accounts for the facts thus: "His mistrust," he says, "became horrible, and almost insane; every year he had his castle of Plessis surrounded with more walls, ditches, and rails. On the towers were iron shields and shelter from arrows, and even artillery. More than 1800 of those planks bristling with nails, called 'caltrops,' were distributed on yonder side of the ditch."⁸⁰ There is no question as to his suspicion and distrust of everyone who approached him at this time; and the advice of his physicians probably simply intensified his desire to keep by himself.

Let us now examine the manifestations of combined megalomania and collectionomania, of which Commynes furnishes the evidence, unconsciously, to be sure, but unmistakably:

. . . . He caused fine horses or mules to be bought at any price whatsoever, but this was not done in France. He had a great passion for dogs, and sent into foreign countries for them; . . . and bought them at a dearer price than the people asked. He sent into Sicily to buy a mule of an officer of that country, and paid him double the value. . . . He bought strange creatures wherever they could be found. . . . He sent into Sweden and Denmark for two sorts of beasts which those countries afforded; . . . for six of each of these beasts he gave the merchant 4500 Dutch florins. Yet when all these rarities were brought to him he valued them not at all, and many times would not so much as speak to the persons who brought them to him. In short, he behaved after so strange a manner that he was more formidable both to his neighbors and subjects than he had ever been before.⁸¹

The significant circumstance in this case is that Louis paid the extravagant sum of 125,000 francs, in modern money, apiece, for certain animals, which he would not look at when they were brought to him. This indifference taken together with the fact that he gave more for what he bought than anyone asked for the animal, is plainly pathological. Commynes makes it appear that all this took place in the last years of the King's life, but the records show that similar purchases were made as early as 1479.

Suspicion points to Louis as an hereditary degenerate. His actions seem to furnish a most clear-cut manifestation of the conventional stigmata of degenerate zoophilia—that is to say, a morbid love for animals and a hypersensitiveness as to their comfort. These stigmata are (1) extravagance of purchase; (2) indifference of the purchaser; and (3) hypersensitiveness to the suffering of sick animals. The first two traits are common to morbid collectionomania, the third, always associated with indifference to the

⁸⁰ Guizot, III, 256.

⁸¹ Commynes, ed. Scobel, II, 57-58.

suffering of human creatures, and often with extreme cruelty, is decisive for zoophilia.²²

The illustrations of zoophilia, which follow, are interesting, because they are so precise; the King's great cruelty has already been mentioned. Commynes further says: "The King inflicted very severe punishments to inspire dread, and for fear of losing his authority, as he himself told me, . . . so that he passed his time in making and ruining men." As to his morbid interest in animal suffering, the illustrations could not be more explicit. "March 30, 1479 [paid], to John de Reffou . . . 53s. for having brought in a litter and by water from Fourges to Tours, a hunting dog which was sick."²³ "Oct., 1480, to Jacques de Saint Benoist, for the purchase and carting of a boat which he took by order of the King and for using it to bring a stag to the pool of Gastine, that it might die there."²⁴ "July 4, 1481, to Vincent l'Aumosnier, 50s. for having brought, in a three-horse chariot, from Garrannes to Dreux, . . . one of the King's greyhounds which was sick."²⁵ "To Louis Lucas, £6 19s. from the King . . . for having brought, in a two-horse chariot, a rabbit of the King's from Forges . . . to Bonne Aventure."²⁶

²² Ballet, Intermittent Morbid States of the Emotions, in his chapter on "Zoophilia and Zoophobia," says: "That which demonstrates the morbid character of this state, aside from *abulia* and emotionalism, is the indifference, often complete, of the Zoophiles for their own relations and friends, and for human suffering generally, to which indifference there is sometimes added a veritable cruelty." See also The Zoophil-Psychosis, by Charles L. Dana, M. D., Medical Record, March 6, 1909, and Zoophile et Zoophobie, Extrait de la Belgique Médicale, 1897, par Ch. Féré.

²³ "30 mars, 1479. A Jehan du Reffou, maistre d'ostel dudit seigneur, 53 s. 4 d. t. . . . pour avoir fait mener en une lictière et par eue, depuis les Forges Jusques à Tours, ung chien courant qui estoit malade." (Arch. nat. kk. 64, fol. 17. Brachet, CXV.)

²⁴ "Octobre, 1480. A Jacques de Saint-Benoist, . . . pour l'achapt et charroy d'un bastea qu'il a prins par l'ordonnance dudit seigneur, et le fait mener a l'estang de Gastine, pour y faire mourir un cerf." (Arch. nat. kk. 64, fol. 158v, Arcq. p. 393. Brachet, CXVI.)

²⁵ "4 juillet, 1481. A Vincent L'Aumosnier, 50 s. . . . pour avoir fait mener en une charette à trois chevaux ung des lévriers dudit seigneur qui estoit malade, de Garannes à Dreux . . ." (Arch. nat. kk. 64, fol. 150. Brachet, CXVI.)

²⁶ "A Loys Lucas, . . . 6 l. 10 s. . . . pour avoir faict mener et conduire à une charecte à deux chevaux ung des lièvres dudit seigneur des forges . . . à Bonne Aventure." (Arch. nat. kk. 64, fol. 116. Brachet, CXVII.)

Now, having stated the hypothesis of zoophilia, still following Brachet, the deductive method may be used thus: In the case of the degenerate zoophile there are usually found pronounced symptoms of kleptomania. We are sure to find that Louis was a kleptomaniac. For, by an inconsistency which is the mark of this morbid condition, the sick man steals that which he covets, not because he cannot buy it, but because stealing is more agreeable to him as a kind of conquest.

Thus the records furnish what may be fanciful evidence that Louis did not scruple to rob his subjects' henroosts on occasions: "January, 1483, In this month the King commanded that his servants should travel all night along all the roads and on the River Loire ahead of certain birds of Turkey, which were being taken to Brittany, to take them and bring them to him." "Item, two days afterwards the birds were found at 8 o'clock at night and were brought at that time to Montilz."¹¹

Possibly the next illustration is simply a piece of high-handed tyranny on the King's part, but it took place at a time when he was spending enormous sums for other animals and he could easily have paid his subjects for theirs. Viewed in connection with his other actions at this time, seizure has a suspiciously pathological complexion, if it is not definitely a case of kleptomania:

By the King's grace he commanded a most base thing to be done. . . . For he sent commissioners to the town of Rouen and many other places of the realm, who ordered, on the King's authority, under penalty of confiscation of goods and body, that all dogs, large and small, should be brought together to one place. Being thus collected, they carried away the best of these, tied in carts and wagons, to the King."¹²

¹¹ "Janvier, 1483. Item. audit moys le roy manda que on allast toute nuyt par tous les chemins et sur la riviere de loire audavant de plusieurs oyseaulz de Iurkie, qu'on portoit en Bretagne, pour les prendre et les lui apporter. Item, Deux jours apres les oyseaulx dessusditz fuerent trouvez a huyt heures de nuyt et les convint porter a ladite heure aux Montilz." (Comptes de Tours, t. XLIV, fol. 82 V°. Brachet, CXVII.)

¹² "Cujus etiam rei gratia, rem stultissimam . . . fieri jussit. Misit enim commissarios ad urbem Rothomagensem et alia plurima regni loca, qui ex ipsius auctoritate juberent sub poena confiscationis corporis et bonorum ut omnes canes, parvi et magni, ad unam plateam ducerentur. Quibus sic in unum collectis, quos ducerent eligendos, ad regem in carrucis et vehiculis ligatos veherent. . . ." (Thos. Basin, Hist. Lud. III, 168, Brachet, CXVII.)

There remains to consider an incident which took place in 1468, after Louis had ventured to intrust himself to the power of his arch-enemy, Charles the Bold, at Péronne. Relying upon his subtlety and cunning words to secure his ends, Louis had boldly gone in person to Charles at his castle in Péronne. The discussion had gone on smoothly enough for several days when Charles learned that Louis was arousing the people of Liège—Charles' subjects—against him. In a terrible passion Charles imprisoned Louis, threatened to depose him, and even to take his life. Louis in his terror agreed to the most humiliating conditions of peace with Charles. Among others, he was compelled to march in person along with Charles against the people of Liège, and actually hurled back the cry, "Vive la Bourgogne!" against the people of that city when they shouted "Vive la France!" The incident took place upon his return to Paris after this chagrin of Péronne. It is as follows:

And on the same day [Saturday, November 19, 1468] there were taken for the King, in the city of Paris, all the magpies, jays, and owls, either in cages or not, belonging to private individuals, and brought before him. And the places from which these birds were taken were written down and registered, as well as all that could speak words such as "Thief," "Wanton," "Hey, get out," "Pérette, give me a drink," and several other fine phrases which those birds had been taught and knew how to say. Then, again, by another commission of the King there were sought out and taken all the stags, hinds, and deer that could be found in Paris and were brought to Amboise.*

The account which Gaguin gives of this affair is substantially the same. He says: "I doubt whether I should write down at all what actually took place, a deed in its novelty unworthy of a king. Magpies and grackles which had been taught to whistle or to imitate the human voice, which were kept in cages by the Parisians for

* "Et, ce mesmes jour, fuerent prinses pour le roy. . . . En ladite ville de Paris tous les pyes, jays, chouetes estans en cage ou autrement et estans privée, pour toutes les porter devers le roy. Et estoit escript et enregistre le lieu ou avoient este prins lesdiz oiseaulz et aussi tout ce qu'ilz savoient dire, comme: 'Larron! Paillart! Filz de Putain! Va hors. Va! Pérette, donne moy à boire!' et plusieurs autres beaux motz que iceulx oiseaux savoient bien dire et qu'on leur aavoit aprins. Et depuis encores, par autre commission du roy . . . fut venu querir et prendre audit lieu de Paris tous les cerfz, biches, et grues, qu'on y peust trouver et tout fait mener a Amboise. Journal de Jean de Roye, I, 220, Brachet, CVI.

amusement in the house, and soon afterwards stags and deer, all were commanded by Louis to be seized and brought to Amboise."

These two texts report two important facts: First, on November 19, 1468, after seizing all the talking birds (magpies and jays), as well as those that were mute, the King had them all transported to his park at Amboise, and a little later all the stags, hinds, and deer which the Parisians were keeping in their gardens were carried off to the same place. Second, this double zoological seizure by the King, twice by armed force, of the rare and curious animals of the Parisians for his own use appeared inexplicable and revolted public opinion.

Any attempt to justify this bizarre act psychologically, immediately raises the following questions: (a) Why did the King seize the birds at all? (b) Why a second time the animals? (c) Why seizure instead of purchase—an act which must have seemed both tyrannical and incomprehensible? (d) Why the double seizure immediately after Péronne, when he needed the support of public opinion? And (e) how is this strange action explained by contemporaries? How by modern historians?

Taking the questions up in inverse order: His contemporaries have no explanation to make. Gaguin, who wrote in 1501, and who would let pass no opportunity to discredit the King if he could, is very much amazed at the King's action, but he does not know what to make of it. Commynes, who must have had some ideas about it, for his own purpose conceals the affair, and we are led to suspect that he conceals it in order to protect the King's reputation.

Modern historians, unable to offer anything better, have fallen upon the very remote similarity of the words "Péronne" and "Pérette" as an explanation. Pérette de Châlons had been a mistress to the King some time before this, and although the chroniclers record that the birds said "Pérette," the historians have substituted the word "Péronne" as better explaining the puzzling circumstance. One after the other, Duclos, Sismondi, Barante, Hare, and Michelet, have explained the seizure of the birds on the

"Quod vero sequitur an scriberem aliquando dubitavi facinus profecto sua novitate indignum rege. Picas et graculos qui in caveis humanas voces vel sibilare vel imitari edocti apud Parisios ad voluptatem domesticæ alebantur: Moxque cervos et grues capi omnes et Ambasiâ duci Ludovicus imperat." Robert Gaguin, *Compendium de Francorum Gestis*, Liv. X, f° CXLVII, V°—CXLVIII, Brachet, CVII.

ground that the word "Péronne" reminded the King of his humiliation. Duclos says: "The chronicler further tells us that the same day the King ordered the magpies, jays, and other tame birds to be brought to him, with the names of those to whom they belonged. And it is the common opinion that he did this because the birds had been taught to say 'Péronne.'"*

Sismondi goes a little further in his explanation when he says:

Nevertheless the King was ashamed of the trap into which he had plunged of his own accord, and did not wish to enter Paris for fear of exposing himself to the ridicule of the people; he even feared so much the raillery to which he ought to be the butt that he seized all the magpies, jays, and crows which had been taught to speak and registered the words which their masters had taught them to pronounce, meaning to punish all those who had made them repeat the name Péronne, or Pérette de Châlons, . . . then the King's mistress.**

Barante thinks that it was in the cause of public order that the birds were taken:

The precautions were indeed so great that there were seized by the King's order all the magpies, jays, and crows, and other privately owned birds to whom the inhabitants of Paris had taught the words "Thief," "Wanton," and "Pérette, give me a drink." The commission responsible for this seizure wrote in its register what each bird knew how to say and with whom it had been found. Such was the fear of what might excite disorder or give offense either to the King or to the Princes.**

* "La Chronique dit que le même jour le roi se fit apporter les pies, les geais et autres oiseaux privés, avec les noms de ceux auxquels ils appartenoient, et la tradition est que c'étoit parce qu'on leur avoit appris à dire Péronne." Duclos, *Hist. de Louis XI*, ed. de La Haye, 1750, I, 398. Brachet, CIX.

** Cependant le roi étoit honteux du piège où il étoit allé se jeter de lui-même; il ne volut point entrer dans Paris, pour ne pas s'exposer aux propos du peuple; il craignoit même si fort les railleries auxquelles il sentoit qu'il devoit être en butte qu'il fit saisir toutes les pies, les geais, les corbeaux auxquels on avoit appris à parler, et enregistrer les mots que leurs maîtres leur avoient enseigné à prononcer pour punir tous ceux qui leur auroient fait répéter le nom ou de Péronne ou de Pérette de Châlons, bourgeoise de Paris, alors sa maitresse." Sismondi, *Hist. d. Français*, XIV, 283; Brachet, CIX.

** "... Les précautions furent même si grandes, que l'on saisit par ordre du roi toutes les pies, geais, corbeaux et autres oiseaux apprivoisés, à qui des habitants de Paris avoient appris des paroles, comme: 'Larron, paillard, va, dehors: Pérette, donne moi à boire.' Le commissaire chargé de cette saisie inscrivit exactement sur son registre ce que chaque oiseau savoit dire, et chez qui on l'avait trouvé; tant on craignoit ce qui pouvoit exciter quelque désordre et offenser soit le roi, soit les princes." Barante, *Hist. des ducs de Bourgogne*, éd. Gachard, II, 332, col. 2; Brachet, CIX.

Christopher Hare does not vary from the traditional explanation:

The whole story of Péronne could not fail to excite the satirical wit of the keen Parisians. The King, after his three weeks anxiety, was unwise enough to show it. He ordered that all who spoke ill of the Duke of Burgundy should be severely punished, while the names were to be taken of all owners of magpies, jackdaws, and other talking birds who had been maliciously taught to cry "*Péronne*."⁸⁸

Michelet tries to reconcile the text of the Chroniclers with what to him is the obvious explanation:

The farce of Péronne . . . the ablest of the able duped. . . . Every one laughed, young and old, the small children, but what am I saying, the very talking birds, jays, magpies, and starlings spoke of nothing else, they knew but one word, "*Pérette*."⁸⁹

So much for the explanations of the political historians, the best that can be offered, without recourse to mental pathology, and all of them, without exception, absolutely wrong. But if they all have the wrong explanation, what is the right one? Brachet offers but one: kleptomania. This, he properly says, explains quite naturally the two seizures of 1468, which roused the people of Paris. But the relation of that act of kleptomania to the date of its outbreak is still to be accounted for, and why the bizarre act took place precisely upon the return from the interview at Péronne in which Louis was within a hair's breadth of being first deposed, and afterwards put to death by Charles the Bold.

Of the three hypotheses—(1) a chance coincidence, (2) exaggerated assertion of the King's authority, and (3) the psychopathic interpretation—the last only is tenable. For in the date of the King's act is to be recognized the law of impulse in degenerates. The depleted mental and nervous condition in which the King found himself upon his return after the detention at Péronne and after the terrible emotional strain which he had undergone led to inevitable nervous exhaustion, 18 months after a severe attack of typho-malaria. It is natural to think that he should find himself unable at this particular time to withstand an irresistible impulse

⁸⁸ Hare, *Life of Louis XI*, p. 159.

⁸⁹ *La farce de Péronne . . . l'habile des habiles, dupé . . . Tous en riaient, jeunes et vieux, les petits enfants, que dis-je? les oiseaux causeurs, geais, pies et sansonnets, ne causaient d'autre chose; ils ne savaient qu'un mot, "Pérette."* Michelet, *Hist. de France*, éd. Flammarion, VI, 242-243; Brachet, CIX.

to zoophilistic kleptomania, which must have tempted him more than once, but which his care for his reputation had held in check. He yielded to that impulse, knowing very well that it was the worst possible moment to do it, and that he had best not yield to it, or at least wait until he had less need for public opinion.*

It is Brachet's conclusion, and it seems unassailable, that the psychological interpretation of the King's act in seizing the birds and beasts was an attack of kleptomania in the case of a degenerate zoophile, breaking out consecutively upon a condition of depleted nervous tone, produced in this case by his captivity.

This conclusion is the more acceptable in that it conforms to the three conditions of hypothesis: (a) It is contradicted by none of the observed facts; (b) it explains them all; (c) it discloses the formula of zoophile for the King.

In view of what one king's reign has to contribute to the study of historical pathology, and upon the reasonable assumption that such conditions are not confined to one reign, the question naturally arises: Is it possible to write a faithful biography which fails to consider what bearing the biological factor may have upon the life history of any individual? Assuredly the study of historical pathology has a very definite place in solving the problems of history.

*Féré, *Pathologie des Emotions*, p. 277. "The emotions have pathological effects, the more marked when they are produced at the end of a sickness, in convalescence; in a word, where they act upon an organism already enfeebled."

Notes and Comment.

THE SEVENTY-FOURTH ANNUAL MEETING OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.—The meeting of the Association in Chicago the first week in June was in attendance, in the character of the papers read, and in general interest, as shown in the discussions, a marked success.

The address of the President, Dr. James V. Anglin, of St. John, New Brunswick, was a stirring appeal to patriotism, and strong and well-considered indictment of German "Kultur." It was an address which roused the feelings of his audience to a high pitch of enthusiasm. Dr. Anglin is one of those who sees from all the expenditure of blood and tears, in all the tremendous sacrifices which have been made, and must yet be made to make the world safe from autocracy and military rule—a place fit to live in—an outcome which shall show that those who have died in the great struggle which convulses the world and those who have sent their sons, as he has done, to battle for justice have not done these things in vain, but, to quote Lincoln's wonderful address at Gettysburg, that through these sacrifices the nations of the earth "under God shall have a new birth of freedom—and that government of the people, by the people, for the people, shall not perish from the earth."

Behind Dr. Anglin while he spoke was a service flag, which had earlier in the session been presented to the Association in behalf of the citizens of Chicago.

This flag contains nearly one hundred stars in honor of the members of the Association who have joined the medical service in the United States military or naval forces, and who are on duty either at home or abroad. This does not represent by any means all the members of the Association who are now serving their country and mankind in the ranks of the military and naval forces, but all that the Secretary had certain knowledge of at the time of the meeting.

The annual address was given by Professor Paul Shorey of the University of Chicago. Nothing which we can say will ade-

quately characterize an address which was as full of wit as it was replete with wisdom. We hope to have the pleasure of publishing the address in the next issue of the JOURNAL.

To make reference to the various papers which were read which would do justice to each is a task beyond us. As would be naturally expected, papers and addresses referring to medical service in the war formed part of the program, among these the addresses of Major E. Stanley Abbott, M. R. C., and Captain (now Major) Frankwood E. Williams, M. R. C., of the army, and Asst. Surgeon Albert Warren Stearns, U. S. Navy, R. F., were notable.

Food and its conservation was the topic of an eloquent address at the evening session of Thursday, June 6, by Professor Ray Lyman Wilbur, M. D., President of Leland Stanford University, now a member of the United States Food Administration. We do not believe that any of his audience came away from the meeting without a clear conception of the absolute necessity for the most rigid conservation of food in order to keep the men on the fighting line properly nourished and in good condition, and to help nourish the civilian population of the countries whose allies we are. All came away with a better and broader comprehension of the meaning and force of the slogan, "Food will win the war."

The paper by Dr. J. C. Mitchell, of Brockville, Ontario, on "Food and Its Service in the Provincial Hospital," was a concise statement of the experiences in Canada under the rules and restrictions of a Food Controller, and will, when published, be of much value in helping solve some of the problems which confront hospital administrators on this side of the line.

CHANGES IN THE EDITORIAL STAFF.—At the meeting of the Council of the American Medico-Psychological Association in Chicago on June 3, the resignations of Drs. Henry M. Hurd and G. Alder Blumer from the editorial staff of the AMERICAN JOURNAL OF INSANITY were presented, and with great regret accepted.

Dr. Hurd was managing editor of the JOURNAL from 1897 to 1904, when at the meeting of the Association in St. Louis he resigned its active direction, consenting, however, to remain in an advisory position—a member of the editorial staff. Our readers will recall the action taken by the Association to show its appre-

ciation of Dr. Hurd's interest in the Association and his active efforts in the editorial conduct of the JOURNAL, an account of which appears in its pages in the number for January, 1906. Dr. Blumer joined the editorial board of the JOURNAL in 1880, when he became a member of the medical staff of the State Hospital at Utica, N. Y., where the JOURNAL was then edited and published.

From the death of Dr. John P. Gray, in 1886, until the JOURNAL became the property of the American Medico-Psychological Association in 1894, he was editor-in-chief.

By direction of the Council the name of Dr. Hurd and of Dr. Blumer will each be carried on the title page of the JOURNAL as editor emeritus, and the present editors hope to frequently benefit by their advice and assistance.

This is the first break in the editorial staff in 21 years. At the meeting of the Association in Baltimore in 1897, Drs. Henry M. Hurd, G. Alder Blumer, Edward N. Brush and J. Montgomery Mosher were appointed by the Council as editors of the JOURNAL; Dr. Charles K. Clarke, of Toronto, Canada, being added to the staff in October, 1904.

The new members of the editorial staff are: Dr. Charles Macfie Campbell, of the Henry Phipps Psychiatric Clinic of The Johns Hopkins Hospital, Baltimore, and Dr. Albert M. Barrett, Director of the Psychiatric Clinic of the University of Michigan at Ann Arbor, Mich.

The managing editor parts with his old associates with many feelings of regret. It has been a pleasure and an inspiration to work with them. The Association, the readers of the JOURNAL, and the medical profession owe them a debt which can never be paid. We welcome the new members of our editorial family and feel confident that they will render efficient aid in maintaining the standard already established by the JOURNAL and in still further elevating that standard.

DEATH OF DR. MACY.—Dr. William Austin Macy, Medical Superintendent of the Kings Park State Hospital, Kings Park, L. I., N. Y., died at the Kings Park State Hospital on May 21 last from cerebral hemorrhage.

An extended notice of Dr. Macy's life and work will appear in the next issue of the JOURNAL.

Book Reviews.

Shell Shock and Its Lessons. By ELLIOT SMITH and T. H. PEAR. Cloth \$1.00. (New York: Longmans, Green & Co., 1917.)

The book was written as a simple non-technical exposition of the ascertained facts of shell shock and seems to fill a definite want. It is divided into chapters describing the nature of shell shock, treatment of the condition, psychological analysis and re-education, general consideration and a final chapter on some lessons of the war especially directed toward increasing the general interest in mental diseases.

Shell shock is essentially an emotional disorder rather than an intellectual or sensory disturbance, and every case must be treated as an individual rather than grouping one case with several others under one name and attempting to treat all in the same fashion.

Shell shock usually begins after a period of intense emotional stimulus which may have existed for days or weeks. Outward signs of the emotions are rare, in many instances all of them are completely suppressed until the final collapse. After a sudden strong stimulus such as a shell bursting near him he falls with or without loss of consciousness. The most obvious phenomena following the onset are undoubtedly the disturbances of sensation and movement. A soldier may be struck deaf, dumb and blind by a bursting shell and these troubles may vanish after a short space of time as suddenly and dramatically as they appeared. Contractures, tremors, stammers, loss of memory, insomnia, dreams, pains, emotional instability, diminution of self-confidence and self-control, attacks of unconsciousness or of changed consciousness, sometimes accompanied by convulsive movements resembling those characteristic of epileptic fits, incapacity to understand any but the simplest matters, obsessive thoughts, usually of the gloomiest and most painful kind, even in some cases hallucinations and incipient delusions may be present in varying degrees.

In treating these cases every effort must be made to gain the patient's confidence and to gain an insight into his mental life and especially into his emotional life. Firmness and isolation, suggestion in its various forms, and hypnosis, while all useful in their proper place, often prove to be of no avail in cases of psychoneurosis. Psychological analysis, not merely the resolution of the patient's mental condition into its essential elements but rather the dissection of the normal as well as the abnormal phenomena into their functional elements is the method of treatment by which the best results are obtained. Unconscious factors of great importance play an influential part in the production of shell shock, as in other mental disorders, and in every case an effort must be made to uncover these submerged streams. The man's mental make-up must be studied and his

dreams, his "slip of the tongue," "slip of the pen," the mislaying of important objects, the forgetting of significant facts, or conversely, the inability to get an apparently unimportant memory out of one's mind must be fully investigated if his condition is to be fully studied and all done for him which can be done.

A neurosis may be regarded as the failure of an act of adaptation. The resultant mental disturbances do not seriously affect the "reason" or the "intellect" as was formerly supposed, but are in character predominantly instinctive and emotional. Therefore, any attempt to restore equilibrium between himself and his social environment must be accompanied by a similar endeavor to bring about his inner harmony, and, in such cases, a certain amount of psychological analysis is indispensable.

The two final chapters are purely a plea for better asylum conditions in England, where all scientific work in the care of mental diseases is subordinated to the housing of the patients. At present in England, as well as in America, the attitude of the general public towards insanity is a mixture of ignorant superstition and exaggerated fear. To counteract this attitude it is necessary that the medical profession as well as the general public be instructed in the nature of mental disorders and that clinics for instruction of students and research laboratories be built in order that even a start may be made to better conditions.

From the above synopsis of the book it is evident that it is a valuable one not only in England, but also in America where conditions are not essentially different and where the attitude of the public towards mental disorders is the same. The war will bring us a number of cases of mental disorders and unless an attempt is made to teach the public that such cases should receive the same care as those suffering from physical disorders, such patients in a short time will be shunted off into some custodial institution and the cause of their disorder forgotten.

The book is well written and can be recommended to the public as well as to the general medical profession.

C. R.

Neurosyphilis Modern Systematic Diagnosis and Treatment Presented in One Hundred and Thirty-Seven Case Histories. By E. E. SOUTHARD, M. D., Sc. D. Bullard, Professor of Neuropathology, Harvard Medical School; Pathologist, Massachusetts Commission on Mental Diseases; Director Psychopathic Department, Boston State Hospital, etc., and H. C. SOLOMON, M. D., Instructor in Neuropathology and in Psychiatry, Harvard Medical School; Special Investigator in Brain Syphilis, Massachusetts Commission on Mental Diseases, etc. With an Introduction by JAMES JACKSON PUTNAM, M. D., Professor Emeritus of Diseases of the Nervous System, Harvard Medical School. (Boston: W. M. Leonard, 1917.)

Drs. Southard and Solomon have produced in this volume a most admirable and valuable work upon a subject, the importance of which is daily being more generally recognized by the profession.

Aside from the work of Nonne there has been no text book available which could with confidence be placed in the hands of the student or the inquiring practitioner.

The one hundred and thirty-seven case histories have been so thoroughly worked up and the essential points of each so clearly pointed out, that they convey to the reader a picture of the disease which, to quote from the introduction by Dr. Putnam, is neither "too diagrammatic" nor "too concise."

The work is divided into seven sections: Section I, Nature and Forms of Syphilis of the Nervous System; Section II, The Systematic Diagnosis of the Forms of Neurosyphilis; Section III, Puzzles and Errors in the Diagnosis of Neurosyphilis (including Non-Syphilitic Cases); Section IV, Neurosyphilis, Medico-Legal and Social; Section V, The Treatment of Neurosyphilis; Section VI, Neurosyphilis and the War; Section VII, Summary and Key.

The authors assume as the result of their studies and work a hopeful attitude as regards neurosyphilis. The prognosis, they say, "is not worse than that of the chronic diseases in general. In fact the prognosis of neurosyphilis *quoad vitam* is either good or dubious, certainly not bad."

Summing up the lessons of the book in a general way they "emphasize again (1) *the unity-in-variety of the phenomena of neurosyphilis*, (2) *the value of a hopeful approach to the therapy of all cases of neurosyphilis, even the parietic form*, and (3) *the value of applying syphilis tests to every case of neurosis or psychosis*."

The treatment chiefly employed by the authors has been what they term the intensive systematic intravenous treatment. This consists of the intravenous injection of salvarsan or of one of its substitutes in doses of about 0.6 gram, repeated twice a week over a period of a number of months. In addition, injections of mercury salicylate averaging 0.065 gram, once a week, are given and potassium iodide by mouth. The important point has been to keep up the treatment for a long time.

The work is a distinct and valuable addition to the literature and one which should be studied by every worker in the fields of neurology or psychiatry.

AMERICAN JOURNAL OF INSANITY

THE CENTRAL CANAL OF THE SPINAL CORD.¹

By S. P. KRAMER, M. D.,

*Surgeon, Cincinnati Hospital, and Professor of Clinical Surgery at the
University of Cincinnati.*

In March, 1912, I called attention to the possible importance of the central canal of the spinal cord, in the pathogenesis of poliomyelitic disease. I was able to demonstrate in the dog by the injection into the spinal canal of vital stains a circulation of cerebrospinal fluid upward through the central canal of the cord to the ventricular system of the brain. Available literature on the central canal in the human subject is very limited. All authors agree that it is open in the lower animals and in young children. In the adult the results of investigation vary. Bidder, Wagner, Schroeder, V. d. Kolk, and Stilling held that the central canal persists in adults. Koelliker found that not infrequently the canal was obliterated in places, most often in the cervical region. Clarke also found the canal frequently blocked. Frommann found the canal open throughout its entire length in three out of the twenty-five adults' cords examined. Owing to the kindness of Dr. E. E. Southard of Harvard University and Dr. George M. Kline, superintendent of Danvers State Hospital, I was able to go over the material at the latter institution for the purpose of determining in what percentage of adults the central canal was patent throughout the length of the cord. In all, 206 spinal cords were examined. At Danvers they had preserved these cords, as well as sections from the lumbar, dorsal and cervical segments. These sections were first examined, and when the central canal was found open in all three sections of a given cord, the cord itself was set aside for further investigation. Such cords were then sectioned five millimeters apart throughout their length.

¹ A contribution to the William Leonard Worcester Memorial Series of Danvers State Hospital papers, presented November 19, 1915.

The segments were examined with a high power lens to determine whether the central canal was open at every point of section throughout the length of the spinal cord.

Now as to the results: of the 206 cords examined, the central canal was open throughout in 15 instances or 7.23 per cent. There follows a table showing the incidence of an open canal in the different decades as they were found.

Age of patient.	No. of cases showing open central canal.
20-30 years	3
30-40 years	2
40-50 years	3
50-60 years	5
60-70 years	1
70-80 years	1

In my original communication, the persistence of the central canal of the cord was offered as an explanation of the occasional paralysis of the respiratory center following the lumbar injection of cocaine for the purpose of anesthesia. That is, in the presence of an open central canal the drug may be carried up to the fourth ventricle and affect the respiratory and other vital centers. The symptoms of lumbar cocaine (or stovaine) anesthesia speak for the transmission of the drug throughout the central canal. These patients have a partial motor paralysis, with loss of the sense of pain and temperature. The muscle and tactile senses are not abolished. This disturbance of sensation corresponds to that which is found in syringomyelia, where the lesion is about the central canal. It is here that the cocaine comes in contact with the fibers of pain and temperature sense as they pass upward in the central gray matter. The fibers for tactile and muscle sense do not reach this area and are unaffected by the drug. The cocaine also reaches the motor cells in the anterior horns by diffusion through the gray matter from the central canal.

I have also called attention to the deaths by respiratory failure that occasionally follow the injection of serum containing trikresol into the spinal canal in cases of cerebro-spinal meningitis. I demonstrated by experiments on lower animals that this might be due to the carrying upwards of the trikresol, a neural poison, through the central canal to the fourth ventricle.

I have something further to add on the lower opening of the central canal. Sixty years ago Stilling asserted that the central canal opened into the posterior median fissure of the cord in the region of the conus medullaris and that during life the entire canal was filled with cerebrospinal fluid. This statement, as well as Stillings' drawings showing this opening, was neglected or denied by most anatomists. Independently of this statement, I was able to demonstrate this lower opening by a new method in three spinal cords from young children. The method follows:

An anilin dye is injected into a cord, in the lower dorsal region, for instance, and if by chance the central canal is struck by the hyperdermic needle the dye will run down the central canal inside the cord and will appear on the outside of the cord in the region of the lower portion of the conus medullaris and filum. Plate IX shows a drawing of such a spinal cord from an infant, which shows the lower opening very nicely. If now that piece of cord which shows the dye on the outside be removed and serial sections be made, the dye will be found staining the central canal and the passage from the central canal to the posterior fissure of the spinal cord. Plates I, II and III are photomicrographs of sections of one of the cords of the Danvers series, showing how the central canal opens into the posterior median fissure and how the cord closes up again as we go below this opening into the filum terminalis. These sections of the cord were obtained from an adult aged 60 and are $\frac{1}{8}$ millimeter apart. If now in a given case, such a passage exists, or what is quite possible, a needle introduced for the purpose of making an injection, should injure the filum terminalis and make an artificial opening into the central canal, we would have a direct channel lined with ciliated epithelium, which might in a few minutes deliver a toxic material, injected into the subdural space, to the fourth ventricle. These findings, I think, show how it is possible for a poison or an infective agent to reach the meningeal surface of the cord and the central gray matter and leave the rest of the cord unaffected; that it is possible for disease to spread through the medium of the cerebrospinal fluid upward, through the central canal and by diffusion therefrom into the central gray matter. Poliomyelitis is a disease of childhood. An ascending paralysis may also occur in adults though more rarely than in children. One must recall the fact that this work shows

that the central canal was open in more than 7 per cent of adults. The percentage in young children is of course much higher and in the very early years of life is probably 100. In all cases of death from poliomyelitic disease, the condition of the central canal of the cord must in the future be investigated. I have been able to examine the cords from four cases of this disease in children and found the central canal patent in all of them. It is also not unusual to find the central canal containing acute inflammatory exudate which also speaks for this method of transmission. I have here photomicrographs of such a case.

I wish to add now briefly, some very interesting experiments in which it was sought to produce the condition found in acute poliomyelitis by injection into the spinal canal of dogs of small doses of dilute 2 per cent hydrocyanic acid (1 c. c.). On making this injection a motor paralysis of the posterior extremities, usually more marked on the left side, is produced. Such animals have been kept alive for a varying number of days, the motor paralysis persisting, sensation remaining unaffected. When the cords of these animals are examined, lesions typical of poliomyelitis are found. We have chromatolysis of the anterior horn cells, acute inflammatory exudate throughout the gray matter and in the perivascular lymph spaces, the central canal filled with a like exudate and a replacement fibrosis in the anterior horns. In fact a pathologist would make a diagnosis from a section of such a cord as acute poliomyelitis (see Plates V, VI, VII).

I wish to show two other sections from the Danvers series which may be of some importance in explaining the pathogenesis of intra-medullary cord tumors. These sections are from the cord of case No. 1422 Danvers series. A section of the cervical portion of the cord shows that the central canal in this region is obliterated by a gliosis of the substantia gelatinosa centralis.

In the dorsal region, Fig. 12, the same process is seen, but the epithelial lining of the canal persists.

In the lumbar region, Fig. 13, this process is more marked, appearing as a small round neoplasm in the gray commissure imbedded in which may be seen part of the epithelial lining of the central canal.

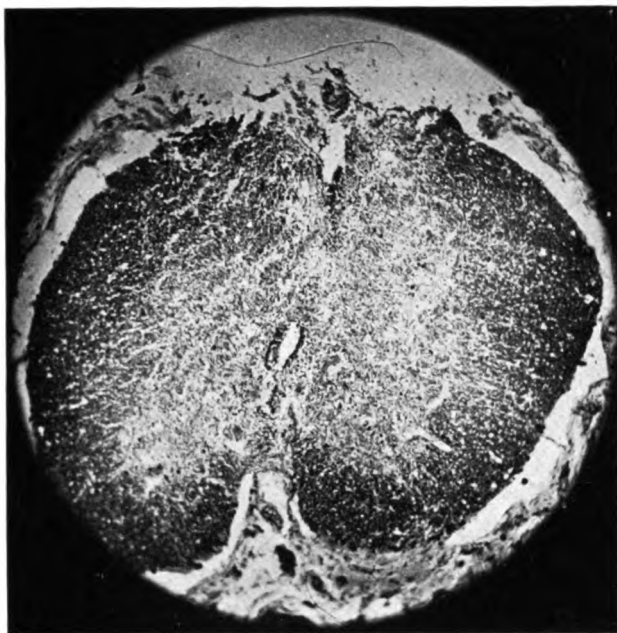


FIG. 1.—Section from lower end of conus medullaris. Danvers Series No. 1624. Woman, aged 60, died of broncho-pneumonia.

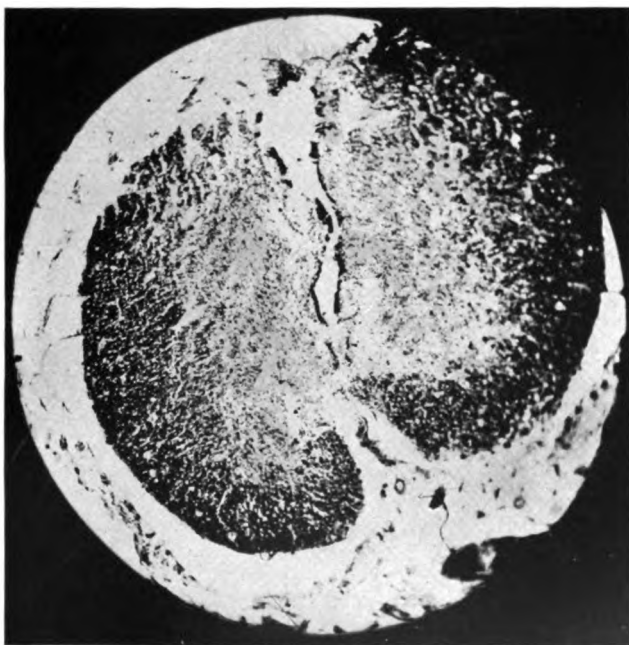


FIG. 2.—Section 200 microns below section shown in figure 1. The central canal is opening into the posterior median fissure.

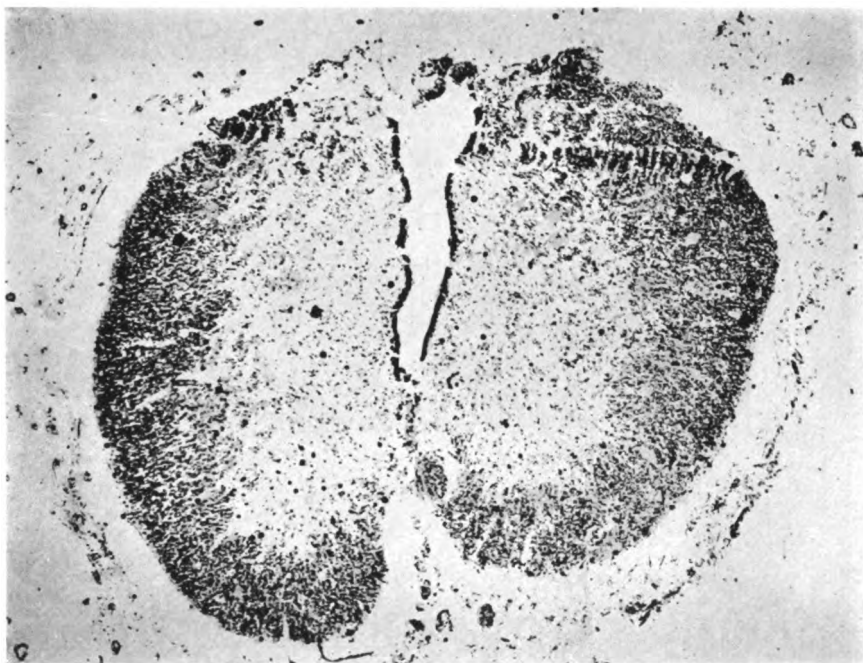


FIG. 3.—Section 200 microns below section shown in figure 2. Shows the much dilated canal, at this point partially closed.

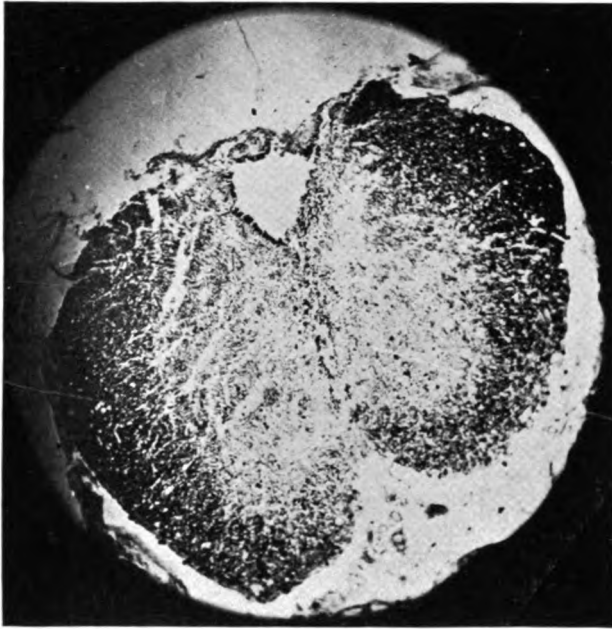


FIG. 4.—Section 400 microns below section shown in figure 3. One sees here that the central canal has recovered its posterior wall and continues into the filum as a terminal ventricle.



FIG. 5.—Section 2 mm. below section shown in figure 4. The ventricular character of the central canal is well shown.



Fig. 23.



Fig. 24.

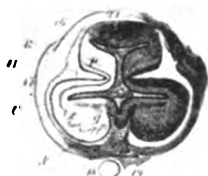


Fig. 25.



Fig. 26.



Fig. 27.



Fig. 28.



Fig. 29.



Fig. 30.

Reproduction of figure from Stilling to show the ventricle in the conus medullaris and its communication with the subarachnoid space.

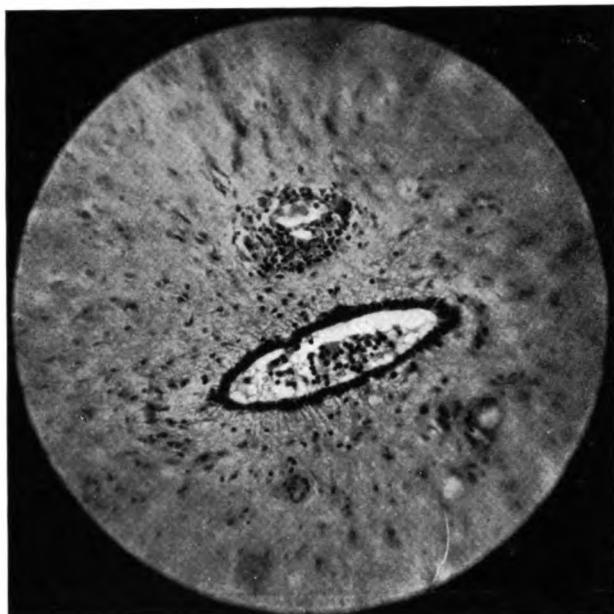


FIG. 6.—Central canal filled with inflammatory exudate. Section from a case of epidemic poliomyelitis in a monkey.

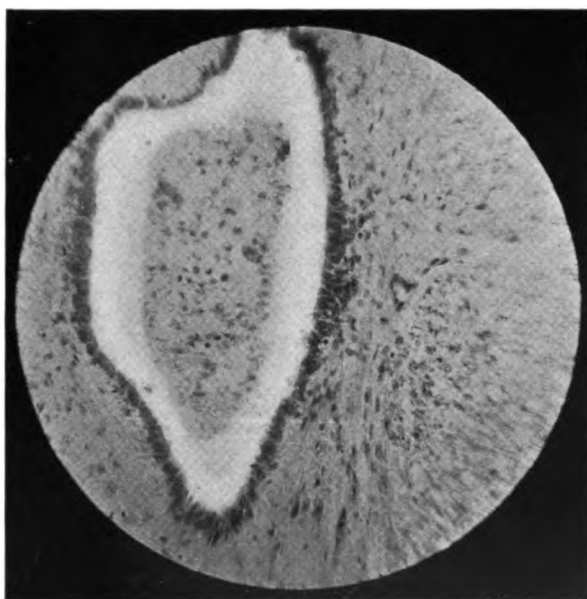


FIG. 7.—Central canal filled with inflammatory exudate. Section from dog injected with dilute HCN (2 per cent) into subdural space. Dog 11. December, 1911.

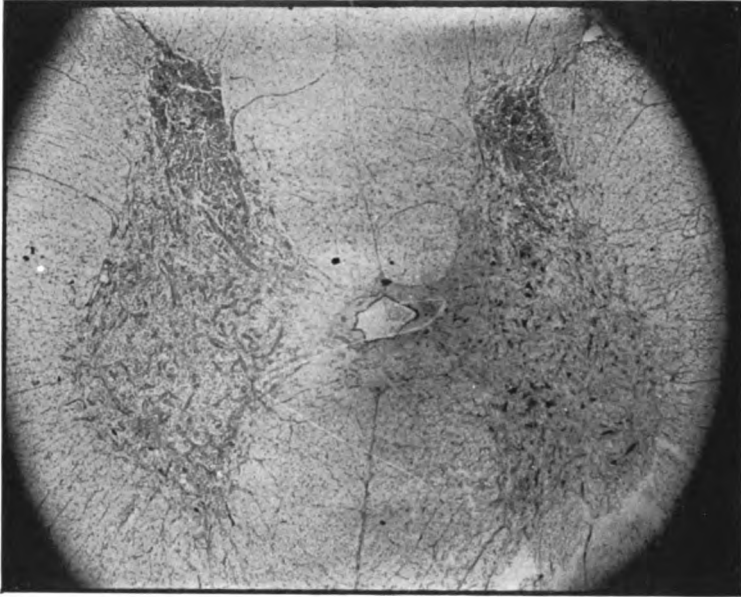


FIG. 8.—Section from spinal cord one week after injection into subdural space of dog of 1 c.c. dilute HCN (2 per cent) dog weighing 15 kilos. Flaccid paralysis of posterior extremities much more marked on left side. Dog 13. December 19, 1911.

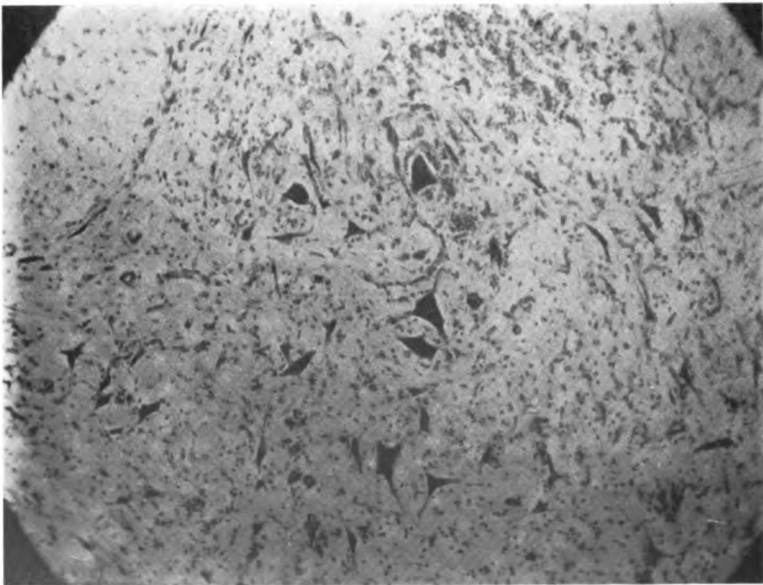


FIG. 9.—Left anterior horn of spinal gray matter of dog. Dog. 13. To show inflammatory changes.

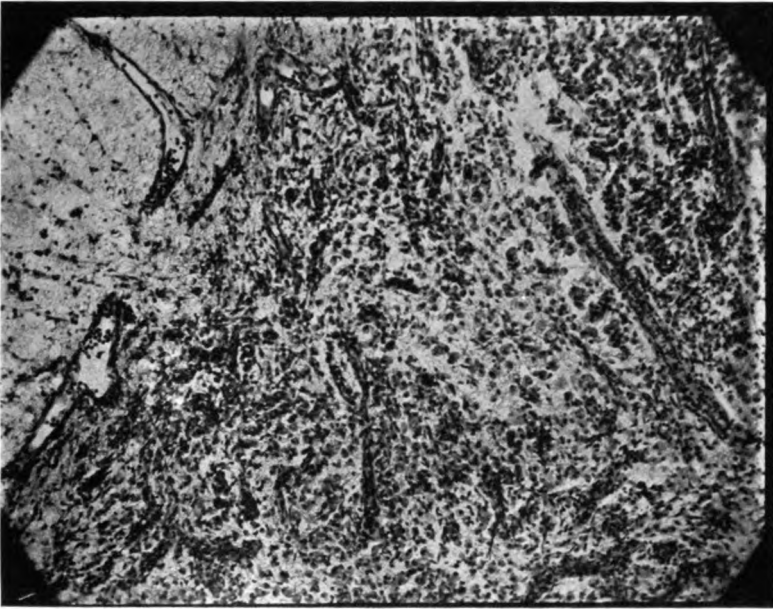


FIG. 10.—Right anterior horn of spinal gray matter from dog, injected with dilute HCN (2 per cent) into subdural space. Dog 17. December, 1911. Cord removed in 24 hours.

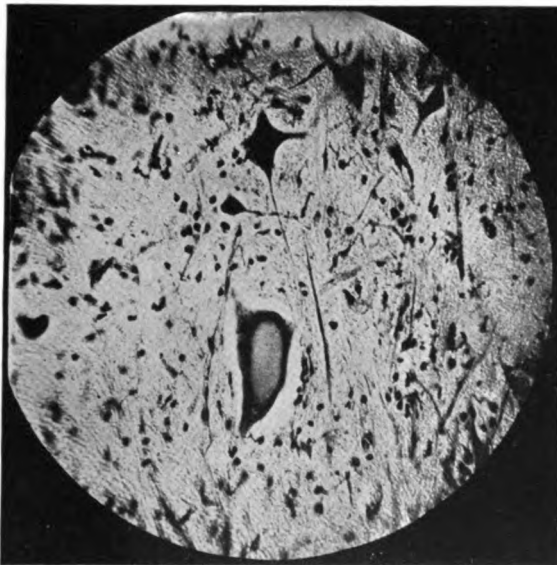


FIG. 11.—Anterior horn cell showing chromatolysis from spinal cord of dog 24 hours after subdural injection of 1 c. c. dilute HCN. Dog 17. December, 1911.



FIG. 12.—Section from dorsal spinal cord from Case 1422, Danvers Series, showing gliosis of substantia gelatinosa centralis, the epithelial lining of the central canal still persisting.

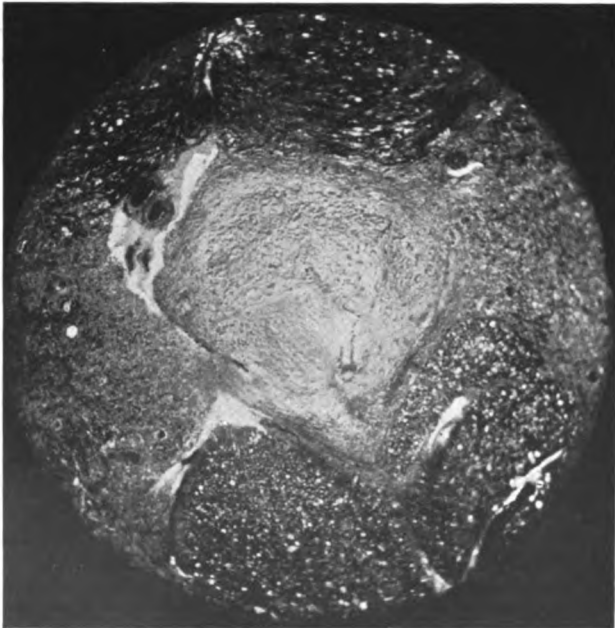
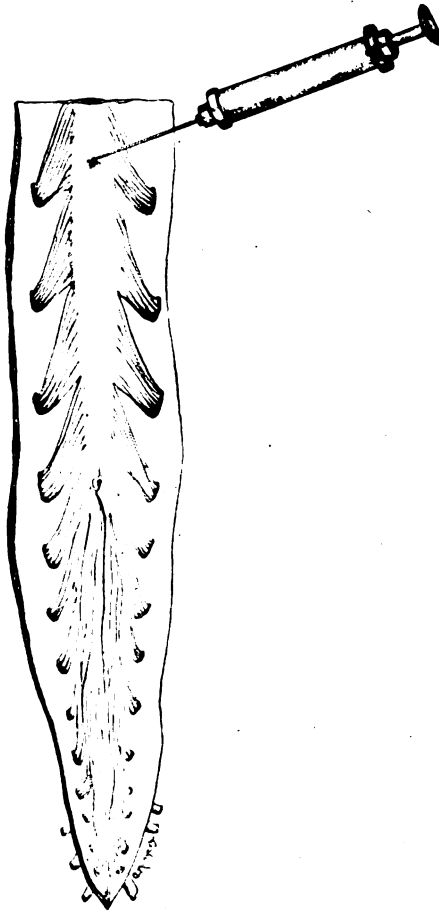


FIG. 13.—Section from lumbar spinal cord of Case 1422, Danvers Series. Gliosis about the central canal much more marked, amounting to tumor formation. Part of cell lining of central canal still persisting.



Showing the technique of injecting dye into spinal cord of a child, together with a discharge of dye through an opening at lower part of conus (indicated by black spot).

THE CONTENT OF THE SCHIZOPHRENIC
CHARACTERISTICS OCCURRING IN
AFFECTIVE DISORDERS.*

By PHYLLIS GREENACRE, M. D.,

*Henry Phipps Psychiatric Clinic, The Johns Hopkins Hospital,
Baltimore, Md.*

The more pronounced schizophrenic processes present usually the appearance of discrepancies in thought and reaction, defects in interest and emptiness or silliness of affective response; but frequently the *content* of the various stages in this development, the substance expressed in the oddities of behavior, is obscured by the absence of affect, and by the seclusiveness and inaccessibility. The observer must then be content mainly with a surface description of the mannerisms, grimacing, peculiarities of speech and explosiveness of tantrum, which leave him with as unsatisfied a feeling as though he were looking at a mutilated picture in which he pieces together the fragments with the help of his imagination, or permits them to lie unassembled, open to hardly more than a description of their shape and texture. It is a matter of common experience that numerous schizophrenic symptoms occur either singly or in constellations in affective psychoses, where the affective response is primarily congruous but is associated with some degree of projection and distortion. This group of "atypical" affective disorders appears particularly favorable for the study of the content and origins of the schizophrenic features included in it: the patients are frequently accessible, the **disorganization is neither so complete nor so bewildering** as in many cases of the outspoken dementia præcox. The present paper deals essentially with the schizophrenic *content*, leaving the prognostic evaluation and the dynamic interpretation of the symptoms for further analysis and communication. In this series of 40 cases, these symptoms fall according to their form into five classes: (1) Distortions and misinterpretations of actual occurrences (de-

*Read at the seventy-fourth annual meeting of the American Medico-Psychological Association, Chicago, June 4-7, 1918.

lusions of reference and persecution) ; (2) influence and passivity feelings as expressed in automatism, mind reading, electrical influence and similar phenomena ; (3) hallucinations ; (4) gross distortions of body sense and body appreciation ; (5) incongruous behavior, occurring either episodically as "antics," or more persistently but not in keeping with or apparently motivated by the prevailing affect.

Of the schizophrenic characteristics seen in these "atypical" affective disorders, the distortion of actual events is apparently the first and readiest step in the process of projection. Ideas of reference occur in over half the cases studied. These are usually met as beliefs of the patient that the behavior of others is fraught with meanings especially applicable to himself: that others are discussing his discomforts, making remarks or doing things to deride him. The delusions appear related especially to a sensitiveness which makes the patient irritable to the criticisms of others, which he cannot assimilate as rational standards such as would serve as guides or be of corrective value to him ; but rather as criticisms which make him hide his difficulties lest they excite unfavorable comment. This fear of criticism, mingled with the actual conviction of its existence, is but a step from the line which every individual crosses occasionally and is generally designated as "self-consciousness" or simply as "touchiness." But when the fear becomes so dominating that the individual no longer suspects only those who might have knowledge concerning him, but feels that he is the object of talk among strangers or casual acquaintances, mere touchiness has indeed reached a degree obviously pathological. Ideas of reference occur in affective states in proportion to the degree of defense which the person feels he must place between others and the situation which he himself finds unacceptable: they are determined not only by the constitutional sensitivity furnished by the individual but often are plainly the real upshot of crucial situations which involve some fear of detection. For example, the man who has lost his position may unreasonably feel that others suspect his failure and are looking at him with contempt or pity ; and the elated lover may feel that others share his exuberance or read his triumph. Many of the delusions of reference in affective disorders occur also as substantiations of the affect—especially in the depressions, where

there is a bolstering up of the self-condemnation by the conviction that others are similarly condemnatory. It becomes necessary then in considering the significance of the interpretations of reference to determine their relation to the onset of depression: whether they are mainly secondary; of the character of substantiation, or whether they are an early symptom—the first step in projection and then usually associated with peevishness rather than sadness. A further step consists in feelings of persecution which, in the affective psychoses, are usually elaborations of the reference ideas, with which they are commonly associated, and with which they present fundamentally the same problem. Their onset appears frequently to be determined by definite situations of disappointment: the patient finds himself inadequate in that his ambitions and expectations are unrealized, yet he is unable to accept his insufficiency without placing blame, which concentrated on himself (without analysis) feeds his self-accusations of unworthiness, or, when attributed to his associates, becomes the nucleus of a feeling of injustice, slights, or aggressive persecution. Illustrative of this mechanism is the following case:

F. S. B., a pharmacist of 41, who came to the clinic in 1915 with the complaint of depression. He had been a seclusive, rather dull child, who graduated from the eighth grade at 18 and then took a correspondence course and became a pharmacist, and for the past 10 years worked in an institution. He was over-scrupulous, tried to be perfect in his work, although he was actually mediocre, and he worried. At 40, after losing his savings in a bad investment, he became depressed and upset, for this meant that he could not marry as he had planned. After about six months of depression, he began to be suspicious, felt that the bank officials had purposely ruined him; that others envied him his job and were trying to lead him into drink so that he would lose his position. He then became afraid that a woman with whom he had illicit relations would inform his fiancée. He went to his mother's home where for two weeks he lay without speaking. On admission to the clinic, a few days after this, he was moderately depressed, kept apologizing for trivial things which he seemed to feel he might have done wrongly, he acted as though he expected to be ordered around like a child. For 10 days he remained for the most part in bed—mute, rigid and cataleptic; then he gradually improved and in two months had returned to his former level. Here we have a man who early showed a tendency to sensitiveness, set standards much beyond his mediocre assets and consequently burdened himself with a large number of disappointments. At 40, his marriage is blocked by his loss of money. But the disappointment is not accepted by the patient; it was at first met rather naturally with depression, but then by evasion and projection of the disappointment responsibility.

Delusions of influence and passivity feelings are seen in states of automatism, convictions of active and passive mind reading, sensations of electrical currents, or of hypnotic influence. Their content varies as widely as do the life experiences of the individual; on the one hand related frequently to the type of mystical craving and credulity which moves people to consult spiritualists, and ouija boards, or seek outlets in theosophy and occultism. Often with their specific content determined in this way, they become linked in the depressive states with the persecutory ideas: the patient projects the aggressiveness onto his enemies, feels himself as the passive victim of their plans and supernatural devices. The sensations of electrical influence, however, are almost uniformly, poorly appreciated, erotic sensations and are about equally frequent in elations and depressions. The ambivalence of power expressed in the patient's belief that he can exert as well as feel influence, send as well as receive messages, etc., occurs oftener in the excitements, is seldom fixed or rigid in content, and appears rather in keeping with the push and exuberance of the elation.

Hallucinations appear in 20 cases of the series, always associated with other evidences of projection. The character of their content is found to be fairly, consistently different in the elations and the depressions. In the latter they are met always with delusions of reference, and frequently also with persecutory notions, and are consistently accusatory or condemnatory in substance, thus representing one part in the projections of the self-accusations of the individual. In the elations, however, hallucinations appear frequently detached and topical (sometimes with symbolistic value) probably in relation, on the one hand to the general distractability, or on the other hand to a fairly extensive fabric of fantasy, especially in the dreamy elations where there is little over-activity and the productiveness lends itself to imaginative creations rather than active excitement.

The delusions of body distortion—appearing as complaints that the eyes are queer, that the hands are claws, or the stomach and intestines closed up, are relatively infrequent and occur almost exclusively (there was one exception) in the depressions. Most of them seem to be “complex determined,” in that they relate to subjects of individual sensitiveness. Here the belief that the eyes are queer based on a masturbation-fear-of-insanity complex

was strikingly prominent. The feelings of brain change, sometimes similarly determined, are sometimes also apparently related to the general depressive retardation and feeling that the thoughts come slowly. Another small group of cases might be classed with the depressive hypochondriasis—in which the physical complaints are crystallized into convictions of definite, and frequently vividly described lesions, which bear the brunt of the depression and replace a sense of being out of gear and harmony with the surroundings.

Incongruities of behavior—startling antics which the patient performs quite in contrast to his prevailing mood—appear on the surface as unmotivated inexplicable stunts; such things as a sudden sliding onto the floor, crowing like a rooster, clownish somersaulting, etc., appear appallingly queer on the surface, although in many instances the connections and associations can be determined by an examination of the individual's ruminations and subjects of pre-occupation. In the elations the antics play a rôle similar to the hallucinatory experiences, a symbolistic attitudinizing of some dramatic value, the patient's inconstant participation in his own fantasies. The other type of behavior antics occurs usually in states of tension during depressions, where the tension is exteriorized in oddities which represent the individual's conflicts: not infrequently with pre-existent fear of insanity and a certain willingness to live up to its realization. In the accompanying case the patient was seldom in good enough contact to discuss or state freely the content of her psychotic behavior, which was, however, sufficiently suggestive to be worthy of examination.

Lillian G. was 45 years old at the time of admission in May, 1915; a widow who conducted a boarding house. There was little known of the patient's earlier life. She was said to have been a healthy, not especially moody, responsive, normal woman. She married at 30, and had one child. Her husband died after five years; and she then began conducting a boarding house. A few months before admission she suffered pain in the back, at first thought to be due to floating kidney, but in January, 1915, recognized as a tuberculosis of the spine. Immediately after learning this, she became greatly depressed, at night would feel she was dying, slept little and became very tense. In April, she cried a great deal and had periods of agitation in which she rocked back and forth in bed. On admission she was tearful, frankly depressed, but pre-occupied and somewhat irritable if questioned. Her orientation and memory were unimpaired. Most of the time she was dreamy and inaccessible, but this behavior was punctuated

by short periods when she would neigh like a horse, then pant and blow her lips. She accused another patient of reading her letters, but otherwise made few spontaneous statements. She remained with us only five weeks, during which she continued markedly depressed, had ideas of reference—thought visitors read her mail, that “everything was being published in the paper”; that the victrola was saying things about her. She had auditory and visual hallucinations, always of a depressive persecutory nature; that she heard people telling her daughter she had sinned; she saw her daughter outside crying for her; heard devils laugh, and saw her daughter’s face. From time to time she neighed like a horse. Once she looked at her hands and said she thought they might have become cat claws. At another time she threw her wedding ring into the toilet. So far the picture appears fragmentary, a bizarre and incongruous assortment. But the underlying moving factors, the real content of the behavior, was made more explicable, when on a few occasions the patient spoke of being punished in hell for her sins: her cousin, a prostitute, had lived with her since her husband’s death. She herself had had illicit relations only on one occasion, had become pregnant and induced an abortion. She felt that this, if known, would damn her daughter, that people might doubt her marriage and think her daughter a bastard. She threw away her wedding ring “because it did not have her initials on it and might have belonged to anyone.” She felt that in the next world she must be further punished, that she might even be turned into a cat, but she never explained the horse neighing. Evidently the tuberculosis focused her fears of death, and accumulated her self-accusations and contritions which then became projected.

To summarize in general review the content of the schizophrenic characteristics in cases showing dominantly an affective reaction, I would emphasize: (1) The prominence in depressions of the symptom constellation of ideas of reference with delusions of persecution and condemnatory hallucinations; (2) an analogous projection of the affect in the varied and dramatic hallucinations; the symbolistic attitudinizing, and the somewhat egotistical and constantly changing ideas of reference of the elation; (3) the determination of the content of the distortions of body sense and of the odd, fixed antic behavior by the underlying conflicts and personal difficulties.

FOOD, SERVICE AND CONSERVATION IN A PROVINCIAL HOSPITAL.*

By J. C. MITCHELL, M. D.,

Superintendent Hospital for Insane, Brockville, Ont.

The problem of satisfying the hunger of the inmates of a provincial or state hospital at a moderate expense, and with a menu nutritive, varied and palatable, cannot be overestimated. Since the prices of all food products have advanced to such a height during the past two years (owing to the demands made on us by the great war for freedom in which we are all so zealously engaged), this question has become a very vital one.

During the past seven years those having to do with this question in our hospital, have made a greater effort than ever before to vary the monotony of the meals. "Variety is the spice of life," and this is notably so in feeding the large number we have in our various hospitals. A large number of our patients are so advanced in dementia that the quality or kind of food does not appear to make much difference to them. Many of them are gluttonous and will eat not only the portion allotted to them but that belonging to their neighbors if they can lay hands on it.

"Ne'er looks to heaven amidst his gorgeous feast,
But with besotted base ingratitude
Crams, and blasphemes his feeder."

We always have, however, a large number to whom the kind and quality of foods is very essential. We all notice in going through our wards, when we have some special change in the quality of the meal, how pleased the better class of patients are. A good and satisfying meal that appeals to them makes such a difference in their attitude, they are so much better natured, so much kinder with each other than they are when they have a meal that is insufficient, poor in quality or served in such a way that it arouses a feeling of resentment. Food, no matter how plain in quality if well cooked, seasoned, and properly served appeals to our senses in such a way that it makes a great difference to our daily lives. It must be ample in quantity and bulk, and served with fruit and

* Read at the seventy-fourth annual meeting of the American Medico-Psychological Association, Chicago, June 4-7, 1918.

vegetables. If properly cooked and tastefully served it becomes a very valuable therapeutic agent in our type of hospitals—patients are so much more accessible and respond so much better to treatment.

As carefully as we have looked into this subject, and as much time and thought as we have given to its consideration, we are not able to satisfy ourselves that we are doing the best we can for our patients.

For many years the diet in our hospital was extremely monotonous. Breakfast consisted of porridge, bread and butter and tea. Dinner—boiled beef (with the exception of Friday when fish was furnished for most of the patients), potatoes, one or more vegetables and boiled rice or a pudding. Supper—bread, butter and tea with stewed figs, prunes or syrup and cheese on Sunday evening. On Thanksgiving Day we served pork, and on Christmas Day fowl and an elaborate dinner, and plenty of eggs for all at Easter. These were about all the changes given during the year. In 1911 this diet was varied a good deal by furnishing an occasional soup, and pork in some form for dinner once a week. We raised our own pigs, and our fat cattle were purchased for us, and they were butchered and prepared at our own institution. Fish for Friday was so difficult to procure fresh in summer that we began the use of canned salmon. This we found worked so well that we have kept it up ever since. We have found it to be cheaper and more palatable and we serve it in different ways—occasionally cold but usually heated and served with white sauce.

In 1914 our Department (the provincial secretary's) in the Ontario Government instituted a plan to be followed in all our hospitals by which we were to adhere to the basic dietary ration table, as prepared for the New York state hospitals. The plan issued to us embraced not only the patients but the officers and employees. We still follow this ration table but have made some changes as we found the bread was not sufficient to satisfy our people. We issue to patients a daily bread ration of 14 to 15 ounces, meat 4 ounces, beans $1\frac{1}{2}$ ounces, butter $1\frac{1}{4}$ ounces, rolled oats 1 ounce, sugar $1\frac{1}{4}$ ounces, cheese $1\frac{1}{4}$ ounces, tea $\frac{1}{2}$ ounce and potatoes 7 ounces. We find this ration works out very satisfactorily. We have a large blackboard, placed in a prominent part of the central kitchen, which gives at a glance the number of

patients in residence. The census is altered on the 7th, 14th, and 21st, and last days of each month.

We also inaugurated a system for looking after the waste. All the wards return to the kitchen, after each meal, the usable and unusable food. This is weighed carefully and a strict account kept, and the usable food (except the unused cooked cereals which are added to the soups) are returned to the wards from which they came, to be again made use of, and the unusable food going to the garbage. We find this weighing of waste of great benefit to us financially as there is not nearly so much garbage as formerly. The garbage is removed to the piggery, where it is thoroughly steamed and made use of for consumption in that department.

We have a large farm in connection with the hospital that is situated two miles from the institution. We have there 30 resident patients (5 females and 25 males) and 13 of a staff. This staff consists of the husband and wife as supervisors in that department, and the balance consisting of employees who are engaged in farm work. We do not have the waste returned from there, but it is very carefully looked after and properly made use of. The population of the farm is exactly under the same ration standard as the other parts of the hospital, with the exception that owing to an increased demand for food on the part of those working in the open air there, the patients are given a larger amount of meat daily than we give at the main building.

During the year 1917 we had a Dominion Food Controller (Hon. W. J. Hanna) appointed, and we made some changes in order to conform with his regulations. At present our menu for patients is about as follows: Breakfast—cereal, either oat or corn meal, tea, bread and butter and an egg to those requiring extra diet. On Sundays we serve coffee instead of tea. Dinner on Sundays—headcheese, bologna sausage, or provincial ham with potatoes, vegetables, rice pudding and tea. On Mondays, Wednesdays and Thursdays either an Irish or brown stew well provided with vegetables, also potatoes with bread and butter and tea and a rice or bread pudding as dessert. On Tuesdays we serve soup made of stock (from left-over bones, meat trimmings, etc.), beans (with a little pork), vegetables and a dessert. On Fridays, bean or pea soup (which is rich in proteins), with canned salmon, the usual vegetables, and pickled red cabbage or sauerkraut. On

Saturday a boiled meat with the usual accompaniments. The suppers are bread, butter and tea with cheese on Sunday nights, and during the week, one night creamed carrots and peas, another boiled onions with creamed sauce, marmalade, and a third night with macaroni and cheese. The other evenings syrup or sauce is served, and sauerkraut with some evening meals. Of course at all meals green vegetables such as lettuce, etc., are served when available.

The menu on Sundays for the staff for breakfast is: Either corn flakes or shredded wheat; Mondays, Wednesdays, Thursdays and Saturdays—a cereal, toast, sauce or marmalade, and either tea or coffee. Tuesdays and Fridays—(meatless days) eggs are served for breakfast. Dinners (four days a week)—roast meat with potatoes and vegetables; vegetable stew on Tuesday, and on Friday fresh fish. On Sundays and Tuesdays as dessert we serve ice cream (skimmed milk) or a water ice; various desserts are served up on the other days. Saturdays they frequently have sausage and sauerkraut. Supper for the staff consists of cold meat with potatoes for five nights in the week usually with pickles or a salad, bread, butter, and tea, and the other nights cheese or baked beans.

The officers' table differs very little from that of the rest of the staff with the exception of fresh fruit in season, and when available poultry or some change of meat on Sundays.

On Fridays we use for the patients 130 cans of salmon and when meat is used from 140 to 175 pounds. This year we had such a large quantity of cabbage that we put down five tons of sauerkraut. The amount of meat, either bologna or headcheese, used on Sundays is about 160 pounds. This is prepared at our provincial abattoir, Guelph, from which all our meats have been shipped since 1915.

We might mention that we grow a very large quantity of strawberries, sufficient to feed our patients a number of times during the season. The same may be said of asparagus. Tomatoes and fall apples are usually a heavy crop. From the time they first come in until late in the fall our patients are furnished with all they care to eat (both raw and cooked); they are perishable products so they consume a great many of both these articles. In the spring of the year we always procure a large quantity of maple syrup at a reasonable price which is a great treat for all.

With the increased price of food products we find it more difficult to serve a good evening meal and our experience has been that apples at even \$5.00 or \$6.00 a barrel are cheaper than nearly anything else we can provide so that this last winter we have served a good deal of apple sauce for supper. They are usually prepared by boiling the apples whole and putting them through an electric pulper which extracts the skin and core. This, sweetened, is very palatable. Occasionally we have served baked apples to all. In order to prevent this becoming monotonous we have also used prunes, evaporated peaches, and as mentioned in our menu, macaroni with white sauce made from skimmed milk.

We have three special diet kitchens, one in the male admission ward and two in the female admission wards, one being in the new Reception Hospital. From these places food is prepared and served to the patients, independent of the main kitchen. The food served here is that ordered by the physicians in charge for the newly admitted patients, and for those who are ill, and require special care and diet; the main kitchen of course being entirely under the chef. We have no special dietitian as is provided in a good many hospitals but our storekeeper has charge of all food supplies and issues the amount of special diet to those preparing them in the different locations. The nurses who are in their intermediate year have charge of these diet kitchens and they are on duty there for two months. In this way all nurses get an education in preparing diets and we find that this plan works out well.

We have a dining-room in connection with each ward. The largest number we have in any one room is 70 patients. Our dining-rooms are well lighted, bright and cheerful and the rooms are kept in excellent repair; the walls painted a light color and everything done to make these rooms as tasty as possible. We have small tables that accommodate about eight so we can group congenial people together. We have a special warming closet in each dining-room so that in cold weather we always have hot plates ready for use.

Our gardener takes a great interest in our wards and dining-rooms and all our tables the greater part of the year are furnished either with plants or bouquets. During this past winter there has not been a single day but what our wards have been well supplied with plants or flowers. This adds very much to the attractiveness of the rooms.

Patients' meals are served at 6.30 a. m., 11.30 a. m., and 5.30 p. m. We have meals at these hours so as not to conflict with the meal hours of the nurses and attendants. All the nurses and attendants are on duty at meal time and are expected to give their services exclusively to seeing that the patients have proper attention.

In the admission and hospital wards there are a great many trays to be served to those who are confined to bed. Everything possible is done to see that our patients get their allowance of food. Patients who are inclined to steal the food from others are placed at tables together and are especially watched over. Working patients are so placed that they get an extra amount of food to those who do nothing. Patients all come to the dining-room together at a given signal and no one is allowed to leave until all are through with their meals and the cutlery, etc., is properly gathered up to see that none is carried off.

In order to give some idea of the per capita cost and its gradual increase we have taken one day, May 2 in each year, covering five years.

May 2, 1914, the cost of meals served was \$91.69 for 840 persons. The total number of meals served was 2520; averaging .0364 per meal. For the officers, nurses and attendants and employees we served 369 meals; averaging .0587; for the patients, averaging .0326.

May 2, 1915, taking the same number of persons our total cost was \$105.65 per day; the total per capita, .0419. The officers, nurses and attendants, .0672, and the patients, .0376.

May 2, 1916, the total cost was \$110.16, the cost per meal, .0437. Officers, nurses and attendants, .0722; patients, .0388.

For the year 1917 the cost per day was \$135.31 and the cost per meal, .0537. The officers, attendants, etc., .0859 and for the patients, .0482. For the same date of the present year the cost per day was \$154.52; total cost per meal, .0613. For the officers, attendants, etc., .0984 and for patients, .0549.

You will see from this the gradual increase since the war began and how much the prices have gone up, practically 75 per cent. I may state that the rate of potatoes was the same during these four years as they were raised on our farm and the price charged was 40 cents per bushel. Each year we have had to buy potatoes from early in May, which made our cost per capita much more. This year our farm has produced enough to carry us through

until we have potatoes again. We grow so many vegetables and furnish so much from our farm for patients that the rates quoted are considerably lower than if we had had to purchase all these goods.

I have brought with me a sample of how our prices are worked out in our Ontario institutions. This work is all directed from the management at the Parliament buildings.

The proper cooking of food, its service and conservation are among the great problems with which we have to deal. Where there is no regular dietitian the chef practically has to be superintendent of his department. He plans the menus, the requisitions, and the work for his department (the physician being responsible for the special diets). He has to be responsible for his kitchen, cold storage and general equipment. It is necessary that he should be constantly on the alert to see that everything is kept in proper condition, that his assistants do their work in a cleanly and economical manner; and to see that the food is properly cooked, and sent from the kitchen so as to be served in a nice manner when it arrives from the wards. We do not make our chef responsible for the food after it leaves the kitchen. The supervisor of each ward is responsible for the proper service of the food when it is brought in. It is very important that the chef be a competent person, capable of working harmoniously with the officers of the institution, to oblige them whenever it is possible and make everybody feel that they are working together in the interest of all.

We all realize the importance of serving a well-balanced diet. There are none of us probably but have seen patients suffering from the lack of some important article (possibly vitamins) in their diet that they probably do not care to eat, and those looking after them were not solicitous enough for their welfare to see that they were supplied with the kind of diet that is requisite for good health. Personally, I have seen quite a number of cases of scurvy arise in patients who refuse to eat vegetables. Their peculiarities were not reported, with the result that I have mentioned.

Since writing the foregoing I have received a brochure entitled "A Proposed Basis for a Dietary for Hospital for the Insane to Meet War Conditions," prepared by H. J. Sommer, M. D., and P. Saha, M. D., Blair County Hospital of Hollidaysburg, Pa.

This pamphlet meets the food problem in an excellent manner and has arranged a number of proposed dietaries for working and custodial patients. I think it merits our careful attention and will give us a basis for working out many reforms in our food conditions, as it is all on a scientific basis.

In Ontario, Canada, the following letter has been sent to the superintendents of all the county houses of refuge and all the institutions receiving a government grant. It speaks for itself:

"TORONTO, March 22, 1918.

"MY DEAR SUPERINTENDENT:

"One year ago to-day a letter was addressed to you asking your help, and saying 'The need for increased production of food is real and urgent.' A splendid response was made to that appeal.

"If the need of food was great last year, it is ten times greater this year. Last year Germany only was on rations. This year Britain is on rations, France is on rations, Italy is on rations. The British are denying themselves and going hungry. Starvation stares the French, Belgians, and Serbians in the face. Famine threatens the Italians.

"Our Allies depend on Canada and the United States for food. They are trusting to us. We must not fail them.

"If you have a farm, or if you know anybody who has a farm, see that at least five more acres of wheat are grown on that farm in 1918 than in 1917; and grow in your garden all the potatoes, peas, beans, beets, onions, carrots, parsnips and other food that you can grow, and do not let one foot of earth lie idle this year anywhere in your township, village, town or city.

"Every head of cattle, every sheep, every pig, every chicken we can raise is wanted, and badly wanted.

"Under Almighty God our hope of final victory and rightful peace is in the hands of our farmers, as truly as it is in the hands of our munition workers and in the hands of our fighting men.

"Everybody can help—men, women and children.

"Do not waste any food—not a crumb.

"Be a leader and get everybody to help."

This work requires us, no matter what our nationality, to work together, not only in feeding our people properly, but at the same time by paying careful attention to conservation. Save a certain amount and the multiplication of that saved in all our institutions will be a very great asset for our nations.

Need I say more? Only this! In carrying out the solemn duty of doing our very best for the dear people God, in His Providence, has committed to our care, that we realize in like manner the importance in this crisis of doing all we possibly can for food production, and especially food conservation.

PELLAGRA AT THE CONNECTICUT HOSPITAL FOR THE INSANE.

BY WILLIAM C. SANDY, M. D., MIDDLETOWN, CONN.,
Assistant Superintendent, Connecticut Hospital for the Insane.

Pellagra has been found sporadically in most sections of the United States. It is this fact that has led one authority to assert that pellagra should not be considered a disease of the South, although so frequently observed in certain sections thereof, and that more cases would have been reported in other parts of the country had they not remained unrecognized. The rather widely scattered occurrence of pellagra, usually among the poorly nourished, may also help to establish the theory that faulty or improperly balanced diet is an important etiological factor. At least, it tends to the abandonment of the diseased corn theory of etiology. The infectious origin is still advocated by several eminent investigators who have sought to parallel the frequency of pellagra in Southern cotton mill villages with the absence of adequate sewage disposal facilities.

Much has been written upon the clinical side of the disease, and it has been shown that from a psychiatric aspect, pellagra is often associated with various psychoses, the effect frequently being to alter unfavorably the ultimate prognosis. It is not the intention at this time to enter into a detailed discussion of the various manifestations of pellagra. These are more or less familiar, especially to those connected with Southern institutions for the insane, and probably little if anything new could be added to the already extensive literature. During the latter half of 1917, however, there occurred at the Connecticut Hospital for the Insane at Middletown, five cases presenting clinical signs of pellagra. The rarity of the disease in this state and hospital, together with some atypical features has made these cases seem worthy of discussion.

According to a recent report, the first case of pellagra coming to the attention of the Connecticut Board of Health was a death in New Canaan in 1911. Following this there have been reported

several cases, in 1917 there having been six deaths from pellagra. The July, 1917, number of the Connecticut *Health Bulletin* contains the statement that pellagra "has been observed among negro tobacco laborers recently imported from the South." In the report already quoted, it is also stated that a former superintendent, for 30 years at the Connecticut Hospital for the Insane at Middletown, asserted that he had met with only one case, while at the Norwich State Hospital only two cases have been recognized.

In studying the histories of the cases under consideration, the type of the individual and the kind of psychosis are of some significance. It is quite apparent for instance, if one accepts the theory of faulty diet as the principal causal factor, that cases of dementia præcox or other psychoses in which there may be a tendency to take insufficient or improperly balanced nourishment, may prove to be likely subjects for the development of pellagra.

The first case, one of dementia præcox, paranoid form, after a hospital residence of over two years, presented the skin and mucous membrane signs of pellagra of a mild type, following persistent dietetic indiscretions. The physical signs of pellagra promptly disappeared when the patient was placed upon a rational diet, there still remaining, however, a few quite characteristic sequellæ.

CASE I.—No. 16814. Admitted January 6, 1915. A white female, born in New York, age 30, married, Protestant, housewife.

So far as ascertained, the family history was negative. Fourth in order of birth of five children, her early development is said to have been normal. She received a common school education, making good progress and later acted as saleslady until her marriage in August, 1917. In disposition, she is said to have been mild, steady and temperate.

Menstruation began at 12, with no abnormality. She had two still births and one living child born June 2, 1914. The psychosis developed rather suddenly, seven months prior to admission, a few days after the birth of her living child. She became restless, fearful and depressed. She claimed her people were sick, injured or in trouble and it was necessary for her to see some court official in order to have this matter attended to. She had auditory hallucinations, being annoyed by vulgar expressions. When admitted, she weighed 97½ pounds. She was anæmic, hæmoglobin 70 per cent, red cells 3,800,000, and a faint murmur in the pulmonic area (hæmic) was detected. She appeared confused and anxious, agitated by her auditory hallucinations, hearing her brothers crying for help. Later on she became clear and well oriented. Memory appeared fair. She had no insight and judgment was defective.

Following admission, she has usually seemed aimless and has taken little interest in occupation. She frequently smiles to herself and has continued to hallucinate. Has expressed the idea that she was poisoned and had contracted a loathsome disease; also that she was Jesus Christ and was suffering for the sins of the world. Upon several occasions has visited her home for a few days or weeks at a time, showing affection for her child but irritability and dislike for her husband. Her physical condition improved in respect to the blood picture.

On April 19, 1917, it was noticed that the patient had bilateral and symmetrical lesions of the skin, involving principally the extensor and to some extent the flexor surfaces of the forearms and knees, there being also a few lesions on the neck. There was a region of slight ulceration on the tip and edges of the tongue. The whole symptom-complex was very suggestive of pellagra. Upon investigation, it was found that the patient, ever since admission, had been accustomed to an exclusive diet of bread and sweets, taking practically no meat which she says she is unable to chew and does not like anyway. Every week her husband visits her, bringing fruit, candy and cakes, so that she had been eating very little in the dining room. She was placed upon a milk diet together with meat, eggs and other elements making up a well-balanced dietary. By July, 1917, she had improved in physical condition markedly and the eruption had entirely disappeared.

At the present time (March, 1918) there has been no recurrence of the skin lesion or other symptoms, but there is a roughness of the elbows often found in old cases of pellagra.

The second case, also one of dementia præcox, but hebephrenic form, after a hospital residence of about two years, during a part of which time she had to be tube-fed, developed the characteristic skin and mucous membrane appearances of pellagra. She was also tuberculous and finally died, the pellagra symptoms becoming more and more marked.

CASE 2.—No. 15574. Admitted September 15, 1915. Female, white, born in Connecticut, aged 31, married, Methodist, housewife. Information meager as to family history. Negative for nervous, mental and other important conditions so far as ascertained.

She was the youngest of four children, all girls, one of whom died from an unknown cause. At the age of seven, she is said to have had a head injury followed by a brief period of unconsciousness from which she made a satisfactory recovery. Aside from this, she is said to have been well during infancy, childhood and until present illness.

She made good progress at school, completing a grammar school and business college course, and for a time before her marriage, she worked as stenographer.

Her menstrual flow was always scanty. She married at the age of 23 and has had two children after normal pregnancies and labors. The younger child at time of admission of patient, was eight months old.

In disposition patient is said to have been sociable, mild but "nervous." She showed aptitude both for study and work. She was temperate and not a user of drugs. The psychosis was gradual in onset. The first symptoms appeared about three months following the birth of her second child which occurred in December, 1913. She seemed depressed, walked the floor at night until she became exhausted, and refused to eat much food. She expressed ideas of infidelity and called her husband vile names. She was a patient at a private hospital from March 22 to June 30, 1915, when she was removed by her husband against advice. While there she was resistive, refused food, would not answer questions, was untidy and once highly excited. She had to be tube fed and remained untidy until the last 10 days of her stay when she began to eat well, dressed and undressed herself, and entered into normal associations with others, conversing coherently. She did not develop insight.

Upon admission at C. H. I. Physically there was considerable emaciation; teeth in poor condition. Blood Wassermann negative. She was a little restless but entered into the hospital routine quite readily. She was evasive but expressed no well-defined delusions and there was no evidence of hallucinations. There appeared to be much emotional deterioration. Conversation was rambling. Memory was good. Her insight and judgment of the situation were defective. A mental diagnosis of dementia præcox, hebephrenic form, was made.

Following admission she was seclusive, showed a tendency to remain standing a great deal although weak, and was unoccupied. She lost much in weight and developed signs of pulmonary tuberculosis; after which she became very untidy, expectorating on floors and walls. Around July 1, 1917, she developed an erythematous condition involving the backs of the hands, fingers and wrists, extending about an inch and a half above the wrists. There were also red and roughened areas on both elbows and at the suprasternal notch, and an eczematous condition of the nose, forehead and lips. The tongue became red and inflamed.

Despite extra diet and other special attention, she continued to fail, losing in weight. Her breath became foul, she was salivated and she developed a characteristic odor of an advanced case of pellagra, from which disease she finally died on August 16, 1917. Permission for post-mortem examination could not be obtained.

The third case, one of dementia præcox, after some years of hospital residence in several institutions, developed pellagra symptoms. For several months prior to this she had persistently refused food and was tube fed. She failed to respond to treatment, death occurring about a month after the appearance of the characteristic symptoms.

CASE 3. No. 15632. Admitted November 16, 1915. Female, white, born in Pennsylvania, age 43, married. Congregationalist, housewife.

Father developed epilepsy after 40 years of age. Otherwise family history negative.

Early life and development not unusual. Graduated from Wellesley College and taught school until her marriage in 1900. Has had four children, three male, one female, the youngest being born June 20, 1908.

In disposition she was very sociable and sunny, not easily irritated. Never showed great capacity for work. She is said to have been rather eccentric and of a romantic nature. Following the birth of her last child in 1908, she neglected her household duties, wrote letters in which she prophesied many dangers and mysterious happenings. She did queer things such as endeavoring to have an acquaintance adopt her youngest child, taking her father from a private sanitarium to try to heal him herself, trying to exercise healing power on a strange child, burning her children's books and playthings, at times becoming excited, and violent if opposed. Received treatment in several private institutions and the Norwich State Hospital. She showed marked religious trends of a peculiar nature. On admission, weight 116 pounds, height 5 ft. 3 in. Poorly nourished. Sallow complexion. Wassermann negative. She entered readily into the hospital routine. After a while, at times performed peculiar acts such as undressing and going to bed directly after breakfast, which she said she did in obedience "to the spirit." She often talked to herself and reacted constantly to auditory hallucinations, being direct commands from God. Spoke of "wondermen of the world" through whom she communicated her ideas. General mental organization good. Insight and judgment defective.

Following admission she remained seclusive, neat and tidy, occupied in her room in embroidery. Constantly hallucinating, the false voices often directed her so that at times for long periods she would be absolutely mute, inactive, with eyes closed, holding herself in bed in a rigid position, refusing food and necessitating tube-feeding.

In December, 1917, she developed an erythema on the backs of her hands and wrists which was symmetrical, and which later became a dermatitis with ulcerations. There were also a symmetrical roughness of elbows, a seborrhœa of the face, salivation, a redness of the tongue and towards the end, diarrhœa. She became greatly emaciated. Although given special diet and other appropriate treatment she failed rapidly and died January 10, 1918. The eruption had become considerably less marked before her death but the general symptomatology pointed to pellagra.

The fourth case was a colored woman, the diagnosis being dementia præcox. She had a positive blood Wassermann and had been given a series of mercurial injections. One month following the last injection after which the Wassermann had become negative, and about five months after admission, the peculiar skin eruption and mucous membrane changes made their appearance. She also developed an intractable diarrhœa and died in about 10 days after the eruption was first noticed.

CASE 4.—No. 16514. Admitted June 4, 1917. Female, colored, born in Connecticut. Aged 42, single. Protestant, cook. Patient's mother, a white woman, is said to have been alcoholic and insane. Details as to her condition not ascertained. Patient is stated to have been result of intimate relations with negro hired man.

Infancy and childhood said to have been normal. She went to school from six to fourteen and made usual progress. Her occupation was that of cook.

In disposition she was shy and retiring. Details of her life otherwise meager.

Psychosis was of gradual onset during the past eight years. She developed the idea that she was white. She saw white faces as she looked in the mirror. At times, she would be noisy, excited, restless and talkative, at other times she would be dull and stupid. She put flour on her face and dressed fantastically as a young girl. Imagined her father was rich.

On admission she was well nourished. The only abnormality noted was exaggerated knee-jerks. The blood Wassermann was positive, the spinal fluid negative. Mentally, she was seclusive and reserved, neat and tidy in appearance. In discussing her peculiar notion about being white, she at times broke out in silly laughter. Spoke of wealth and social position. Would not cooperate in questions designed to test mental organization. Insight and judgment defective.

Following admission she remained seclusive, unoccupied and disinclined to talk or answer questions. In view of the positive blood Wassermann, she was given 13 mercurial injections, receiving a total of 23 grains of mercuric salicylate, the last injection being given on October 9, 1917. On October 29, 1917, the blood Wassermann was negative. In August she had a cough and some diarrhœa. At the time of her last injection she complained of sore mouth.

She continued as above, but gradually lost in weight. On November 20, it was noticed she had a peculiar roughness on the back of the hands with dark discoloration. This was accompanied by marked stomatitis and redness of tongue and oral mucous membrane. As noted above, she had not received any mercury for over a month. She was put to bed and given extra diet. She developed an intractable diarrhœa with fever, rapid heart action and a considerable cough. The sputum examination was negative. The odor of the stools became very offensive. The general symptomatology seemed to justify the diagnosis of pellagra. She died on November 30, 1917. Unable to secure permission for post-mortem examination.

The fifth case was a rather high-grade feeble-minded female with congenital absence of the palate and a positive blood Wassermann. Following a hospital residence of over five years, she developed the peculiar and symmetrical scaliness of the backs of the hands, associated with inflammation of the oral and genital mucous membranes and gastric disturbances. She had received

mercurial injections, the last dose being given about two weeks before the development of the physical signs resembling pellagra. The skin and mucous membranes improved under treatment but the patient finally died a month later from cardiac degeneration. The patient appeared well nourished and there was considerable subcutaneous fat even at the time of death.

CASE 5. No. 14409. Admitted November 27, 1912. Female, white, born in Connecticut, age about 40, single, Roman Catholic, once worked in a corset shop.

Information meager as to family history. Negative so far as ascertained. Details of early life not obtainable. She stated that when she was about 12 years old, she had St. Vitus' dance which continued for several months. She had a common school education. In her earlier life, she worked for a while in a corset shop. For the 10 years prior to admission, she was an inmate of an almshouse. She was unmarried. Habits said to have been temperate. Onset of psychosis indefinite. There seems to have been no well-marked psychosis but perhaps rather a series of episodes. It is stated she showed "nervous" symptoms more so since the death of her stepmother some years back, after which she thought she ought to return to her father's house but her father could not stand her actions. She is said to have "attempted suicide" by the introduction of a hair-pin in the bladder. She was excitable and attacked others in the almshouse.

On admission, she co-operated well in the hospital routine. Physically, there were found cleft palate, carious teeth with offensive breath, speech defect due to palate. Knee-jerks exaggerated. Blood Wassermann positive.

Mentally, she was quiet and well behaved, neat and cleanly in habits. She expressed no definite delusions except the idea that she may have been poisoned, and the presence of hallucinations was denied although she said she once saw her stepmother following her death. She was well oriented. Memory and general mental organization good. Judgment and insight defective. Following admission, she continued to be well behaved, but occasionally a little fault-finding. She assisted in the dining-room and later on in the sewing-room. Around the early part of December, 1917, she had been in bed upon several occasions and for several reasons. Some months before she was in bed for ill feelings accompanying the menstrual period. During this time, her pulse was found to be so irregular and rapid that she was kept in bed as a matter of treatment. On account of a positive blood Wassermann, she had been receiving mercury hypodermatically, the last dose being given on November 30. She had an abscessed tooth, and it was extracted by a consulting dentist. About December 4, 1917, she had a severe vomiting spell, and she was again put to bed. It was reported that she had burns about the rectum which the patient explained had occurred sometime before as the result of the application (by her) of cotton saturated with oil of cloves given her by nurse for toothache. When she was placed in bed, she was menstruating so an

examination was deferred until the eighth, when it was found that there was considerable inflammation of the vagina and adjacent parts. Appropriate treatment was instituted by the woman physician.

There had also been a stomatitis and gingivitis, with marked redness of the tongue. After being in bed awhile, she developed a symmetrical scaliness of the backs of both hands. She had a continuous fever with very rapid pulse and complained of sore throat and vomiting. The latter became bile tinged. She appeared to be quite well nourished and is reported to have been a heavy eater. Notwithstanding this, the skin and mucous membrane appearance resembled somewhat pellagra, but the possible specific factor had to be borne in mind. Under treatment locally and special diet, the inflammatory condition of the mucous membranes cleared up to a considerable degree. She had much difficulty in retaining her food, however, and her heart action failed to respond well to treatment, there being apparently a marked myocardial degeneration. She gradually failed and died on January 4, 1918.

A post-mortem examination was performed of which the following is a summary:

Hours post mortem.—Forty-eight hours.

Description.—The subject is a female about 40, very well developed and well nourished. Skin white, soft and in good condition. There is a small abrasion over each knee and elbow, large brownish scales on the radial half of the dorsum of both hands, and roughening of the skin of the elbows. The hard palate is missing and there are only a few teeth, all in poor condition. On median section the fat is 2 cm. thick and the musculature is firm, dark red.

Thorax.—Costal cartilages cut easily. Mediastinum filled with yellow fat.

Lungs.—Each weighs 370 gm. The right lung is firmly adherent to the costal wall at all points except the apex. The left lung is free. There is no fluid in the pleural cavities. Both lungs float in water. There is some hypostatic congestion in both lungs. There is no evidence of tuberculosis.

Heart.—Weighs 230 gm. The pericardium contains the normal amount of fluid. The epicardium is very fatty. The heart is pale externally and on section the walls are thin, pale and contain many fibrous strands. There is no apparent valvular incompetence. The mitral valve has a small fresh vegetation on the anterior cusp and the endocardium below the valve is opalescent. There is some atheroma of the aortic lining. The arch and descending aorta are only slightly atheromatous. Coronary arteries normal.

Measurements.—

Aortic	7.5 cm.
Pulmonary	7.5 cm.
Mitral	10. cm.
Tricuspid	
Left ventral	1. cm.
Right ventral	0.5 cm.

Abdomen.—There is a heavy layer of subperitoneal fat. The mesenteries are very fatty, and the fixed organs are embedded in fat. There is no fluid or evidence of inflammation in the peritoneal cavity.

Liver.—Appearance externally and on section normal. Weight 1100 gm.

Kidneys.—Weigh 310 gm. The left kidney is large, soft, dark red and has two ureters which remain separate to the bladder. The capsule of both kidneys is somewhat adherent and the surface has a granular-like appearance. On section there is considerable increase of connective tissue. The markings are distinct.

Spleen.—Weighs 70 gm. Apparently normal.

Uterus.—There is a conical tumor about 1 cm. long projecting from posterior wall, which on section has the whorled structure of a fibroid, but is of the same color as the uterine wall. The endometrium is thickened and edematous. On pressure a considerable amount of glairy mucous exudes. The right tube is adherent to the pelvic wall and to the appendix.

Brain.—Weighs 1400 gm. Nothing abnormal noted.

Anatomical Diagnosis.—Adhesions from old pleuritis, endocarditis acuta, myocardial degeneration (fibrous), absence of palate (syphilitic), adhesions from right pelvic peritonitis, skin eruption suggestive of pellagra.

Cause of Death.—Myocarditis.

In studying these five cases collectively, there is found a rather striking similarity in several particulars. Four were cases of dementia præcox, having a peculiar type of personality with a resistive tendency and a disinclination to take nourishment properly. With a single exception, the pellagra symptoms developed after a hospital residence of two years or more, the exception being in a case of dementia præcox which had been in the hospital about five months. The latter and also the feeble-minded patient both had positive blood Wassermann and received mercurial treatment by injections, the pellagra symptoms becoming evident about a month after the last injection. Only one of the five patients responded readily to dietetic treatment with a favorable outcome. One of the cases of dementia præcox was further complicated by pulmonary tuberculosis, undoubtedly an important factor in the fatal termination. Another was most persistent in her refusal of food, it being impossible to institute successfully a proper dietetic régime. In none of the cases did a diet of corn or residence in the South seem to bear any etiological relationship, nor was there obtained any evidence of other members of the family having been similarly affected.

The skin and mucous membrane symptoms did not make their appearance in any special time of year, one case developing in

the spring, one in the summer, one in the fall and two in the winter. There had been apparently no previous attacks.

The lesions were symmetrical, there being an erythema of the backs of the hands extending in some cases above the wrists and later developing into a dermatitis with ulcerations. There were also gastric disturbances, seborrhœa about the nose, inflammation of the mucous membrane of the mouth and tongue with marked salivation and diarrhœa. In the two cases which had received mercurial injections, the salivation was at first attributed to the treatment, but with the onset of the symmetrical skin lesions of characteristic appearance, the whole picture seemed more that of pellagra.

The well-nourished condition of the last patient, there being a considerable amount of adipose tissue even at the time of death, is atypical but not unknown, especially in rapidly fatal cases, and there were complicating features such as a chronic myocarditis.

In every instance, the psychosis had been in existence for some years prior to the onset of the pellagra symptoms. The appearance of the latter seemed to mark the culmination of a gradual deterioration especially from a physical standpoint and might almost be spoken of as a terminal condition. In the præcox cases, as already stated, the psychosis may be considered an important etiological factor, the tendency to a faulty dietetic habit predisposing to malnutrition.

A CLINICAL SUMMARY OF 106 CASES OF MENTAL DISORDER OF UNKNOWN ETIOLOGY ARISING IN THE FIFTH AND SIXTH DECADES.*

By E. T. GIBSON, M. D., MIDDLETOWN, CONN.

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INTRODUCTION.

A review of a large number of cases which have been studied extensively rather than intensively is not likely to be of much value unless there is something novel in the kind of material or in the point of view.

In the present paper the data of the separate cases are banal. The cases themselves include those psychoses of the involutional years which have evaded definition under all the schemata of the descriptive psychiatrists. One claim for novelty is that the cases are drawn from a psychopathic clinic, and, as will be pointed out later, more nearly approximate a complete collection of mental disorders as they actually occur than would a group of necessarily com-mitable cases. The other claim for more or less novelty lies in

*Read at the seventy-fourth annual meeting of The American Medico-Psychological Association, Chicago, June 4-7, 1918.

the point of view; namely, the age at onset, using the decade as unit.

The advantages of such an approach have been pointed out before, notably by Southard and Bond (*AMERICAN JOURNAL OF INSANITY*, 1914, LXX, 779, 828). In a group which includes the involuntional psychoses, the standpoint of age is obviously the logical one. To attack such a group with preconceptions of disease-processes or symptom-pictures is really to beg the question.

One is struck by the number of symptoms, syndromes and even so-called diseases which have been described as characteristic of this time of life. It would probably be admitted that agitated, depressions, certain metaphysical delusions, "Cotard's syndrome," "late katatonias," etc., do occur with greatest frequency in the 5th and 6th decades, but I have been unable to find any review of the mental disorders of this period which would permit one to form any idea of the frequency and proportional value of these features.

If it is granted that something may be gained by a review of psychoses of the involuntional period, the need at once arises of having as a basis for comparison observations in other decades. As a preliminary to the present survey, a study of 6000 consecutive admissions to the Boston Psychopathic Hospital has been made. (In course of publication in the *Bulletin of the Massachusetts Commission on Mental Disease*.)

The following paragraphs are quoted from the summary of that paper:

The cases upon which the study is based include, in addition to groups found in state hospitals of the usual type, a considerable proportion which represents mental disorder but not "insanity" in the legal sense. These are the groups which are responsive to the special appeal of a psychopathic hospital. The statistics, therefore, as a whole, present a more accurate picture of the entire incidence of mental disorder in the community than reports from state hospitals.

The use of the decennial unit avoids to a large extent errors in statement of ages, and allows any psychotic forms characteristic of the principal epochs of life to appear more clearly. According to Table IV, the predominant diagnoses in the various ten-year periods are as follows:

1st decade: Congenital syphilis.

2d and 3d decade: Dementia præcox with manic depressive types increasing in prominence.

4th decade: Dementia præcox still most prominent, with paresis and alcoholic psychoses increasing in males, and manic depressive psychoses in females.

5th and 6th decade: For men, the decade is characterized by the occurrence of several forms in about equal number, namely: Paresis, manic depressive psychoses, dementia præcox, delirium tremens, alcoholic hallucinosis, arteriosclerotic psychosis, etc. For women, there is a tendency to ill-defined forms which are not easily diagnosed. Of these the groups of presenile, involutional, and unclassified psychoses make up in the two decades respectively 22.1 per cent and 33.8 per cent.

7th decade and following: Senile and arteriosclerotic psychoses are the prevalent ones, comprising about half in the 7th decade and a much larger proportion subsequently.

The large proportion of cases in the 5th and 6th decades which are left "unclassified" or placed in the indefinite and unsatisfactory groups of presenile and involutional psychoses indicates the need for further work upon psychoses occurring between the fortieth and sixtieth years.

In the manic-depressive psychoses the maximum for males falls for depressions in the 6th decade, for manias in the 3d. For females the maximum for both types fall in the 4th decade. Disregarding sex, manias predominate before and depressions after the fortieth year.

Dementia præcox appears equally in males and females. During the twenties males were in considerable excess, while during the thirties females were in excess; fifty-seven and seven-tenths per cent of all the females and 39.3 per cent of all the males were past 30 when admitted.

The specific diagnosis "not insane" was made in 9.37 per cent of all admissions. The groups which may be considered made up of cases not committable as "insane" (though certain individuals in them may be committable) comprise together 1406 cases, or 23.43 per cent of all admissions. This group probably represents roughly an actual gain in psychiatric service to the community.

TABLE I.—SHOWING DIAGNOSTIC GROUPINGS OF 1567 CASES BETWEEN THE AGES OF 40 AND 59.

	Male.		Female.	
	No.	Per cent.	No.	Per cent.
Traumatic psychoses	9	1.0	1	0.11
Psychosis with cerebral arteriosclerosis and with organic brain disease.....	56	6.6	18	2.7
Infective exhaustive psychoses.....	13	1.5	11	1.6
Syphilitic psychoses	181	21.0	43	6.1
Alcoholic	253	29.6	82	11.5
Dementia præcox	113	13.1	180	25.4
Manic-depressive psychoses	107	12.4	131	18.5
Epilepsy	17	1.9	18	2.5
Senile dementia	7	0.8	12	1.7
Presenile and involutional psychoses.....	12	1.4	96	13.6
Unclassified depressions	14	1.6	17	2.4
Unclassified	78	9.1	98	13.9
	860	100.0	707	100.0

The above table (I) shows the diagnostic grouping (with many condensations) of that part of the 6000 cases which fell in the years from 40 to 59, inclusive. The last three ill-defined groups in the table make up 20 per cent of the cases in two decades, but only 10 per cent of the entire 6000 cases. In other words, we have a numerical expression of the uncertainty in diagnosis which the psychiatrist meets in cases in the involutional years.

NATURE OF MATERIAL.

The material available at the Psychopathic Hospital possesses some particular advantages for a study of this kind. Patients are committed by physicians, or are sent by the police, or are admitted at their own request. They are drawn from metropolitan Boston and represent fairly the incidence of mental disease (apart from delirium tremens and drug addicts) in a large cosmopolitan population. The admission rate of 2000 a year is very nearly the full capacity of the hospital, and as no admissible cases are turned away, this number is approximately the normal under the conditions mentioned, and is closely related to the actual occurrence of psychoses in the population. In the great majority of cases, the patients are under observation for a short period of the time when their mental disorders have reached a stage which renders their life in society impossible. Observation in the hospital is usually limited to this acute period, so that a full record of the mental disorders is not always obtainable. The residence of the patient in Boston, and the efficient Social Service Department allows rather better accounts of their past history than can be obtained by most hospitals for the insane. Subsequent histories of cases are usually readily obtainable in the proportion which are transferred to other state hospitals.

The data utilized included age, sex, social status, time in hospital, diagnosis (which in all cases was the collective opinion of the staff), duration of illness, Wassermann reaction, alcoholic history, a short description of the mental condition, condition on discharge, and destination on discharge. It has been possible to obtain also, in a large number a report as to mental condition from one to five years later, in those cases transferred to other state hospitals, or kept track of through the Social Service Department.

CHOICE OF MATERIAL.

Two thousand cases admitted consecutively to the Psychopathic Hospital in Boston were reviewed with respect to the age at onset, and 345 were found to fall between the years of forty and fifty-nine. The following groups were excluded from this number on the ground that they had no epochal significance.

	Cases.	Per cent of all excluded.	Per cent of total cases.
1. Continuous or periodic disorder beginning before 40	106	44.4	30.7
2. Diseases with known exogenous causes.....	48	20.1	13.9
3. Senile and organic cases (including arterio- sclerotic psychoses)	31	13.0	9.0
4. Unclassified cases beginning before 40, pa- tients with meager history or those not insane	54	22.5	15.4
	<hr/> 239	<hr/>	<hr/> 69.3

The remaining 106 cases, 30.7 per cent of those of the 5th and 6th decades, form the material of the present study.

DIAGNOSTIC SUMMARY OF CASES.

According to final diagnosis at the hospital the 106 cases fall into 25 groups. These may be placed in larger classes as follows:

Manic-depressive psychosis	38
Dementia præcox, paraphrenia and paranoic condition.....	27
Unclassified, "no diagnosis" and indeterminate diagnosis....	28
Presenile, involutional and unclassified depression.....	13
	<hr/> 106

Thus 41 cases or about 38 per cent of the selected group are not definitely classified. Another characteristic of the 106 cases appears if we compare them according to the proportion of the sexes with the admissions during the 5th and 6th decades of the 6000 cases.

	Males.		Females.	
	No.	Per cent.	No.	Per cent.
Selected cases	30	28.3	76	71.7
Cases admitted in 5th and 6th decade, 6000				
P. H. cases.....	1010	54.9	831	45.1
Six thousand cases, all ages.....	3125	52.1	2875	47.9

In the selected "functional" group 71.7 per cent are females. Of all cases in a series of 6000 admitted between the ages of 40 and 59, 45.1 per cent are females. The latter proportion is very nearly the same as the percentage of females (47.9 per cent) in the entire series of 6000, disregarding age.

STUDY OF SPECIAL GROUPS.

About two-thirds of the 106 cases could be placed with more or less certainty under the captions of manic-depressive psychosis and dementia præcox. The remaining third did not readily admit of classification. The considerations upon which these distinctions were made are mentioned in connection with the discussion of the separate groups.

MANIC-DEPRESSIVE PSYCHOSIS.

Thirty-eight cases showed the usual features of manic-depressive psychosis, and were so called at the Psychopathic Hospital and subsequent hospitals if there were any. The maniacal cases will be treated separately. The depressed cases are subdivided along the lines of motility—that is (1) as retarded, (2) as agitated, (3) as both, and (4) as showing no particular motility disorder. This division is made largely for the purpose of bringing into view the agitated depressions which have been looked upon as peculiarly associated with the involutional years.

In all the manic-depressive cases, family history of mental disease is mentioned in only five cases (362, 1917, 966, 1901, 1863), the relatives being, respectively: sister; father; brother and sister; aunt and two uncles; daughter, mother and sister.

Mention is made of menopause in nine cases, as follows:

Two (1173, 1676). Ten years before onset.

One (1241). Five years before onset.

One (388). Three years before onset.

Five (1192, 1138, 178, 1777, 1768). Onset during menopause.

In seven cases there was evidence of physical disease:

One (553). Irregular pupils, palpable arteries (W. R. & S. F. Neg.).

Two (87, 1834). Scar of hysterectomy (1834, recent).

One (882). Vesico-vaginal fistula.

One (517). Carcinoma of penis.

Manic Phase.—There were eight cases in this class, five female and three male. Five had passed through previous attacks, but had none before 40. Subsequent history of six was obtained. Two were discharged recovered, two improved and two unimproved. Two were still in a state hospital four and five years later, one improved and one unimproved. These cases were all described as euphoric, hyperkinetic and distractible.

Manic-Depressed with Retardation—This group comprised 14 cases, six males and eight females. In four there had been previous attacks, and in one a subsequent attack is reported. There is no record of the later condition of eight. Three of these were discharged from the Psychopathic Hospital improved and two unimproved. Of the remaining six, one is reported through the out-patient department two years later to be "nervous and tearful." Two were discharged from other hospitals recovered, one improved, one died of lobar-pneumonia, and one was in the hospital four years later unimproved.

Five of the patients expressed no delusions. One (239) had a feeling that some indefinite calamity impended, and one (362) repeated monotonously, "What shall we do when cold weather comes." Three had somatic ideas: (1842) "intestines stopped up and everything moving about inside the body," (87) "feels bad all over," (1901) "an awful impression, a dead feeling about heart." There were persecutory delusions in three; in one, coupled with self-reproach. In one the dominant feeling was suspicion, and in the third there was a definite reaction of aversion to the men of the family. In two the dominant feeling was one of self-reproach, one (1241) had ill-treated her sister, and one (1777) felt she was pregnant by the son of a friend. Three threatened or attempted suicide. Hallucinations (flashes of light) were described in only one case aside from the general somatic feelings mentioned above.

Manic-Depressive, Depression with Agitation—This group consists of seven females and one male. None of the cases had had previous attacks, but three had recurrences. Three were improved and one was unimproved upon discharge from the Psychopathic Hospital. Of the five with after-history, two were still in hospital four years later and were reported improved, and one was recovering from a third attack. Two had been discharged, one after a year as improved and one after two years as unimproved.

Delusions were present in all. In one there was a feeling that "something dreadful would happen." The ideas were self-condemnatory in four (92, 154, 882, 1134). In one of these (882) there was a real basis in the odor from a vesico-vaginal fistula. In four the patient was the object of persecution. Hallucinations are described in two cases: "little voices inside" (882), and "people talking about her character" (1768). General somatic ideas were found in one case (1956) in which there was a complaint of many pains, for which no cause could be discovered.

Manic-Depressive with Both Agitation and Retardation.—In one case (1676), there was usually retardation passing over into agitation at times. This patient, a female aged 55, was suicidal and self-condemnatory. In a second case (350), a female aged 53, speech was retarded although the general behavior was agitated. This patient insisted that her "bowels would not move." She died of broncho-pneumonia while in the Psychopathic Hospital.

Manic-Depressive without Conduct Disorder.—There were six cases, three male and three female, in which motility was not a prominent feature. Two (722, 178) had passed through previous attacks, and of these one (178) had a subsequent attack. All the cases had well-marked delusions. Three had somatic delusions, "evil spirit in belly" (553), "face not right, frozen stiff, cannot get heat into body" (388). "Bowels tied up, pins and needles in flesh at night" (722). One of these cases (722) was complicated by alcoholism. The patient heard voices from his stomach, thought he had improper relation with men, and possibly had some degree of peripheral neuritis (pins and needles). The delusions of the other three cases were of the persecutory type, in one case (963) in the future tense. One female (178) heard people outside on street talking about her.

One patient (517) had carcinoma of the penis, of which he shortly died. One (178) recovered from this attack and also from a subsequent attack. A third (722) was discharged in seven months, "much improved." One (553) was in hospital three years later, unimproved; of the remaining two cases (963, 388) there is no later account.

Discussion.—The principal facts available about the manic-depressive cases are shown in Tables II and III. The outlook, it appears, is rather favorable, in that only five out of the 22 with

after-history were not improved or recovered. An important characteristic of the manic-depressive psychosis is repetition of attacks. Although the longest after-history is less than five years, there was account of more than one attack in 16 out of the 38 cases. The proportion would doubtless be greater if the cases were followed longer. Recurrence is of especial interest in the agitated depressions, because of the association between this type of reaction and a poor prognosis suggested in Kraepelin's treatment of the subject in his latest edition. Although he abolishes the picture of involuntional melancholia in favor of a mixed phase of the manic-depressive psychoses, it is noticeable that the four or five "presenile" groups tentatively proposed by him are all characterized by anxious depressions. In our groups of agitated depressions, there is subsequent history in only five, but in three of these there were repeated attacks. In number the agitated depressions were not more than 10 cases out of 38. So far as the present group is concerned, therefore, agitated depressions are not the predominant form of manic-depressive psychoses in the presenium, nor do they seem of bad prognosis. On the other hand, they tend to recovery and recurrence.

In the table of delusions (Table III) no attempt has been made at a consistent classification. There may be some question whether the two classes mentioned last should be called delusions at all. One may call them *falsification of memory* and *apprehension*, but there does not seem to be any adequate reason for distinguishing them from delusions merely because they are not in the present tense. Six cases out of the 38 are stated to have no delusions, but as all but one of these are retarded cases, it is likely that some at least have merely failed to express their delusions. According to the table no type of delusion is much more frequent than others.

Only six of the delusions mentioned are evidently absurd; these are:

- 1888. Is God, king of China, Pope.
- 1754. Family is Holy Family.
- 269. Sun is heaven.
- 388. Face isn't right—is frozen stiff, can't get heat into body.
- 553. Evil spirit in belly.
- 1842. Everything wrong inside body. Is chased by six spiders by night and six spiders by day.

TABLE II.—MANIC-DEPRESSIVE CASES ANALYZED AS TO COURSE.
(Subsequent history from other hospitals. Status on discharge from the Psychopathic Hospital not considered.)

Group.	No.	Sex.		Previous attacks.	Subsequent attacks.	Subsequent history.	Recovered.	Improved.	Stationary.	Died.
Manic	8	3	5	5	0	6	2	2	2	
Depressed retarded ...	14	6	8	4	1	6	2	2	1	1
Depressed agitated	8	1	7	0	3	5	1	3	1	
Depressed not ret'd or agit.	6	3	3	2	1	4	1	1	1	1
Depressed ret'd and agit. ...	2	0	2	0	0	1	0	0	0	1
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
	38	13	25	11	5	22	6	8	5	3

TABLE III.—ANALYSIS OF DELUSIONS MANIC-DEPRESSIVE CASES.

Group.	No.	Cases with no delusions.	Somatic.	Persecutory.	Self con- demnatory.	Grandeur.	Impersonal.	Referring to past or to future.	Apprehensive.	Hallucinations.
Manic	8	1	1	2	0	3	1	2	1	3 all questionable.
Depressed retard..	14	5	3	3	4	0	1	0	3	1 questionable.
Depressed agitated	8	0	1	4	4	0	0	0	4	2
Depressed ret. and agitated ..	2	0	1	1	1	0	0	0	0	0
Depressed not ret. or agitated.	6	0	3	2	0	1	0	0	1	1
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
	38	6	9	12	9	4	2	2	9	3

(possibly 7)

The first three of these occurred in maniacal cases, and are plainly quite different from the last three, which were found in depressed cases. The latter also suggest strongly perversions of the sensory apparatus.

Hallucinations play a very small part in the manic-depressive group. They are clearly present in three cases (882) "little voices inside," (1768) "auditory hallucinations," (772) "voices in stomach reveal things." The two in which the content of the perceptions is mentioned are thus somatic. It will be noticed also that these somatic hallucinations like the somatic delusions in the depressed cases mentioned above are also absurd.

DEMENTIA PRÆCOX.

In 27 cases of mental disorder appearing after 40, the diagnosis of dementia præcox appeared justified. There were eight males and 19 females. Reports of the subsequent courses were obtained in 19 cases. Ten were still in hospitals unimproved, four years later. Three were reported unimproved four to six months after leaving the Psychopathic Hospital. They were transferred to other hospitals and the later history is unknown. Within a year after leaving the Psychopathic Hospital, four were reported improved, three being discharged and one being sent to another institution. One died of lobar-pneumonia, mentally unimproved, after two years.

Only one case was reported as definitely recovered. This was a married woman aged 54, (348). Upon entrance to the Psychopathic Hospital she was said to have been mentally disordered for about six years but "not bad until a few days ago." She was in the Psychopathic Hospital eleven days, and was then transferred to another state hospital from which she was discharged as recovered four months later. She had been addicted to alcohol but had used none for several months. She felt as if "under a spell." She complained of an electrical machine under her bed which she had heard working for years. It made her talk and yell and "drew the life out of her." She was also jealous of her husband, with what reason is not known. She was described as somewhat depressed, without any marked motor phenomena and with no insight.

The eight cases which not were followed after leaving the Psychopathic Hospital were all unimproved upon discharge. The duration of the disorder before commitment was stated as from six months to two and a half years. Delusions were expressed in 26 cases, the one exception being mute. In 20 cases delusions and hallucinations were the prominent features. In three of the hallucinated cases and in four of those in which hallucinations were not observed there were striking disturbances of conduct, stupor, fixed attitude, mutism, stereotypy, echopraxia, etc.

One case (1083) a male, aged 44, was committed to the Psychopathic Hospital after a mental illness of two months. He was depressed, had a feeling that some calamity impended, and was restless, contrary and disagreeable. He was classified as a manic-depressive, depressed phase, and after six days transferred to another state hospital. A report obtained after four years states that he has grown steadily worse and is "resistive, indifferent and with stereotyped speech."

Family history of mental disease was mentioned in only three cases of the 27. Of one (1853) the note is made, "Brothers were all abnormal, epileptics, tramps." One female (246) was the third case of insanity in the direct family line. One (273) has an insane son. Two are said always to have been peculiar.

Summary.—On the whole the 27 cases seem to be no different from cases of dementia præcox arising earlier in life. Most of them fit very well the Kraepelinian paranoid group. In only seven are the features commonly called katatonic prominent.

UNCLASSIFIED.

Introductory.—The chief problem of the present paper lies in the 41 cases remaining after the exclusion of the previous groups. Thirty-two of the 41 cases were females. Of the cases which were transferred to other hospitals reports of the further course were obtained in 21. In only six of these did the final diagnosis agree with that made at the Psychopathic Hospital. For the sake of brevity, the 21 cases are shown in tabular form.

It will be noticed that some of the cases in the group of 41 have been assigned either at the Psychopathic Hospital, or another hospital, to one of the groups previously considered. It has been my intention to include in those groups only the cases which from symptomatology and course appeared pretty certainly

TABLE IV.—UNCLASSIFIED CASES IN WHICH SUBSEQUENT HISTORY WAS OBTAINED.

No.	Sex.	Age.	P. H. diag.	Final diag.	Outcome.
505.	F	58	Unclassified	Paranoic Cond.	4 yrs. later not imp.
412.	F	51	"	Manic-Depr.	7 mos. later improved.
1016.	M	55	"	D. P. Heb.	17 days later died purulent leptomeningitis.
1268.	F	50	Presenile	Manic-Depr.	8 mos. recovered.
1059.	F	55	"	Invol. Melanch.	4 yrs. later improved.
1475.	F	40	"	Paranoic Cond.	1 mo. later discharged "capable of self-support." One mo. later died rupture aneurism int. carotid artery.
1240.	M	46	Man. Dep.	Invol. Melanch.	1 mo. later died pyæm.
593.	F	51	D. P. P. or Invol.	Manic-Depr.	4 yrs. in hosp. not imp.
748.	M	47	D. P. P.	Psychasthenia	
			Psychosis		9 mos. discharged rec.
1476.	M	50	D. P. P.	Invol. Melanch.	1 mo. discharged imp.
667.	F	45	D. P. P.	Paranoic Cond.	9 mos. capab. self-sup.
1207.	F	48	D. P. P.	Manic-Depr.	11 mos. recovered.
825.	F	43	D. P. P.	Unclassified	9 mos.
1156.	F	53	Paraphrenia		
			Confabulans.	Paranoic Cond.	2 yrs. not improved.
439.	F	59	M. D. D. Invol.	Involuntal	1 yr. improved.
1992.	F	53	Unclass. Par.	Paranoic Cond.	4 yrs. not imp., in hosp.
606.	F	55	Unclass. Par.	Paranoic Cond.	4 yrs. improved.
155.	F	49	Paranoic Cond.	Paranoic Cond.	1 yr. not improved.
	F	51	Involuntal	Involuntal	4 yrs. not improved.
287.	M	58	Unclass. Depr.	Unclass. Depr.	10 mos. not improved.

The 20 cases which were not followed after they left the Psychopathic Hospital received the following diagnoses:

Unclassified	6
Unclassified depression	4
Paranoic condition	3
Dementia præcox	2
Manic-depressive	4
No diagnosis	1

to belong there. It is on account of a lack of these characteristics that the present group has been excluded. Some of the cases perhaps present too few facts to be of much value. Others are, according to the standard mentioned, too anomalous. While the data at hand, as mentioned earlier under the heading of "Nature of Material" are sufficient to admit of placing typical cases in their respective groups, they are by no means adequate for the establishment of new groups. Such an undertaking should properly demand not only a minute and extensive study of course and symptomatology in a large number of cases throughout life with psychological analysis of the individuals, but also thoroughgoing studies of pathological anatomy. Kraepelin's tentative and rather apologetic study of presenile psychosis with its inconclusive results gives an indication of the difficulties to be met in this field.

While our facts are too meager to allow any attempt to establish groups, they are of practical service in at least one particular, namely, prognosis. It is of value also to find out what correlations there may be between a good or a bad prognosis and other data, such as character of delusions, hallucinations, affective state and psychomotility.

In addition to the 21 cases with subsequent history shown in Table IV, there was one case which died at the Psychopathic Hospital and three cases in which the mental disorder had begun more than two years before admission. Although the latter course of these is not known they can with advantage be included in the former group.

Of the 25 cases, five died, four were discharged as recovered, seven are said to be improved and nine were at the latest report "not improved." These four groups will be considered separately.

CASES DEAD.

1016.—Male 55, unmarried. Duration given as two months. Always queer. Thinks he has been ill-treated. Fears he has been poisoned, food is tampered with. He has been kidnapped. He has to go to hell. Memory all gone (not true). Has been ruined by masturbation; talkative about himself, depressed. Pupils small and irregular, react to light and upon accommodation. Slightly deaf. Peripheral arteries hard and tortuous. Cause of death, *acute purulent meningitis*.

723.—Female 52, unmarried. Duration 15 months. Insists that house in which she rooms belongs to her. Physicians are representatives of police sent to annoy her. Physicians are representatives of police sent to

annoy her. Makes vague accusations against relatives. Not depressed, not euphoric. Aggressive, verbose, mildly excited at times. Cause of death, *rupture of aneurysm of internal carotid artery*.

349.—Male 52, unmarried. Duration three years. "Back fence is falling; stove is falling apart; shelf is falling on wife"; people are trying to injure him. Depressed, restless, later inactive, excessive alcoholism previous to 10 years ago. Eczema on hands and forearms (pellagra?). Cause of death, *broncho-pneumonia*.

1240.—Male 46, duration four months. Shunned company, thought he was to be injured; says "don't torture me." Depressed, apprehensive, restless, resistive, somewhat retarded. Cause of death, *pyemia*.

1552.—Female 48, married. Herself and husband persecuted by father and family. Bed on fire, food poisoned, auditory hallucinations. Flight of ideas. Depressed. "Katatonic state, negativistic, later very active." Died, *acute dilatation of heart*.

CASES RECOVERED.

825.—Female 43, unmarried. Duration one year. Delusions of persecution and reference. Auditory hallucinations. Emotionally apathetic. No katamenia during three months of observation.

1207.—Female 48, unmarried. Duration three years. A client of her lawyer made slanderous remarks about her. Friends of this man and strangers call out names as she goes by. Slightly depressed, quiet and listless. Menopause at 47.

748.—Male 47, widower. Duration about three years. "Is watched and spied upon." Thinks he is killed, and deserves to die because of wife's death from abortion. Auditory hallucinations. Worried, irritable, agitated, seclusive. Uses alcohol moderately.

1268.—Female 50, married. Duration one year. "People look strange" to her. Neighbors make remarks about her. Apprehensive of harm. Thoughts transferred to others by telegraphy. Does not appear depressed.

IMPROVED.

412.—Female 51, unmarried. Duration when last reported one year. "Snake confined in bowels," referred to right hypochondrium. It is put there for punishment. Sees a snake before face with glaring eyes. Mood said to be "pleasant." Constipation, tenderness at caput coli. Psycho-analyzed by L. E. Emerson, who elicited a history of illegitimate son and incest. Discharged improved.

1475.—Female 40, unmarried. Duration when last reported seven months. Injured by authorities at St. Elizabeth Hospital. Nurses guilty of all sorts of misdemeanors, starve her, drag her by arm and hair, police officer tried to disgrace her by putting arm on back of seat, querulous. Discharged capable of self-support.

1476.—Male 50, married. Duration not given. Fellow-workmen make him drowsy, weak and suffocating. He is watched through partition, is

persecuted by members of some society who drop poison in food, and liberate gas in air. Depressed. Discharged improved.

667.—Female 45, single. Duration three years when discharged. Persecuted by police, prevented from getting work. Had complained to authorities. Exhilarated, restless. Discharged capable of self-support.

439.—Female 59, married. Duration to discharge 15 months, fears she has done wrong and cannot be forgiven. Depressed, agitated. Discharged improved.

606.—Female 55, married. At present in hospital, duration eight years. Thinks she has tuberculosis, is going to be killed. Felt son was in hospital. Hears people talk about her behind her back. They say she has tuberculosis. Depressed, quiet, menopause two years after onset. Condition improved.

763.—Female 45, married. Duration at last report two years. Thinks she is being robbed, health is gone. Has a "terrible feeling." Depressed, menses irregular for last year. Improved on discharge.

CASES UNIMPROVED.

1992.—Female 53, married. Duration at last report eight years. People injure her floors, boards are opened up, chairs pulled apart, clothes torn up. Not depressed or elated. Menopause at 50. Fine tremor of hands and facial asymmetry.

505.—Female 58, married. Total duration four years. Thinks she is pregnant and that a moving pain in her chest is due to a child. She saw a vision in a crystal which led to this belief. Eats excessively and takes food to bed. Quiet and indifferent.

521.—Female 51, unmarried. Duration five years. Policemen watch and follow her. She is in love with a policeman whom she has never met. Everybody seems different in the last two years. She hears voices of policemen making love to her, of the police matron and relatives. She has seen God and had other visions. She was at first depressed but afterwards unconcerned.

1059.—Female 55, married. Duration six years. Her children have been arrested and are held on Deer Island (not true). Thinks she is to be put into an institution. Depressed and agitated. Is tremulous and complains of pain about head and heart.

287.—Male 50, unmarried. Duration at last report 15 months, when was sent to a hospital for chronic cases. No definite delusions. Complains of "poor health," chronic indigestion. Depressed and apprehensive.

1156.—Female 53, married. Duration two years, when sent to hospital for chronic cases. Some one is poisoning her, she is hypnotized, says she is daughter of the archbishop, mistakes identities, gives fictitious names to nurses and physicians and sticks to these names. Usually good-humored, sometimes irritable, but never depressed. Talkative, laughs a good deal. Takes grotesque attitudes of devotion. Menopause at 40.

155.—Female 49, married. Thinks husband is trying to get rid of her, and that he keeps other women. He has had babies by these women and she hears them crying. Sad. Became blind six years after onset.

593.—Female 51, married. Duration four years. People follow and ridicule her, she fears that her clothes are to be stolen and that she is to be put into boiling water, "hears voices and sees visions." Depressed, groans in distress.

1386.—Female 56, married. Duration two years. She has been given pills which have caused bowels and womb to draw together. Eyes feel as if coming out of head. Her son's mother-in-law tried to poison her and poison has been put into her food at the hospital. She saw smoke from stuff burned upstairs come through holes burned in wall. Menopause at 51.

Discussion.—In the attempt to find something characteristic in the 41 "unclassified" cases, by separating according to course those which offered facts for such an analysis, it is obvious that the four groups which have just been abstracted are not of equal value for the purpose.

Taking up the groups in order, we may first consider the five which died. In cases 1552 and 1240, the cause of death is apparently least likely to have anything to do with the psychosis. The latter appears however to be the only one allied to the severe agitation with quickly fatal outcome described by Kraepelin, as his first group under the caption of Presenile Psychosis. As to the other three cases it is very striking that there is in all a possible relation between the cause of death and the psychosis, although the facts are too meager for certainty.

1016. Total duration seven weeks. Purulent leptomeningitis.

349. Duration three years. Broncho-pneumonia, possibility of pellagra.

725. Duration 12 months. Aneurysm of internal carotid (arteriosclerosis).

The four cases which recovered were not at first considered of good prognosis. Three of them were called dementia præcox, paranoid form, and one "presenile psychosis," but upon review at the Boston State Hospital these diagnoses were changed. Only one (747) had any marked affect, depression with agitation, and this was the only one with self-condemnatory ideas. The other three had delusions of persecution and reference, and one of them felt that her thoughts were transferred by telepathy. All of the recovered cases had auditory hallucinations. In these four cases as seen at the Psychopathic Hospital no marked features stood out by which the favorable outcome could have been predicted.

It would be difficult to draw any definite prognostic inference from the seven cases called "improved," because the term itself

is indefinite. The difference of diagnosis in the hospitals of first and second residence is very striking, as shown in the following table:

Case.	P. H. diagnosis.	Final diagnosis.
442.	Unclassified.	Manic-depressive.
439.	Manic-depressive depressed (invol.).	Involuntional condition.
606.	Unclassified paranoid.	Paranoic condition.
667.	Dementia præcox paranoid.	Paranoic condition.
763.	Unclassified depressive.	
1475.	Presenile psychosis.	Paranoic condition.
1476.	Dementia præcox paranoid.	Involuntional melancholia.

Six of these cases are depressed and one exhilarated. All have delusions, in four cases predominantly persecutory, in three self-condemnatory. Somatic delusions are present in two cases.

Reference to the nine cases which were at the last report unimproved, shows that all but one were females and that the one male is the only one not deluded. In the terminology of Wernicke allopsychic delusions were expressed in seven cases, autopsychic in four and somatopsychic in two. Two patients expressed expectations of calamity, in one case of a horrible nature. Hallucinations were mentioned in three cases, but were not a prominent feature. In two the hallucinations were closely connected with the delusions. Emotional states were,

Depressed (155, 287, 1385).....	3
Depressed with agitation (593, 1059).....	2
"Normal" (1156, 1992).....	2
Depressed—later unconcerned (521).....	1
Indifferent (505)	1

Expectation of calamity occurred only in the agitated cases. The non-depressed cases were noteworthy for their numerous and bizarre delusions.

So far as any prognostic value is concerned, the groups of "recovered" and "unimproved" alone have any particular value. The group of "dead" will not be considered further, although the possibility that in three cases, as mentioned above, the fatal outcome was related to the psychosis and not merely accidental, adds to the prognostic value. One may perhaps consider the 24 cases which have been analyzed with respect to outcome as representative of the group of 41. But to say that the prognosis as to recovery is good in 15 per cent and bad in 37 per cent would be

giving an appearance of accuracy to what is really only a rough approximation. The duration of the psychosis up to the latest report of the case needs to be taken into account. In three of the "unimproved" cases the duration is not more than two years. Two of these, however, were transferred, after observation for a year or more at the Boston State Hospital, to a third institution as chronic cases. It is not impossible that these cases may have recovered later. The durations in the other six cases were from 4 to 11 years, so that the unfavorable prognosis in these has a high degree of probability. On the other hand the "recovered" cases might turn out to be recurrent. In fact cases 1207 and 1268 were looked upon after leaving the Psychopathic Hospital as manic-depressive, although from the abstracts given above it is difficult to see how such a diagnosis can be maintained. One wonders how far the outcome may have influenced the diagnosis. Keeping in mind then that the figures are only roughly approximate one may say that in the group of 41 cases as defined, about 37 per cent are of bad prognosis and about 16 per cent of good prognosis.

CLINICAL SUMMARY.

Age and Sex.—The entire group of 106 cases consists of 76 women and 30 men. The average ages are: women 50.0 years and men 49.3 years.

Heredity.—Note of insanity in other members of the family is made in 13 cases. Information is too meager to allow any further analysis.

Alcoholism.—Inquiry into the use of alcohol was made in 38 cases. Eighteen denied its use entirely, 14 admitted moderate use, three drank heavily and three had drunk formerly but had lately been abstinent.

Syphilis.—Wassermann reactions were reported in 86 cases. The blood serum was negative in 70, positive in three and doubtful in one. Spinal fluid was negative in 11 and "suggestive" in two.

Physical Diseases and Defects were mentioned in 25 out of the 106 cases. In some there appeared to be a possible relation between the physical condition and the mental content. These cases are as follows:

- 155. Blind, suspicious.
- 175. Pulmonary tuberculosis, threatens to infect family.
- 266. Nose itches, worms in nose.
- 412. Constipation, tenderness of caput coli, snake in right hypochondrium.
- 674. Increasing sexual impotence, bear coming to castrate him.
- 882. Vesico-vaginal fistula, police after her on account of odor.
- 939. Old operative wound, has been operated because wound reopened (not true).
- 1364. Gastric burning and pain, suspicions of poisoning.

The remaining cases are as follows :

- 87. Old operation.
- 1241, 1834. Recent abdominal operations.
- 91, 92. Heart apex outside nipple line.
- 1552. Acute dilatation of heart.
- 154, 1059, 1992. Tremors. (154 alcoholic, cause unknown in others.)
- 262. Fecal impaction.
- 269. Recent delirium tremens.
- 349. "Eczema" on hands and forearms.
- 517. Carcinoma of penis.
- 553, 1016. Pupils unequal, arteries sclerotic.
- 1066. Left divergent strabismus, left naso-labial fold flat.
- 1510. "Stricture neurotica esophagi."

Delusions, Hallucinations, Affect.—If we review the 106 cases with respect to *delusions*, we find that they are stated to be absent in only eight cases. Most of these were retarded cases in which delusions might easily be unexpressed though present. Persecutory ideas were present in 78 cases, somatic in 21, self-condemnatory in 16, and in a few cases delusions of jealousy, grandeur, etc. Delusions of negation and unreality, which have received so much attention in the literature of involutional psychoses, were found, respectively, once and three times. In about half the dementia præcox cases the emotional tone is described as "apathetic" or "normal" in spite of the expressed ideas which are nearly always unpleasant and sometimes terrible.

Auditory Hallucinations were found in 38 cases and visual hallucinations in seven. These are divided as follows :

	Total No. cases.	Auditory hallucinations.	Visual hallucinations.
Dementia præcox	27	17	3
Manic depressive	38	7	2
Unclassified	41	14	2

An attempt was made to correlate hallucinations with other outstanding features of the cases, disregarding the formal diagnosis. The features chosen were emotional quality and psychomotility. A résumé of delusions divided as far as possible according to the Wernickean triad of somatic, personal and environmental ideas is also included in the following table.

	No. cases.	Auditory halluci- nations.	Visual halluci- nations.	Allopsychic. Per Cent	Autopsychic. Per Cent	Somato- psychic. Per Cent
Depressed:						
Agitated	21	5	0	15 58	9 34	2 8
Retarded	13	0	0	5 35	5 35	4 30
Agitated and retarded	5	0	0	4 59	1 14	2 29
No abnormal motility	24	9	2	24 69	4 11	7 20
Elated	10	4	2	2 20	6 60	2 20
Emotional state normal or in- consequential	33	19	3	3 77	6 14	4 9

It appears from the table that there is, as might be expected, a positive correlation between allopsychic delusions and auditory hallucinations. There seems also to be two definite groups in which this association occurs; namely, depressed cases without disorder of motility, and cases in which the emotional state did not correspond to the content of the delusions.

As to emotional tone, 10 of the 106 cases were described as elated. Eight of these made up the group of manic-depressive manias. Only two of them were free from ideas of an unpleasant nature. Of the two which were not grouped with the manias, one had persecutory ideas of a decidedly unpleasant nature, yet always gave the impression of exhilaration. Of the remaining 96 cases—

68 were depressed,

4 passed from initial depression to apathy or elation,

2 were variable;

6 were apathetic,

1 not stated,

15 were described as "normal" emotionally.

The ideas expressed by these 96 patients were in every case but two of an unpleasant character, ranging from delusions of the most terrible content to mild hypochondriacal ideas. In one of

the exceptions the patient was beset almost continuously by hallucinatory voices, directing her to do many things such as "not to talk English to the physicians," "to go to the toilet over and over," but never suggesting anything depressing, unless, the reassurance that "she is not crazy" be considered to have such a connotation. This patient was described as sad. The other patient without unpleasant ideas was No. 1564, described under the group with katatonic symptoms. She was described as "variable" emotionally.

The delusions and ideas in the 106 cases with respect to their quality of pleasantness or unpleasantness, and their relations to the emotional states, are summarized in the table.

CONSISTENT.			
Mood.		Ideas.	
Depressed	67	Unpleasant	67
Elated	2	Pleasant	2

INCONSISTENT.			
Elated	8	Unpleasant	8
Normal	15	"	15
Apathetic	10	"	10
Depressed	1	Pleasant	1
Variable	1	"	1
Variable	1	Unpleasant	1

Cases with Katatonic Symptoms.—Symptoms which might be considered katatonic were present in eight out of the 106 cases, or 7½ per cent. Six cases were classed as dementia præcox and two were included in the undiagnosed group.

Abstracts of the eight cases follow:

952.—Female 42, unmarried. Known duration seven months. No delusions stated. Sees face in ventilator. "Mania for burning things." Stands in one position for hours, facing blank walls. Has knelt in attitude of prayer for 12 hours at a time mute. Onset following worry over mother's death. Dementia præcox.

1066.—Female 45, married. Known duration two years. People talk about her. Thought she would die. Voices through wall say husband is going with another woman. Stuporous, tube fed. Repeats one short unintelligible sentence. Left divergent strabismus, obliteration of left naso-labial fold, duration not stated. W. R. Negative. Transferred to Danvers, April 11, 1913. To Medfield, November 24, 1914. Improved. Dementia præcox.

1085.—Male 44, married. Known duration four years. "Family try to boss him," feeling of impending calamity. Depressed, disagreeable, restless, resistive and contrary. Transferred to Westboro, April 15, 1913. Reported February, 1917, resistive, indifferent, stereotyped speech. Dementia præcox, katatonic.

1225.—Male 47, single. Known duration four years. People in shop are against him, watch him, stare at him while he eats. Suspicious of food. A hole is being bored under his bed. Hears buzzing in left ear. Apathetic, assumes a fixed attitude and stares. February, 1917, still in hospital unimproved. Dementia præcox, paranoid.

1564.—Female 45, married. Known duration three years. Thought could talk Greek, Hebrew and Gaelic as requested. Schizophasia, neologisms, resistive, echopraxia, attitudinizing, tube-fed. Still menstruating. February, 1917, still in hospital unimproved. Dementia præcox.

1853.—Male 42, single. Known duration $3\frac{1}{2}$ years. Is responsible for aunt's death because he went away. Worried over money. Thinks continuous prayer will improve him. Depressed, agitated, pulled out hair. Strikes attitudes. To Danvers, October 29, 1913. Reported February, 1917, as indifferent, untidy, deteriorated. Diagnosis at Psychopathic Hospital, unclassified. Danvers, dementia præcox. Brothers were all abnormal, tramps and epileptics.

674.—Male 45, married. Duration four months. Wife unfaithful. Bear coming to tear out abdomen and to castrate him. People will kill him. Is cured by God. Has sexual thoughts about men and women. Depressed, anxious, "katatonic stupor." The patient is becoming impotent. Two sisters, maternal aunt and paternal grandfather were insane. Recovered. Unclassified.

1552.—Female 48, married. Duration not stated. Father and his family persecute her and her husband. Her bed is on fire, and the food is poisoned. "Auditory and olfactory hallucinations." Flight of ideas, katatonic state and negativistic, later very active. Died, "acute dilatation of heart."

Only one of these cases (1085) was given a final diagnosis of dementia præcox katatonic. The initial stage had been such as to suggest a manic-depressive depression, and this was the diagnosis at the Psychopathic Hospital.

Case 1853 was left undiagnosed at the Psychopathic Hospital but the final diagnosis at Danvers was dementia præcox, although nothing was ventured as to the form of the psychosis. Case 1564 showed the greatest development of katatonic signs, although here again the final diagnosis (Boston State Hospital) was not specific as to form. In case 1225, dementia præcox paranoid (Psychopathic Hospital and Boston State Hospital), the katatonic-like features may possibly be explained upon an ideational basis. Case

1066 is somewhat doubtful on account of the unexplained neurological signs (ocular and facial). However the subsequent diagnosis at Danvers affirmed the earlier one of dementia præcox, without reference to organic features. Case 952 has been placed in the dementia præcox group with doubtful propriety. The strongest evidence in this direction is the katatonic features. Case 674 presents a curious medley of signs, and resembles more the late katatonia of Urstein than others in this group. Case 1552 is somewhat similar. Both these cases were considered manic-depressive at the Psychopathic Hospital, but on account of the anomalous features have been placed in the unclassified group for the purpose of the present paper.

As to the outlook in cases with katatonic features we find that only one is stated definitely to have recovered (674). One patient died (1552) and one (952) was not followed after leaving the hospital. The remainder were still in hospitals several years later, two (1066, 1225) being somewhat improved, while the three (1085, 1564, 1853) were not improved or were definitely worse.

Prognosis.—Later reports have been obtained of 64 of the cases which were transferred from the Psychopathic Hospital to other state hospitals. These reports are summarized as follows:

Recovered	10
Discharged improved	13
Discharged unimproved	1
Still in hospital improved.....	7
Still in hospital unimproved.....	25
Dead	8

The recovered cases were under observation for periods up to 3 years 10 months, as follows:

Less than 1 year.....	3
From 1 to 2 years.....	2
From 2 to 3 years.....	1
From 3 to 3 years 10 months.....	4

Four of the patients had recovered from repeated attacks. Two of these are included in the "over three years" group.

The cases which were discharged improved had been under observation:

Less than 1 year.....	2
From 1 to 2 years.....	8
From 2 to 2 years 9 months.....	3

Three of these cases had more than one attack.

The cases which at last report were still in hospital, but improved, had been under observation for the following periods:

2 to 3 years.....	1
3 to 4 years.....	2
4 to 5 years.....	1
6 years	3

Two of these were repeated attacks.

The duration of the cases which at last report were still in hospitals unimproved is as follows:

Less than 1 year.....	3
1 to 2 years.....	2
2 to 3 years.....	1
3 to 4 years.....	3
4 to 5 years.....	10
5 to 6 years.....	1
7 years	2
8 years	1
11 years	2

Only one of these cases had recovered from a previous attack.

The condition upon discharge from the Psychopathic Hospital of cases upon which there is no later report is as follows:

Recovered	4
Improved	12
Unimproved	14
Not mentioned	12

In estimating the value of the reports of the later condition of the patients, the length of the period of observation must be considered. The group "in hospital improved" is much more informative in a sinister sense than is the "discharged improved" group in a favorable sense, not only because of the obvious fact that they were not well enough for discharge, but also because of the much longer average hospital residence of the former group. (The averages are, roughly: "in hospital improved," 4.5 years, "discharged improved," 1.3 years.) In fact it would probably be better for practical purposes to separate the cases which had been three years or more in hospital and consider them as unfavorable. This would give 25 cases out of the "still in hospital" classes to be so considered. The value of the 10 "recovered" cases is minified somewhat by the fact that four of these have had

more than one attack, so that the "recovery" refers to the attack, but does not relieve from expectancy of other attacks.

It would give a better idea of probabilities to state the cases with repeated attacks separately. We should have then:

Recovered	3
In hospital 3 years and over.....	23
Dead	8
Improved—in hospital under 3 years.....	11
Unimproved—in hospital under 3 years.....	6
Case with recurrent attacks.....	10

SUMMARY.

1. A statistical review of clinical data in certain cases with onset between 40 and 59 is presented. Cases with gross brain disease or known exogenous causal factors are excluded.

2. The cases are drawn from Psychopathic Hospital admissions which have been shown to include about 20 per cent of cases which would not reach a state hospital for insane. The group therefore is a fair collection of mental disorders as they actually occur in the community.

3. The use of the age-period as viewpoint is an advantage in method; in that, it (1) emphasizes epochal characteristics, (2) is inclusive, and (3) eliminates minor errors in the statement of ages.

4. A previous study of 6000 consecutive admissions to the Boston Psychopathic Hospital has shown that (1) in the 5th and 6th decades, no particular diagnostic group is numerically predominant; and, that (2) within these decades "undiagnosed" and "unclassified" forms are twice as frequent as in the 6000 cases without respect to age.

5. In the present study 2000 consecutive admissions to the Boston Psychopathic Hospital have been reviewed. Three hundred and forty-five were between 40 and 59 years. The following classes were excluded: Continuous or periodic disorder beginning before 40; diseases with known exogenous cause (alcohol, syphilis, etc.); senile and organic cases. The residue of 106 cases forms the material of the paper.

6. The data utilized included the usual personal facts and physical and psychiatric examinations from the case records, the diagnosis, and in about half the cases a report, obtained from

various Massachusetts state hospitals, of subsequent course and later diagnosis after from one to five years.

7. A striking feature of the special group as defined in paragraph 5 is that nearly 72 per cent are females. Of all cases in a series of 6000 admitted between 40 and 59 (without regard to diagnosis) 45 per cent are females.

8. Sixty-five of the 106 cases could be placed definitely into the two groups of manic-depressive psychosis and dementia præcox. These diagnoses depend upon: (1) The opinions of the Psychopathic Hospital staff, which in a large proportion were (2) confirmed by the staff of the hospital to which many of the cases were later assigned, and (3) upon review of the cases in the light of all the obtainable facts. In a few instances review of the cases led to a change in the earlier diagnoses. Forty-one cases were not easily classified.

9. Of the 38 manic-depressive cases with onset after 40, 10 were of the manic type and 28 were depressed. The "agitated depressions" numbered 10 cases.

10. There was history of more than one attack in 16 out of the 38 manic-depressive cases. (No cases were included in this study if the first attack occurred before 40.)

11. Twenty-two of the manic-depressive cases were followed from one to five years after observation at the Psychopathic Hospital. Only five had neither recovered nor improved.

12. The diagnosis of dementia præcox was made in 27 out of the 106 cases.

13. The subsequent history of 19 dementia præcox cases was followed. Ten were in hospitals unimproved four years later, one died unimproved two years later, three were reported unimproved six months later. Four were reported to be improved, and one case was said to be recovered after the mental disorder had lasted over six years.

The eight dementia præcox cases without subsequent history were all unimproved upon discharge after duration of from six months to 2½ years.

14. In 41 cases the diagnosis was not clear, not confirmed by a second hospital, or upon review the cases appeared too anomalous to allow classification under the usual groups.

15. These 41 cases are reviewed with respect to a prognosis, on the basis of the 25 cases in which subsequent history is known. Five cases died, four recovered, seven improved, and nine remained unimproved.

16. In the five cases which died there was a possible relation between the psychosis and the cause of death in three.

17. The four cases which recovered showed no features at the Psychopathic Hospital by which the favorable outcome could have been predicted.

18. In the entire group of 106 cases information as to the use of alcohol is given in 38. Three drank heavily and 14 moderately. Alcohol seemed in no case to have any noticeable effect upon the psychosis.

19. The blood serum was positive by the Wassermann reaction in three cases and doubtful in one case out of 74 tested. Cerebrospinal fluid was "suggestive" in two cases and clearly positive in none, out of 13 tested. The cerebrospinal fluid in two cases with positive sera was negative. The third was not tested.

20. In 25 cases out of the 106 there were obvious somatic diseases and defects. In eight cases these were reflected in the psychotic picture, and in 17 there was no evident connection.

21. Delusions were expressed in 98 of the 106 cases. Most of the eight exceptions were *retarded* cases. Persecutory delusions were expressed 78 times, somatic 21 times, self-condemnatory 16 times and jealousy, grandeur, etc., a few times.

22. Delusions of negation were found in one case, and delusions of unreality in three.

23. Auditory hallucinations were described in about two thirds of the dementia præcox cases, one-sixth of the manic-depressive cases and one third of the unclassified groups.

24. There is a positive correlation between auditory hallucinations and allopsychic delusions in two definite groups of cases: (1) Depressed cases without motility disorder, and (2) cases in which the emotional state did not correspond to the content of the delusions.

25. As to emotional quality, 10 cases were elated, 68 were depressed, 15 were said to be "normal," six were "apathetic," two were variable and four passed from initial depression to final apathy or elation.

26. The expressed mental content of 102 out of the 106 cases

was of an unpleasant character, ranging from the most terrible delusions to hypochondriacal ideas.

27. Of the 10 cases which were continuously euphoric, only two were free from ideas of an unpleasant quality.

28. The emotional quality of the ideas and the emotional expression were consistent in 69 cases and inconsistent in 36.

29. Katatonic symptoms were present in eight cases or $7\frac{1}{2}$ per cent. One of these is said to have recovered, one died, one was lost sight of and the remainder were still in hospitals several years later.

30. The outcome on the 64 cases in which reports from subsequent hospitals are available is as follows:

Recovered	6
Cases with recurrent attacks.....	10
Improved—in hospital less than 3 years.....	11
Unimproved—in hospital less than 3 years.....	6
In hospital 3 years and over.....	23
Dead	8

31. A large proportion of the 36 per cent upon which there is no later hospital history belongs to the non-institutional class reached especially by a psychopathic hospital. The condition on discharge is stated in 30 out of the 42 cases of this group. Sixty per cent were improved or recovered.

CONCLUSIONS.

A review of psychoses from psychopathic hospital material, which arise in the 5th and 6th decades and are not due to gross brain disease nor to exogenous factors permits the following conclusions:

1. About 60 per cent can be classified as manic-depressive or as dementia præcox.
2. Cases with agitated depression, delusions of unreality and of negation, and with katatonic features are relatively uncommon.
3. Delusions of unpleasant content are characteristic and are almost invariably present.
4. In a large proportion (34 per cent) the prevailing mood is inconsistent with the ideas expressed.
5. If recurrent cases are counted as favorable the prognosis is good in about 25 per cent.

Excluding recurrent cases, an absolute recovery was reported in 10 per cent of 64 cases with later history.

Proceedings of Societies.

AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.

PROCEEDINGS OF THE SEVENTY-FOURTH ANNUAL MEETING.

CHICAGO, ILL., TUESDAY, JUNE 4, 1918.

FIRST SESSION.

The Association convened at 10 a. m. in the red room of the Hotel La Salle, Chicago, Ill., and was called to order by the President, Dr. James V. Anglin, St. John, N. B.

THE PRESIDENT.—We are honored in having with us at this time one who appeals to us, as he has been with the regular United States Naval Training Station, and has already helped the Red Cross greatly by writing a play which has had wonderful vogue; I will ask Chaplain Charles W. Moore to pronounce the invocation.

Rev. Charles W. Moore, of the Great Lakes Naval Training Station, made the opening prayer.

THE PRESIDENT.—There are present with us to bid us welcome several distinguished gentlemen representing the state of Illinois and the city of Chicago as well as the medical profession. I would first call on Mr. W. T. Abbott, who has been delegated by His Excellency, Governor Lowden, to act as his substitute, the Governor being unable to be present.

MR. ABBOTT.—It is with mingled feelings of joy and regret that I bring you Governor Lowden's message. I share with the Governor and yourselves regret that he is unable to greet you in person. The only silver lining to that cloud is that it gives an opportunity to say some things which both his natural modesty and official discretion would forbid from his own lips.

So far as these brief remarks have any point outside of an unstudied and enthusiastic welcoming of your assembly to our city and state, they necessarily take this turn, the relation of the State to your Association. From time out of mind it has been assumed as the duty of every civilized state to care for its insane and feeble-minded. If a man loses a leg or arm he is not totally incapacitated for useful labor. He may even lose one or more of his five senses, yet be a helpful member of society and far from a burden to his family; but let reason desert her throne, then all present hope departs and the future is a wall of blackness, except as you and your fellow-workers set in motion the means to cure, or at least alleviate.

The manifest duty of the state as thus assumed, has in the past been executed with varying degrees of result, from the zenith of ability, honesty and efficiency to the nadir of absolute incompetence and brutality. It is largely due to the untiring efforts of your organization that many abuses of a generation ago exist no more.

There is a natural and inevitable limit to what the executive branch of any government can accomplish. It may take the necessary steps to raise and spend the money required to house and clothe the unfortunate, to provide them with suitable physical surroundings and to undertake the general financial and business administration. The problems of diagnosis, of research, of nursing, the administration of remedial agents of every kind, except physical surroundings, are purely professional, and lie beyond the proper scope of the political agencies of the state as such.

Little wonder, then, that such institutions have been the subject of complaint rather than commendation and have only occasionally been saved from total failure.

When each separate institution stood by itself, when, in Illinois, for example, all methods of housing and care, the purchase of all manner of supplies were scattered among 20 or more unorganized or disorganized heads, and the doctor in charge, besides his professional duties, was expected to participate in, if not absolutely direct, the business system and policy, it was asking too much of the best informed brain and the most enlightened conscience.

This plan of operation crowded to the limit upon the professional heads of our institutions the Biblical injunction: "Be ye therefore wise as serpents and harmless as doves." To be at least harmless in his professional diagnoses and remedial treatments, and in his business capacity, to combat successfully the ingenious wiles and schemes of politicians, contractors and purveyors of supplies, was a task at which the bravest might look askance or pass up utterly.

I need not speak for other states. In the last two years Illinois has laid the foundation for greater progress in the care of her defectives than in all her previous history. The ceaseless and well directed efforts of our Governor resulted, first, in the necessary legislative action, and, second, the administrative steps necessary to bring about a consolidation of the business management of all penal and charitable institutions under one efficient head, responsible only to the chief executive. This accomplishment requires at this time only the briefest mention, as I see it is to be the subject of a special paper. This goes a long way toward the solution of the problem so far as the state in its political capacity can secure improvement. Beyond this point, the attainment of perfection in such institutions in this state or elsewhere is your problem.

It may be true that so long as the appointment and tenure of office for professional heads of institutions is dependent upon the temporary success or set-back of political parties, the best men cannot always be found willing to accept those places. But is the remedy political? It certainly does not lie in a universal extension of civil service. What one of you

would accept such a place, knowing that the discharge of an incompetent, inhuman or personally offensive nurse or subordinate physician must be referred to some board or commission and an over-strained situation await weeks or months for decision.

It is for you to find the door out and to open it. In your researches you may discover that the only way out lies in a greater individual patriotism, a willingness on the part of your ablest men to accept these places, with all their drawbacks of uncertain tenure and at the temporary sacrifice of more adequate financial and professional returns from your private and personally conducted retreats.

I dare not remain long in attendance at your sessions. A mere reading of your program convinces me that I have all the symptoms of dementia praecox, which, to my lay mind, means anticipatory senility, and I am sure that a few hours' indulgence in the actual feast would provide me with more diseases than the youth of a generation ago had after reading Doctor Pierce's well known Yellow Book.

We shall watch your deliberations with honest interest, if not intelligence. That your stay in our midst may be both pleasant and profitable to yourselves, and that from your association here may result the greatest benefit to the helpless and unfortunate wards of our state, I know is the earnest wish of Governor Lowden, in whose name and behalf I have the honor to welcome you. (Applause.)

THE PRESIDENT.—Unfortunately Colonel Billings and Dr. Patrick, whose names appear on the program, are detained by military duty, but we are fortunate in having a substitute—Dr. Charles E. Humiston, President of the Chicago Medical Society.

DR. HUMISTON.—*Mr. Chairman, Members of the American Medico-Psychological Association, Ladies and Gentlemen:* It is a very pleasant duty to bring to you a word of greeting from the Chicago Medical Society. I am unable to say to you what Dr. Billings might wish to say, and shall not attempt to, but I shall attempt, and I expect to succeed, in a very few words to make you understand that we are glad you chose Chicago to hold this meeting in. As the family doctor is looked to for the cure of ills of physical health, so the profession in general looks to organizations such as yours and to your organization in particular for the solution of the problems to which you have addressed yourselves. Chicago is proud to welcome such distinguished visitors, and whatever we have of a medical nature is at your service, and when you have completed your deliberations I would in particular call your attention to the clinic which has been arranged at the Naval Training Station, and which is conducted by Dr. Hulbert, to which you are all most cordially welcome. (Applause.)

THE PRESIDENT.—Dr. H. Douglas Singer, representing the alienists of this district, and all of the state hospitals for the insane of Illinois, will say a few words to us.

DR. SINGER.—*Mr. President and Fellow-Members of this Association:* It gives me great pleasure to have the opportunity of welcoming you to

this state. As probably most of you know, Illinois is at the present time developing a new system of administration for its state institutions, concerning which I hope to have the pleasure of saying more to you tomorrow. The fact that this meeting is being held here at this particular time is consequently of the greatest value to this commonwealth. We expect to profit greatly from the deliberations of this body and to learn much which will assist us in planning the future of this new system which we believe will develop very great advantages as compared with that which we have had in the past. The system is still so new, having been in operation less than a year, that it is as yet not possible to make statements as to the results accomplished, but we do know that it is working smoothly.

There is one fact which might cause some hesitation with regard to starting such progressive work at this particular time—the fact that we are now at war. We all feel that perhaps under such circumstances nothing new ought to be undertaken; that, indeed, is one of the questions we have asked ourselves over and over again, but we feel that anything which will add to the efficiency with which the institutions are managed and which will result in economy of personnel and expenditures of various kinds is worth while during the war.

Doubtless many of you, like myself, have had much difficulty in deciding the question as to whether to stay in civil work or to enter the military service of the government. This is a question I should much like to hear discussed at this meeting. The sole consideration we all have in mind is that of doing the greatest service to the United States. At the present moment I personally feel that I am performing work which is essential but it is difficult, in the face of many appeals, to be entirely satisfied with this answer.

The work to which we are especially turning our energies is that of increasing efficiency; no attempt is being made to conduct scientific research in our institutions. I believe that the Department of Public Welfare of this state will receive great assistance from your deliberations and that this body can do a great service to those who remain at home by helping them to grasp the fact that they must be prepared to do more and better work while staying behind.

I wish to express to you a very hearty welcome from the Department of Public Welfare, and to say that the institutions of this state are open to you all and that you will be welcomed in any of them. There are several institutions in and near this city and we shall be glad to have any of you, who care to do so, pay them a visit.

THE PRESIDENT.—I am sure, ladies and gentlemen, that you will sanction my speaking when I say that we are all very grateful to these gentlemen for their hearty words of welcome. I think we have all decided that it was wise not to have altered our place of meeting this year, although some thought it would be best, owing to the restrictions placed on travel. Can we but for a few days become imbued with the spirit that dominates this western city, the meeting of 1918 will be a tremendous success. Again I thank you, gentlemen, on behalf of the Association for your kind words

of greeting, and assure you we will be pleased to have you remain for any or all of our sessions.

The next item on the program is the presentation of a service flag on behalf of the citizens of Chicago, by Frederick A. Brown, Esq., who will need no further introduction.

MR. BROWN.—*Mr. President, Members of this Association, Ladies and Gentlemen:* The war is no longer 3000 miles away; it is now being carried on in the very shadow of the Goddess of Liberty in New York Harbor. I think the German Government has misunderstood the psychology—shall I say—of its enemies. One of the things that has done so much to unite the people of the world against her was the Zeppelin raids over London; it united England; it encouraged the men to enlist and it gathered together that grand and splendid army with a will and determination to conquer that could hardly have existed under any other circumstances. And this U-boat raid off New York has appealed to the American people and has put down forever the idea that the war is 3000 miles away. I had an experience before the war that proved the absolute inability of the German mind to understand the American people. I was dining with a gentleman who had been a colonel in the German Army; at the same table was my friend, Colonel Robert L. Henry, of this city, who had served in our Civil War. The German colonel said: "My German regiment could land at New Orleans and march to New York City." Colonel Henry shook his head and said: "No, they couldn't do that; our police would arrest them." It has been said recently by Lloyd George that the American people have never been beaten. That is true. This reminds me of the story they tell of Napoleon in one of his great battles; he thought all was lost and turned to a little drummer boy who had served one of Napoleon's splendid generals, and said: "Boy, beat a retreat." The fellow raised his hand and said: "Sire, I never learned how to beat a retreat, General Desaix never taught me, but I can beat a charge that will wake the dead." And so with the American people, they know not defeat nor how to retreat. There can be but one outcome of this war that is now at our doors, and that is victory.

The people of the city of Chicago—and, notwithstanding the utterances of some of her citizens—a more loyal city in heart and soul does not exist on the American continent—have done me the honor to present to your organization a service flag in commemoration of nearly 100 of your members who have gone into this war. The taking part in this war by men trained as you are and educated as you are is almost an epoch in itself. Never before in any war has there been a body of men with but one purpose and that was to "minister to the mind diseased." Gentlemen, in the name of the people of the city of Chicago, I present to you this service flag. May the blue stars be many and the golden stars few. I thank you.

THE PRESIDENT.—Mr. Brown is Vice-President of the Illinois Bar Association, but he has a still greater honor—his only son is at the front. (Applause.)

To acknowledge this handsome gift Colonel Raymond had prepared an address. Unfortunately he is not here, neither is his address, so I will do the best I can as a substitute.

On your behalf, ladies and gentlemen, mine is the honor to accept this service flag from the generous citizens of Chicago, and assure these thoughtful patriots that this is the proudest hour in the history of our Association, when it is put in possession of tangible evidence of the number of men who have responded to the call of their country and will represent us on the battle line in the struggle between democracy and autocracy, between liberty and servitude, between honor and shame. Through you, sir, we would express our gratitude to the loyal people of this metropolis for the most appropriate souvenir of our stay amongst you. You may depend it will be hoarded as our most sacred treasure, and handled only when other stars are to be added to its folds.

All honor to the 93, a goodly number when we remember how many of our members are naturally beyond the age for active service in the field. There are banners, and *banners*; adorning these stately walls we have Old Glory with its stars from which liberty glows, and embosoming it the older interwoven crosses of St. George, St. Andrew and St. Patrick. While the Stars and Stripes and the Union Jack are here side by side, or flutter in the breeze together, as they are doing to-day in England, freedom will surely be safe.

They are now united against the eagle of Prussianism—the foe of all that we count dear in life, whose banner represents barbaric force and has for inscription, “Our glory is to slay.” The banner which to-day comes into our proud possession, emblem of the advance of science, bears but the single line: “Our duty is to save.” The men whom these stars indicate know the possible price and are ready to pay it, counting it worth while. If in the fortunes of war some of these stars shall change from blue to golden, there will be spots in a foreign land that shall be forever American. Their sacrifice will be no vain thing. Freedom has often cost a heavy price and once again it is doing so.

Gentlemen, if you approve of the Association's accepting this unique gift of a service flag, please indicate it by rising to your feet. (The entire audience rose at this point and applauded.) Mr. Brown, you have our expression of gratitude to the citizens of Chicago.

THE PRESIDENT.—The next in order is the report of the Committee of Arrangements, Dr. Sanger Brown, chairman.

REPORT OF COMMITTEE OF ARRANGEMENTS.

In deference to the strong nation-wide sentiment for conservation of resources and retrenchment, your committee has presumed to omit this year the excursions which have formed such delightful features of our meetings in years past, but we hope and trust that the efforts which our country is putting forth may largely and speedily contribute to the re-establishment and creation of conditions favorable to all sorts of legitimate recreation.

After the Annual Address on Wednesday evening there will be a reception in the red room, with light refreshments and dancing.

The society is invited by the commandant, Colonel Moffatt, to visit the Naval Training Station at Lake Bluff. We will be afforded an opportunity to see in vogue recent methods of classifying on a psychological basis recruits for various departments of naval and military service. This work is being done by Dr. Hulbert, who holds his clinic at 12.30 p. m. The Henry Flavill School, formerly the Illinois Society for Mental Hygiene, has invited our members to luncheon on Thursday. This institution is next door to the celebrated Hull House, so ably presided over for many years by Miss Jane Addams, and you will have an opportunity of visiting Hull House and probably meeting Miss Addams.

SANGER BROWN, *Chairman*.

THE PRESIDENT.—I will call on the Secretary for the report of the Council.

REPORT OF THE COUNCIL TO THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION.

CHICAGO, ILL., June 4, 1918.

The Council met on the evening of June 3, 1918, at the Hotel LaSalle, Chicago, Ill.

The Council recommends for election to active membership the following named physicians. This list was presented to the Association a year ago, and these names are now submitted for final consideration:

G. E. Charlton, M. D., Norfolk, Neb.; Harvey Clare, M. D., Toronto, Ont.; Albert H. Dollear, M. D., Jacksonville, Ill.; Winfield S. Farmer, M. D., Nashville, Tenn.; William S. Fast, M. D., Ingleside, Neb.; William Healy, M. D., Boston, Mass.; C. C. Kirk, M. D., Little Rock, Ark.; William T. Kradwell, M. D., Wauwatosa, Wis.; Lesser Kauffman, M. D., Buffalo, N. Y.; F. G. Larue, M. D., Hopkinsville, Ky.; Arthur P. Noyes, M. D., Boston, Mass.; W. Reid Putney, M. D., Amelia, Va.; Ralph Reed, M. D., Cincinnati, O.; Arthur H. Ring, M. D., Arlington Heights, Mass.; Delparde W. Roberts, M. D., Milwaukee, Wis.; Rock Sleysler, M. D., Waupun, Wis.; William J. Steward, M. D., Pennhurst, Pa.; Beverly R. Tucker, M. D., Richmond, Va.; Fulton S. Vrooman, M. D., Coburg, Ont.; Samuel B. Woodward, M. D., Worcester, Mass.; A. R. T. Wylie, M. D., Grafton, N. D.

The Council recommends for election to honorary membership in the Association:

Noboru Ishida, M. D., of Nagasaki, Japan, Professor of Phychiatry in the Nagasaki Medical College and Chief Psychiatrist to the Prefectural Hospital.

The Council recommends the transfer of the following named associate members to the active class:

Amos T. Baker, M. D., East View, N. Y.; E. S. Brodsky, M. D., Bridgeport, Conn.; J. F. Leigh Brown, M. D., Woodstock, N. B.; Chester Lee Carlisle, M. D., Albany, N. Y.; Alan D. Finlayson, M. D., Warren, Pa.;

P. T. Haskell, M. D., Bangor, Me.; Harlan P. Mills, M. D., Phoenix, Ariz.; E. A. North, M. D., Cincinnati, O.; E. Palmer, M. D., Ann Arbor, Mich.; Leigh F. Robinson, M. D., Hartford, Conn.; William J. Tiffany, M. D., Binghamton, N. Y.; Pearl S. Waters, M. D., Fergus Falls, Minn.; Lorne W. Yule, M. D., Logansport, Ind.; R. G. Barry, M. D., Trenton, N. J.

The Council recommends that the following named physicians be elected to associate membership:

Harry B. Ballou, M. D., Westborough, Mass.; H. A. Bolton, M. D., Warm Springs, Mont.; Clarence A. Bonner, M. D., Worcester, Mass.; J. W. Brophy, M. D., Warm Springs, Mont.; Nathaniel H. Brush, M. D., Baltimore, Md.; Homer L. Day, M. D., New York; Flora Parker Easton, M. D., Norristown, Pa.; Mary L. Evans, M. D., Middletown, Conn.; K. M. Ferguson, M. D., Massillon, O.; James J. Gable, M. D., Norman, Okla.; Ada F. Harris, M. D., Worcester, Mass.; F. Ross Haviland, M. D., New York; Elizabeth S. Helberg, M. D., New York; Herbert E. Herrin, M. D., Concord, N. H.; Bertrand L. Jones, M. D., Ann Arbor, Mich.; James P. Kelleher, M. D., New York; Howard M. Kenyon, M. D., Binghamton, N. Y.; Marie S. Lindsay, M. D., Worcester, Mass.; Mary MacLachlin, M. D., Middletown, Conn.; Alexander R. MacKenzie, M. D., Huntington, W. Va.; George W. Melvin, M. D., Middletown, Conn.; George W. T. Mills, M. D., Central Islip, N. Y.; Cora B. Palmer, M. D., Logansport, Ind.; Oscar J. Raeder, M. D., Boston, Mass.; Jonathan H. Ranney, M. D., Brattleboro, Vt.; Charles E. Rowe, M. D., Binghamton, N. Y.; Joseph Slattery, M. D., Massillon, O.; Arthur E. Soper, M. D., New York; Dwight S. Spellman, M. D., New York; Francis Albert Taylor, M. D., Middletown, Conn.; L. E. Trent, M. D., Nashville, Tenn.; Chester A. VanCor, M. D., Middletown, Conn.; Rodney R. Williams, M. D., Binghamton, N. Y.

The Council has received the following applications for active membership. In accordance with the constitution, final consideration of these will be deferred until next year:

James A. Belyea, M. D., Toledo, O.; Louis E. Bisch, M. D., New York; Frank H. Carlisle, M. D., Bridgewater, Mass.; Clarence J. D'Alton, M. D., New York City; Spencer L. Dawes, M. D., Garden City, N. Y.; Frank I. Drake, M. D., Mendota, Wis.; R. A. Kidd, M. D., Shepherd, O.; Lawrence Kolb, M. D., New York; Lawson G. Lowrey, M. D., Boston, Mass.; J. C. Michael, M. D., St. Paul, Minn.; Fred P. Moersch, M. D., Minneapolis, Minn.; G. C. Robertson, M. D., Spencer, W. Va.; Thomas A. Rutherford, M. D., Clark's Summit, Pa.; John W. Stevens, M. D., Nashville, Tenn.; John R. Walls, M. D., Phoenix, Ariz.; C. E. White, M. D., Weston, W. Va.; Otto G. Wiedman, M. D., Hartford, Conn.; Porter E. Williams, M. D., St. Joseph, Mo.; Henry W. Woltmann, M. D., Minneapolis, Minn.

The Council has received the resignations of the following members, and recommends that they be accepted in so far as their dues are paid to date:

E. Mabel Thompson, M. D., Somyea, N. Y.; Donald Campbell Meyers, M. D., Toronto, Ont.; William L. Robins, M. D., Washington, D. C.; C. Ross Miller, M. D., Colorado Springs, Colo.; George T. Faris, M. D., Phila-

delphia, Pa.; Edward B. Shellenberger, M.D., Danville, Pa.; Philip C. Washburn, M.D., Kings Park, N. Y.; John J. Harrington, M.D., Osawatomie, Kans.; John C. Felty, M.D., Gettysburg, Pa.; Herbert B. Howard, M.D., Boston, Mass.

The Council recommends that memorial notices, or abstracts of the same, be read when the writers are present.

The Council recommends that the following resolution be adopted by the Association:

Whereas, Many of the members of the American Medico-Psychological Association have answered the call to colors; and

Whereas, By their patriotic love for their country and their belief in human freedom, they have sacrificed their positions, have broken their family ties and have placed their lives upon the altar of devotion; therefore, be it

Resolved, That, as a slight token of esteem for these patriots, we the American Medico-Psychological Association do hereby authorize the Treasurer of this Association to remit dues of such members during their terms of active service.

The Council makes the following further recommendations:

That no reprints from the *JOURNAL* or *Transactions* be furnished to writers of papers until further action, except at the expense of the authors.

That the Treasurer be authorized to reimburse Dr. Hoisholt for the expense of the moving picture film in connection with his paper, but that this action shall not be considered as establishing a precedent.

That the resignations of Dr. Henry M. Hurd and Dr. G. Alder Blumer as members of the editorial board of *THE AMERICAN JOURNAL OF INSANITY* be accepted, and the name of each be carried on the title page of the *Journal* as editor emeritus; that Dr. Charles Macfie Campbell, of Baltimore, Md., and Dr. Albert M. Barrett, of Ann Arbor, Mich., be added to the editorial board of the *JOURNAL* to fill the vacancies.

That the annual meeting of the Association be held in Philadelphia, Pa., in 1919, the date to be determined by the President and the Secretary.

Respectfully submitted,

H. C. EYMAN, *Secretary*.

DR. S. E. SMITH.—I move that the report of the Council be accepted and adopted, and that the resolution in regard to the remission of dues be adopted by the Association.

The motion was duly seconded and carried.

At the suggestion of the President, Dr. E. N. Brush escorted Professor Ishida, the newly-elected honorary member, to the platform and presented him to the Association.

THE PRESIDENT.—We will now have the report of the Treasurer.

The following is a statement of membership of the American Medico-Psychological Association to date:

HONORARY MEMBERS.

Present number	18
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LIFE MEMBERS.

Former number	27
Added	4
	<hr/>
Total	31
Died	1
	<hr/>
Present number	30

ACTIVE MEMBERS.

Former number	462
Associate to Active	18
Admitted	28
	<hr/>
Total	508
Active to Life	4
Resigned	3
Dropped	7
Died	4
	<hr/>
Total	18
	<hr/>
Present number	490

ASSOCIATE MEMBERS.

Former number	338
Admitted	34
	<hr/>
Total	372
Associate to Active	18
Resigned	8
Dropped	4
Died	1
	<hr/>
Total	31
	<hr/>
Present number	341
	<hr/>
Grand total membership May 29, 1918.....	879

REPORT OF TREASURER, 1917-1918.

DEBITS.

Balance brought forward	\$4592.90
Receipts for dues:	
Active members	2140.00
Associate members	518.00
Advance dues	11.00
Interest on deposits:	
First National Bank, Massillon.....	78.12
Mutual Building & Investment Co., Cleveland, Ohio..	91.33
Miscellaneous:	
Gummed lists of members	7.50
Refund, Astor Hotel	12.50
Exchange on checks .....	.20
	<hr/>
Total receipts	2858.65
	<hr/>
Total debits	\$7451.55

1917

CREDITS.

May	30	T. E. McGarr, stenographic services	\$75.00
	30	R. H. Hutchins, industrial exhibit expense	10.55
	30	H. M. Pollock, printing statistical report	47.30
June	4	H. C. Eyman, Secretary, incidental expenses, New York meeting	10.57
	6	E. G. Conklin, expenses—annual address.....	50.00
	6	W. C. Muschenheim, stereopticon, placards, etc.....	23.50
	15	A. H. Harrington, stereopticon, rental.....	12.00
	15	Ohio Printing & Publishing Co., printing reports and letter heads	4.50
	23	Ohio Printing & Publishing Co., letter heads and cards.....	18.85
July	11	T. E. McGarr, stenographic services.....	75.00
Aug.	7	E. A. Rigdon, express .....	.91
	20	Lord Baltimore Press, printing <i>Transactions</i>	1539.98
	20	T. E. McGarr, stenographic services	15.00
	22	Johns Hopkins Press, to apply on deficit—institutional care of the insane	2500.00
Oct.	15	Lord Baltimore Press, expense <i>Transactions</i>	24.39
	15	John W. Jones, supplies	3.05
	19	Sheppard-Enoch Pratt Hospital, paper, postage, etc....	18.33
	25	Ohio Printing & Publishing Co., letter heads and printing	46.75
	25	H. C. Eyman, Secretary, expense to Chicago—meeting on arrangements	30.00
Nov.	1	William R. Dunton, indexing <i>Transactions</i>	29.00
	1	John W. Jones, envelopes	2.45
	12	E. A. Rigdon, stamps and express	5.77

1918

CREDITS.

Jan.	12	E. A. Rigdon, postage	2.00
	25	E. A. Rigdon, stamps	5.00
	25	Miss Beulah Harpold, stenographic services 1 year....	100.00
Feb.	28	H. W. Mitchell, expenses to Chicago, including print- ing, etc.....	66.97
	28	H. C. Eyman, expenses to Chicago	30.00
Mch.	7	Western Union Telegraph Co., telegrams.....	3.30
	7	Ohio Printing & Publishing Co., envelopes.....	33.25
	16	H. B. Sibila, P. M., stamps.....	40.00
Apr.	9	Ohio Printing & Publishing Co., printing preliminary programs	11.00
	18	Ohio Printing & Publishing Co., envelopes and receipts.	5.80
	18	E. A. Rigdon, stamps	1.00
	24	E. A. Rigdon, stamps	1.50
May	8	E. A. Rigdon, stamps.....	.50
	17	E. A. Rigdon, stamps	7.50
	23	The Independent Co., registration cards.....	4.00
	24	E. A. Rigdon, clerical services and supplies.....	35.35
	27	Ohio Printing & Publishing Co., printing programs, envelopes, and dodgers	128.25
	27	The Park Press, printing ballots	4.00
Total expenditures			\$5022.32
By refunds and protested checks.....			15.00
Bank balance, First National Bank, Massillon.....			1970.10
Mutual Building & Investment Co., Cleveland, Ohio.....			444.13

Total \$7451.55

Respectfully submitted,

H. C. EYMAN, *Treasurer.*

DR. WAGNER.—I move the report of the Treasurer be received and referred to the auditors.

THE PRESIDENT.—I will call for the report of the editors of the AMERICAN JOURNAL OF INSANITY.

DR. BRUSH.—

To the Members of the American

Medico-Psychological Association,

The Editorial Board of the AMERICAN JOURNAL OF INSANITY held a meeting in New York on May 16th. At this meeting, there were present Dr. Henry M. Hurd, G. Alder Blumer, J. Montgomery Mosher, and the speaker. I was able to report the affairs of the JOURNAL in an excellent condition.

The seventy-fourth volume just completed comprises more than 725 pages with more than 50 illustrations, the majority of which are half-tone plates.

The increased cost of paper, composition and press work has very materially increased the cost of publishing the JOURNAL, but, as will be seen from the financial report of the publishers, we close the year with a comfortable balance. It is not impossible that the next volume will, of necessity, be restricted in size, owing to the shortage of paper.

It is hoped that the papers read at this session will be sent to the Secretary ready for the printer. Too often contributors, when they receive the proof-sheets of their papers, make very material alterations therein, often to the extent of re-writing whole pages. This is expensive to the JOURNAL, and, in the future, changes in proof other than ordinary proof corrections will be charged to the authors making such changes.

The Council has adopted a rule that until further notice, reprints, which have heretofore been furnished to the number of one hundred gratis to authors, will be charged for at cost.

It is with much regret that I was compelled to offer to the Council the resignations of Drs. Hurd and Blumer from the Board, which were presented to me at the meeting in May of the Editorial Board. I shall long miss their advice and co-operation, and the readers of the JOURNAL will share with me in the regret that they have felt compelled to leave the Editorial Board.

In the election of Drs. Charles Macfie Campbell and Albert M. Barrett to fill the vacancies in the board, a very wise choice has been made as I am confident will be demonstrated in the future.

Respectfully submitted,

EDWARD N. BRUSH, *Managing Editor*.

DR. BURGESS.—I move that the report of the editors of the JOURNAL be received and the financial part referred to the auditors.

Motion seconded and adopted.

THE PRESIDENT.—It is the duty of the President at this time to appoint a Nominating Committee. I shall name as that committee the following: Dr. T. J. W. Burgess, Quebec; Dr. Charles W. Pilgrim, New York; Dr. Byron M. Caples, Wisconsin.

Another committee that I will name at this time is the Committee on Awards: Dr. Albert M. Barrett, Michigan; Dr. Alfred T. Hobbs, Ontario; Mrs. Sanger Brown, Illinois; Mrs. Charles P. Bancroft, New Hampshire; Mrs. T. J. W. Burgess, Quebec; Mrs. Edward N. Brush, Maryland.

We will dispense with the recess for registration and go on with the program if it is the wish of the Association.

I will ask the Secretary to read the list of those who have died during the year; the members will please stand while these names are being read.

The following list of memorial notices was read by the Secretary:

Dr. John B. Chapin, by Edward N. Brush, M. D.; Dr. Charles H. North, by R. F. C. Kieb, M. D.; Dr. George Villeneuve, by Frank E. Devlin, M. D.; Dr. Thomas G. Biddle, by M. L. Perry, M. D.; Dr. James H. Garlick, by

J. S. DeJarnette, M. D.; Dr. H. V. A. Smith, by George W. King, M. D., and Dr. William Austin Macy.

Dr. Brush read an abstract of the memorial notice of Dr. Chapin; the writers being absent, the remainder of the memorial notices were read by title.

THE PRESIDENT.—There is but one other item on the morning's program, and that is the presidential address.

The President then read his address, which was received with prolonged applause.

DR. C. B. BURR.—These golden, glowing, glorious words of our President have not fallen on unappreciative ears; we are with you, Mr. President, in every word you have uttered. You have no foolish optimism; you do not indulge in any self-cheating; you have your face set to the front, and God grant that we may all be similarly minded and similarly determined—I believe we are, and if we are, why nothing but victory for the Allies can result, however long this awful war may continue. Just one word more; you have spoken about the last gun; it may be that it will be fired by an American; it may be by a French, Italian, British, or Belgian battery; I do not want to know which. All I wish to know is that it is fired from a gun of one of the Allies. Let us submerge nationalism just as far as is consistent and think in terms of internationalism in its broadest and best significance.

Mr. Vice-President, I move a vote of thanks to the President of this Association for his address.

DR. SOUTHARD (presiding).—I will put this motion and ask that we have a rising vote of the Association.

The motion was unanimously carried by a rising vote.

The following members registered and were in attendance during the whole or a part of the meeting:

Abbot E. Stanley, M. D., Assistant Physician & Pathologist, McLean Hospital, Waverley, Mass.

Adams, F. M., M. D., Superintendent Eastern Oklahoma Hospital, Vinita, Okla.

Adler, Herman M., M. D., 1812 W. Polk St., Chicago, Ill.

Amsden, George S., M. D., Senior Assistant Physician Bloomingdale Hospital, White Plains, N. Y.

Anderson, Albert, M. D., Superintendent State Hospital, Raleigh, N. C.

Anglin, J. V., M. D., Medical Superintendent The Provincial Hospital, St. John, N. B.

Ballantine, Eveline P., M. D., Assistant Physician State Hospital, Rochester, N. Y.

Bancroft, Charles P., M. D., 104 Pleasant St., Concord, N. H.

Barrett, Albert M., M. D., Medical Director State Psychopathic Hospital, University of Michigan, Ann Arbor, Mich.

Beutler, W. F., M. D., Superintendent Milwaukee Asylum for Mentally Diseased, Wauwatosa, Wis.

Brill, A. A., M. D., No. 1 West 70th St., New York, N. Y.

Brown, G. W., M. D., Superintendent Eastern State Hospital, Williamsburg, Va.

Brown, Sanger, M. D., Chief-of-Staff Kenilworth Sanitarium, Kenilworth, Ill.

Bryan, W. A., M. D., Assistant Superintendent Danvers State Hospital, Hathorne, Mass.

Brush, Edward N., M. D., Physician-in-Chief and Superintendent Shepard and Enoch Pratt Hospital, Towson, Md.

Burgess, T. J. W., M. D., Medical Superintendent Protestant Hospital for the Insane, Montreal, Quebec.

Burnet, Anne, M. D., 6352 Kenwood Ave., Chicago, Ill.

Burr, C. B., M. D., Medical Director Oak Grove Hospital, Flint, Mich.

Caples, B. M., M. D., Superintendent Waukesha Springs Sanitarium, Waukesha, Wis.

Carlisle, Frank H., M. D., Medical Director Bridgewater State Hospital, Bridgewater, Mass.

Carmichael, F. A., M. D., Superintendent Osawatomie State Hospital, Osawatomie, Kans.

Carriel, H. B., M. D., Superintendent Dixon State Colony, Dixon, Ill.

Church, Mary V., M. D., Assistant Physician Southern Indiana Hospital for Insane, Evansville, Ind.

Cobb, O. H., M. D., Superintendent Syracuse State Institution, Syracuse, N. Y.

Cohn, Eugene, M. D., Superintendent Kankakee State Hospital, Kankakee, Ill.

Crumbacker, W. P., M. D., Superintendent Independence State Hospital, Independence, Ia.

Dewey, Richard, M. D., Medical Superintendent Milwaukee Sanitarium, Wauwatosa, Wis.

Dolloff, Charles H., M. D., Superintendent New Hampshire State Hospital, Concord, N. H.

Donohoe, George, M. D., Medical Superintendent Cherokee State Hospital, Cherokee, Ia.

Dowell, R. T., M. D., Assistant Physician Elgin State Hospital, Elgin, Ill.

English, W. M., M. D., Superintendent Hospital for Insane, Hamilton, Ont., Canada.

Eyman, Henry C., M. D., Superintendent Massillon State Hospital, Massillon, Ohio.

Faison, W. W., M. D., Superintendent State Hospital, Goldsboro, N. C.

Farmer, W. F., M. D., Superintendent Central Hospital for Insane, Nashville, Tenn.

- Fast, William S., M. D., Superintendent State Hospital, Ingleside, Neb.
- Foley, Edward A., M. D., Assistant Superintendent Chicago State Hospital, Dunning, Ill.
- Forster, J. M., M. D., Superintendent Hospital for Insane, Toronto, Ont., Canada.
- Fuller, Daniel H., M. D., Sr. Asst. Physician Pennsylvania Hospital, 49th and Market Sts., Philadelphia, Pa.
- Fuller, Solomon C., M. D., Pathologist and Clinical Director Westborough State Hospital, Westborough, Mass.
- Gahagan, H. J., M. D., Medical Director Mercyville Sanitarium, Aurora, Ill.
- Glueck, Bernard, M. D., Director Psychopathic Clinic, Sing Sing Prison, Ossining, N. Y.
- Gorst, Charles, M. D., 711 E. Gorham St., Madison, Wis.
- Gosline, Harold I., M. D., Base Hospital, U. S. A., Camp Sherman, Chillicothe, Ohio.
- Goss, Arthur V., M. D., Superintendent Taunton State Hospital, Taunton, Mass.
- Griffin, D. W., M. D., Superintendent Central Oklahoma State Hospital, Norman, Okla.
- Guthrie, L. V., M. D., Superintendent Huntington State Hospital, Huntington, W. Va.
- Haines, Thomas H., M. D., Professor of Medicine Ohio State University, Columbus, Ohio.
- Hawley, M. C., M. D., Superintendent Watertown State Hospital, East Moline, Ill.
- Herriman, William C., M. D., Medical Director Hospital for Feeble-Minded, Orillia, Ont., Canada.
- Hill, Charles G., M. D., Physician-in-Chief Mt. Hope Retreat, Baltimore, Md.
- Hinton, Ralph T., M. D., Superintendent Elgin State Hospital, Elgin, Ill.
- Hobbs, A. T., M. D., Superintendent Homewood Sanitarium, Guelph, Ontario, Canada.
- Hoisholt, A. W., M. D., Superintendent Napa State Hospital, California.
- Horner, Blanche W., M. D., Assistant Physician Rochester State Hospital, Rochester, Minn.
- Hotchkiss, W. M., M. D., Superintendent North Dakota State Hospital, Jamestown, N. Dak.
- Howell, D. H., M. D., Assistant Physician Chicago State Hospital, Chicago, Ill.
- Hyde, George E., M. D., Superintendent State Mental Hospital, Provo, Utah.
- Ishida, N., M. D., Professor of Nagasaki Medical College, Nagasaki, Nagasaki Prefectural Hospital, Nagasaki, Japan.
- Jackson, James Allen, M. D., Chief Resident Physician Philadelphia Hospital for Insane, Philadelphia, Pa.

Jones, L. M., M. D., Superintendent Georgia State Sanitarium, Milledgeville, Ga.

Kilbourne, Arthur F., M. D., Superintendent Rochester State Hospital, Rochester, Minn.

King, George W., M. D., Medical Director Hudson County Hospital, Secaucus, N. J.

Kirby, George H., M. D., Director Psychiatric Institute, Ward's Island, New York City.

Kline, George M., M. D., Director Massachusetts Commission on Mental Diseases, State House, Boston, Mass.

Klopp, Henry I., M. D., Superintendent State Hospital, Allentown, Pa.

Kradwell, William T., M. D., Assistant Superintendent Milwaukee Sanitarium, Wauwatosa, Wis.

LaMoure, H. A., M. D., Superintendent Colorado State Hospital, Pueblo, Colo.

Langdon, Frank W., M. D., Medical Director Cincinnati Sanitarium, 4003 Rose Hill Ave., Cincinnati, O.

Laughlin, C. E., M. D., Superintendent Southern Indiana Hospital for the Insane, Evansville, Ind.

Leader, Pauline M., M. D., Attending Physician Clarinda State Hospital, Clarinda, Ia.

Leak, R. L., M. D., Medical Director State Hospital for Insane, Columbia, S. C.

Lowe, Charles R., M. D., Lincoln State School and Colony, 861 S. State St., Lincoln, Ill.

Mitchell, H. W., M. D., Superintendent State Hospital for the Insane, Warren, Pa.

Mitchell, J. C., M. D., Superintendent Eastern Hospital, Brockville, Ont., Canada.

Orton, Samuel T., M. D., Clinical Director and Pathologist Pennsylvania Hospital, 4401 Market St., Philadelphia, Pa.

Ostrander, Herman, M. D., Superintendent Kalamazoo State Hospital, Kalamazoo, Mich.

Palmer, E., M. D., Senior Assistant Physician Northern Hospital for Insane, Logansport, Ind.

Payne, Guy, M. D., Superintendent Essex County Hospital, Cedar Grove, N. J.

Perry, M. L., M. D., Superintendent Topeka State Hospital, Topeka, Kan.

Pierson, Clarence, M. D., Superintendent East Louisiana Hospital, Jackson, La.

Pietrowicz, Stephen R., M. D., Physician-in-Chief St. Mary's Hospital, 5733 Sheridan Road, Chicago, Ill.

Pilgrim, Charles W., M. D., Chairman State Hospital Commission, Poughkeepsie, N. Y.

Pogue, Mary E., M. D., Superintendent Mary E. Pogue Sanitarium, Wheaton, Ill.

Prout, Thomas P., M. D., Superintendent Fair Oaks Sanitarium, Summit, N. J.

Quinn, F. W., M. D., Assistant Physician Louisiana Hospital for the Insane, Pineville, La.

Raeder, O. J., M. D., Assistant Pathologist Psychopathic Hospital, 74 Fenwood Road, Boston, Mass.

Read, Charles F., M. D., Managing Officer Chicago State Hospital, Chicago, Ill.

Ridgway, R. F. L., M. D., First Assistant Physician Pennsylvania State Lunatic Hospital, Harrisburg, Pa.

Roberts, D. W., M. D., Chief-of-Staff Sacred Heart Sanitarium, Minneapolis, Minn.

Robertson, G. C., M. D., Superintendent Spencer State Hospital, Spencer, W. Va.

Ross, Charles E., M. D., Wichita, Kan.

Seybert, Frank T., M. D., Physician-in-Chief St. Bernard's Hospital, Council Bluffs, Ia.

Sherman, Adin, M. D., Superintendent The Northern Hospital for Insane, Winnebago, Wis.

Singer, H. Douglas, M. D., State Alienist Department Public Welfare, Kankakee, Ill.

Smith, Samuel E., M. D., Medical Superintendent Eastern Indiana Hospital for Insane, Richmond, Ind.

Snavelly, Earl H., M. D., Assistant Physician Essex County Hospital, Cedar Grove, N. J.

Southard, E. E., M. D., Pathologist Massachusetts Commission Mental Diseases, 74 Fenwood Road, Boston, Mass.

Spaulding, Edith R., M. D., Director Psychopathic Hospital, Bedford Hills, N. Y.

Stearns, A. W., M. D., U. S. N. R. F., 520 Commonwealth Ave., Boston.

Terflinger, F. W., M. D., Superintendent Northern Indiana Hospital for Insane, Logansport, Ind.

Treadway, W. L., M. D., Passed Assistant Surgeon U. S. P. H. S., 416 Winder Building, Washington, D. C.

Tuttle, George T., M. D., Superintendent McLean Hospital, Waverley, Mass.

Tyson, Forrest C., M. D., Superintendent Augusta State Hospital, Augusta, Me.

Uhls, L. L., M. D., The Uhls Sanitarium, Overland Park, Kan.

VanNuys, W. C., M. D., Superintendent Indiana Village for Epileptics, Newcastle, Ind.

Wade, J. Percy, M. D., Superintendent Spring Grove State Hospital, Catonsville, Md.

Wagner, Charles G., M. D., Superintendent Binghamton State Hospital, Binghamton, N. Y.

Walsh, James J., M. D., Assistant Physician Elgin State Hospital, Elgin, Ill.

Waters, Pearl S., M. D., Staff Physician Fergus Falls State Hospital, Fergus Falls, Minn.

WenGlesky, J. F., M. D., Physician-in-Charge St. Mary's Hill, Milwaukee, Wis.

Wilgus, Sidney D., M. D., Proprietor Wilgus Sanitarium, Rockford, Ill.

Williams, B. F., M. D., Lincoln, Neb.

Williams, C. F., M. D., Superintendent State Hospital for Insane, Columbia, S. C.

Williams, Frankwood E., M. D., Associate Medical Director National Committee for Mental Hygiene, Surgeon General's Office, Washington, D. C.

Woodson, C. R., M. D., Superintendent Woodson Sanitarium, St. Joseph, Mo.

Young, A. F., M. D., Superintendent Milwaukee County Hospital for Mental Diseases, Wauwatosa, Wis.

Yule, Lorne W., M. D., Roanoke, Va.

Zeller, George A., M. D., Managing Officer Alton State Hospital, Alton, Ill.

The following visitors and guests of the Association registered their names with the Secretary :

Abbot, Mrs. E. Stanley, Waverley, Mass.

Abbott, Mr. William T., Central Trust Co., Chicago, Ill.

Adams, B. O., Riverside, Cal.

Amsden, Mrs. George S., White Plains, N. Y.

Anderson, C. H., Managing Officer Anna State Hospital, Anna, Ill.

Anglin, Mrs. J. V., St. John, N. B., Canada.

Arnold, Mrs. Frances D., 1456 Fargo Ave., Chicago, Ill.

Ashurhurst, T. E., Waurika, Okla.

Bancroft, Mrs. Charles P., Concord, N. H.

Barber, Helen M., 1230 N. State St., Chicago, Ill.

Beutler, Mrs. W. F., Wauwatosa, Wis.

Bond, Miss Edith, Chicago, Ill.

Boyd, C. A., 208 W. Monroe St., Chicago, Ill.

Brush, Mrs. Edward N., Windy Brae, Towson, Md.

Buffington, Sarah Louise, 1140 Forest Ave., Evanston, Ill.

Burgess, Mrs. T. J. W., Montreal, Canada.

Burr, Mrs. C. B., Oak Grove, Flint, Mich.

Caples, Mrs. Byron M., Waukesha, Wis.

Chenoweth, Mrs., Montreal, Canada.

Chidester, F., Watertown State Hospital, E. Moline, Ill.

Cornstock, C. F., Chicago, Ill.

Davies, David H., Board of Administration Milwaukee County, Wauwatosa, Wis.

Dearman, U. L., M. D., Reedy, Iowa.

Eyman, Ethel C., Matron State Hospital, Massillon, Ohio.

Ferrier, E. G., M. D., Chicago State Hospital, Dunning, Ill.

Ferrer, Harold C., 4003 N. Hamlin Ave., Chicago, Ill.

- Foster, Mrs. Edgar, Mt. Carmel, Ill.
Fry, George C., 34 Columbus Ave., Boston, Mass.
Goff, E. S., Spencer, W. Va.
Gorst, Mrs. Charles, 747 Irving Park Boulevard, Chicago, Ill.
Gosline, Mrs. H. I., Camp Sherman, Chillicothe, O.
Greenacre, Phyllis, M. D., Assistant in Psychiatry Phipps Clinic, Johns
Hopkins Hospital, Baltimore, Md.
Griffith, Nina, Evanston, Ill.
Guthrie, Mrs. L. V., Matron Huntington State Hospital, Huntington,
W. Va.
Hadley, Mildred E., 801 Hinman Ave., Evanston, Ill.
Hincks, Clarence M., M. D., Canadian National Committee for Mental
Hygiene, Toronto, Canada.
Hobbs, Mrs. A. T., Homewood Sanitarium, Guelph, Ont., Canada.
Hoefler, William H., Chicago, Ill.
Hoff, J. J., M. D., Staff of Chicago State Hospital, Dunning.
Hoisholt, Mrs. A. W., Napa State Hospital, Napa, Cal.
Hoisholt, Miss, Napa State Hospital, Napa, Cal.
Holmes, Bayard, M. D., 30 N. Michigan Ave., Chicago, Ill.
Hotchkiss, Mrs. W. M., Jamestown, N. Dak.
Hotchkiss, Douglas, Jamestown, N. Dak.
Hoye, M. J. L., M. D., Superintendent East Mississippi Insane Hospital,
Meridian, Miss.
Humiston, Charles E., M. D., President Chicago Medical Society, Chi-
cago, Ill.
Johnson, J. E., Cincinnati, Ohio.
Kilbourne, Mrs. Arthur F., Rochester, Minn.
Kilbourne, Miss Katharine, Rochester, Minn.
Kinerem, Frank, Davenport, Iowa.
Koschel, B. R., Wyandotte, Mich.
Larson, Daniel O., M. D., State Mental Hospital, Provo, Utah.
Laughlin, E., D. D. S., 7th Reg., Camp Terry, Great Lakes, Ill.
Laughlin, Emma, Matron, Woodmere, Evansville, Ind.
Laughlin, Genevieve, So. Indiana Hospital for the Insane, Evansville, Ind.
Lermit, Geraldine R., 5211 Cornell Ave., Chicago, Ill.
Ludolph, A. E., Wyandotte, Mich.
Maginnis, F. N., M. D., Assistant Superintendent Mercyville Sanitarium,
Aurora, Ill.
McCarty, Charles W., New York City.
McCarthy, W. P., 208 W. Monroe St., Chicago, Ill.
McIntire, Annette M., M. D., 25 E. Washington St., Chicago.
Monroe, Mrs. William S., President Illinois Society for Mental Hygiene,
64 E. Elm St., Chicago, Ill.
Moyer, Harold N., 202 S. State St., Chicago, Ill.
Ostrander, Jessie M., New York City.
Pollock, Horatio M., Statistician New York State Hospital Commission,
Albany, N. Y.
Quin, Mrs. F. W., Pineville, La.

- Raymond, Henry I., M. D., Colonel Medical Corps, U. S. Army, Department Surgeon, Chicago.
- Ririe, Joseph, M. D., Member Board of Insanity of Utah, Ogden, Utah.
- Royal, Mrs. George, 229 Wesley Ave., Oak Park, Ill.
- Sasano, K. T., M. D., Lakeside, Chicago, Ill.
- Sherman, Mrs. Adin, Winnebago, Wis.
- Slagle, Eleanor Clarke, Director Occupational Therapy, Public Welfare Department, Hull House, Chicago, Ill.
- Spencer, Ethel M., 109 Wade St., Highland Park, Ill.
- Smith, Charlotte T., 1230 N. State St., Chicago, Ill.
- Smith, H. Mason, M. D., Superintendent Florida Hospital for the Insane, Chattahoochee, Fla.
- Staples, Katharine C., 1125 Davis St., Evanston, Ill.
- Stevens, H. Campbell, M. D., Physician Chicago State Hospital, Dunning, Ill.
- Stevens, Elmer A., M. D., Commissioner of Mental Diseases, 55 Federal St., Boston, Mass.
- Sutherland, L. B., Ringling, Okla.
- Sutton, Bess E., Flavill School of Occupation, Chicago, Ill.
- Swan, Frederick, 1518 Otis Building, Chicago, Ill.
- Tuttle, Mrs. George T., McLean Hospital, Waverley, Mass.
- Upton, Ruth M., 2920 Pine Grove Ave., Chicago, Ill.
- Wallace, Anna, M. D., Assistant Physician Chicago State Hospital, Dunning, Ill.
- Webb, Belle Boynton, Rochester, Minn.
- White, C. E., M. D., Superintendent Weston State Hospital, Weston, W. Va.
- Wilde, Walter J., Member Board of Administration Milwaukee County, 413 25th Ave., Milwaukee, Wis.
- Yates, F. A., 208 W. Monroe St., Chicago, Ill.
- Yoakum, Clarence S., M. D., Major Sanitary Corps N. A., Office of Surgeon General, Washington, D. C.
- Young, G. A., M. D., Professor Nervous and Mental Diseases, University Hospital, Omaha, Neb.
- Yule, Mrs. Lorne W., Roanoke, Va.

AFTERNOON SESSION.

The meeting was called to order by the President at 2.30 p. m.

THE PRESIDENT.—The following cablegram has been received by Dr. Wagner, from Dr. Thomas W. Salmon, who is now in France.

(dated) France.

Doctor Charles G. Wagner,

Binghamton, N. Y.

Send greetings and wishes for successful meeting from members Association in American Expeditionary Force, who in field, camp and hospital are applying best standards American psychiatry for welfare our soldiers.

(Signed) Salmon.

DR. C. B. BURR.—I move that a cablegram in reply be sent to Dr. Salmon.

Motion seconded and unanimously carried.

THE PRESIDENT.—The first paper on the program for the afternoon is "Simulation—Not an Adequate Diagnosis," by Dr. William A. White of Washington, D. C. I believe Dr. White is not present.

Motion made and unanimously carried that this paper be read by title.

THE PRESIDENT.—The second paper is "Studies in Paraphrenia," by Dr. A. A. Brill of New York City.

Dr. Brill then read his paper.

THE PRESIDENT.—If there is no discussion of Dr. Brill's paper we will proceed to the next paper, which is by Dr. L. Pierce Clark. Dr. Clark has sent a message that he is unable to attend the meeting, but that his paper will be read by Dr. Spaulding.

Dr. Clark's paper entitled "The Psychoanalytic Treatment of Retarded Depressions," was read by Dr. Spaulding.

THE PRESIDENT.—It has been suggested that discussion on these psychoanalytic papers be deferred until the papers are all read; if this meets with your approval we will pass on to the next paper.

The following papers were then read:

"The Occurrence of Schizophrenic Characteristics in Affective Disorders," by Phyllis Greenacre, M. D., Baltimore, Md.; "What Shall the Attitude of Psychiatrists be Toward Psychoanalysis in the Treatment of Dementia Præcox?" by Michael Osnato, M. D., New York City. (Dr. Osnato was detained on military duty and his paper was read by title.) "Interpretation of the Functional Nervous Diseases at the Physico-Chemical Level," by D. W. Roberts, M. D., Milwaukee, Wis.

The above papers were discussed by Drs. Southard, Hill and Dewey.

THE PRESIDENT.—As you probably know, many of the members are anxious to go home Thursday night or early Friday morning. If we can we mean to have the papers assigned for Friday on the program, read during the next three days. Dr. Dewey is down for a paper on Friday and he has kindly consented to read it this afternoon.

Dr. Dewey read his paper entitled "Remarks upon the Nursing Problem as Related to Psychopathic Patients." Discussed by Drs. Brush, Southard, Burr, Gorst and Dr. Dewey in closing.

THE PRESIDENT.—There are two other papers scheduled for Friday morning:

“Efficiency Study of Accidents in State Hospitals,” by Myrte M. Canavan, M. D., Boston, Mass., and

“An Analysis of the Accuracy of Psychopathic Hospital Diagnosis,” by Lawson G. Lowrey, M. D., Boston, Mass.

Neither Dr. Canavan nor Dr. Lowrey are present, and Dr. Southard, who is familiar with the subjects presented in these papers, will give us an abstract of them.

Dr. Southard gave a brief abstract of the above papers.

THE PRESIDENT.—If there is no discussion of these papers, after I have made an announcement or two we shall adjourn until eight o'clock this evening.

None of the auditors are present at this meeting, and as certain matters have been referred to them and the books must be audited, I will appoint as auditors for this meeting, Dr. English of Ontario, and Dr. Laughlin of Indiana.

Adjournment.

EVENING SESSION.

The Association was called to order by the President at 8 o'clock.

THE PRESIDENT.—I am pleased to announce that we are to have a few recreative moments this evening. I will ask Dr. Burr to introduce the speaker.

DR. BURR.—*Mr. President and Members of the Association. Ladies and Gentlemen:* When that unspeakable brute, the Prussian Kaiser, that sanctimonious crocodile, drew his hideous and slimy length over Belgium, a good many people—not so many as should, but a good many people—sat up, rubbed their eyes and began to take notice. Among them was an American woman who was at that time living in Brussels; she wanted to see; she was under the same delusion about Boche kindness and decency as a great many people; she wished to be shown. She *did* see the invasion of Belgium, at all events, that portion when the invading army passed through Brussels. She has a wonderful message. I have heard her speak many times; we have become greatly attached to her in Flint, where I live. She is our adopted daughter. She has helped us in the Liberty Bond and other campaigns, and you will have no doubt after hearing her speak that it was easy to go “over the top” so far that the top looked like a depression. She comes from Washington, her present home. She was living at the time the war broke out—in Belgium. She has two sons; one was with the C. R. B. in Belgium and is now with the American Army in France; another son will soon be in the war—the first of July. I said she lived in Washington; she is a citizen of the world, almost all the world, one part only excepted—that part toward which no decent person now admits any sentimental feeling.

Mrs. Clarke, before you speak, I would like to call your attention to the fact that this morning a service flag was presented by the citizens of Chicago to our Association; it bears 93 stars. I would like also to tell you that this is the first medical organization, national organization at least, that adopted resolutions in favor of universal military training; those resolutions were adopted in 1916, at New Orleans.

Mr. President, Ladies and Gentlemen, I feel it a great privilege, a very distinguished honor to present Mrs. Basil Clarke to this Association.

Mrs. Clarke spoke very interestingly of the conditions existing in Belgium and gave a very vivid description of the entrance of the German army into Brussels and of their awful atrocities; she also recited many of her own experiences before she left Belgium, which were received with prolonged applause.

THE PRESIDENT.—Mrs. Clarke, words would spoil the effect of your address if we were to thank you for this graphic story; it will never be forgotten.

We will proceed with the reading of papers scheduled for the evening program.

The following papers were read:

"Moving Picture Studies of Stereotypic Muscular Movements in Dementia Præcox and of the Movements in Huntington Chorea," by A. W. Hoisholt, M. D., Napa, Cal.; "Psychiatric Aims in the Field of Criminology," by Bernard Glueck, M. D., Ossining, N. Y.; "Studies in Orthopsychics," by Herman M. Adler, M. D., Chicago, Ill.

THE PRESIDENT.—The hour is late, and if you approve we will adjourn now and have the remaining papers in the morning, together with any discussion that may arise from the series of the evening.

On motion the meeting adjourned.

WEDNESDAY, JUNE 5, 1918, 10.00 A. M.

THE PRESIDENT.—The first order of business for the morning is the report of the Council.

REPORT OF THE COUNCIL, JUNE 5, 1918.

The Council recommends the election of the following named physicians to associate membership:

C. Arkebauer, M. D., Little Rock, Ark.; Samuel N. Clark, M. D., Chicago, Ill.; Raymond F. Dowell, M. D., Elgin, Ill.; Blanche W. Horner, M. D., Rochester, Minn.; James J. Walsh, M. D., Elgin, Ill.

The Council recommends the transfer of the following named associate members to the active class:

Solomon C. Fuller, M. D., Westborough, Mass., and Harold I. Gosline, M. D., Trenton, N. J.

The Council has received the following applications for active membership. In accordance with the constitution final consideration of these will be deferred until next year:

William C. Harriman, M. D., Orillia, Ont.; P. C. Oberndorf, M. D., New York City; George Alexander Young, M. D., Omaha, Neb.

The Council recommends that the dues for the ensuing year be increased to \$7.00 for active members, and \$3.00 for associate members.

Respectfully submitted,

H. C. EYMAN, *Secretary*.

DR. SANGER BROWN.—I move the recommendations of the Council be accepted and adopted.

Which motion was duly seconded and carried.

THE PRESIDENT.—The next order of business is the election of members proposed yesterday. The Secretary will read the names, and pass the ballots.

(This list will be found in the first report of the Council.)

DR. WOODSON.—I move that the rules be suspended and the Secretary be authorized to cast the ballot of the Association electing these physicians to membership.

Which motion was duly seconded and unanimously prevailed.

THE PRESIDENT.—Is there any unfinished business? If not, we will hear the report of the Nominating Committee.

DR. PILGRIM.—Your committee appointed to nominate the officers for the current year would respectfully recommend the election of the following gentlemen:

For President, Elmer E. Southard, M. D., Boston, Mass.

For Vice-President, Henry C. Eyman, M. D., Massillon, Ohio.

For Secretary-Treasurer, Arthur P. Herring, M. D., Baltimore, Md.

For Councilor for one year to fill the place of Dr. Thomas C. Biddle, deceased, M. L. Perry, M. D., Topeka, Kan.

For Councilors for three years: James V. Anglin, M. D., St. John, N. B.; Britton D. Evans, M. D., Morris Plains, N. J.; H. W. Mitchell, M. D., Warren, Pa.; Clarence Pierson, M. D., Jackson, La.

For Auditor for three years: Joseph C. Clark, M. D., Sykesville, Md.

(Signed) T. J. W. BURGESS, *Chairman*,

B. M. CAPLES,

CHAS. W. PILGRIM.

DR. S. E. SMITH.—I move that the report of the Nominating Committee be accepted and adopted, and that the President be instructed to cast the ballot of the Association for the election of these officers.

This motion was seconded by Dr. Woodson, and unanimously carried, and the officers were declared elected.

THE PRESIDENT.—The report of the auditors will be deferred until a later day.

As the committee on resolutions I would name Dr. Charles G. Wagner of New York, Dr. S. E. Smith of Indiana, and Dr. W. M. English of Ontario.

The papers left over from last night will be presented at this time.

The following papers were read:

"Some Emotional Episodes Among Psychopathic Delinquent Women," by Edith R. Spaulding, M. D., Bedford Hills, N. Y.; "The Mental Deficiency Survey of Kentucky, 1917," by Thomas H. Haines, M. D., Columbus, Ohio.

THE PRESIDENT.—There is now opportunity for brief discussion of the series begun last night and completed this morning on Delinquency.

These papers were discussed by Dr. Southard.

THE PRESIDENT.—The regular program for the morning will now be continued. I will call on Dr. Brush for his paper entitled "Hospital Organization and Management."

DR. S. E. SMITH.—Dr. Brush has been called out and has asked me to make excuse for him and to say that he will read his paper later.

THE PRESIDENT.—We will go on to the next paper, entitled "The Work of the New York Hospital Development Commission," by Dr. Charles W. Pilgrim, Albany, N. Y.

Dr. Pilgrim stated that owing to sickness he had been unable to prepare a complete paper upon "The Work of the New York Hospital Development Commission," and in lieu of that he gave the following brief extemporaneous account of its origin and progress:

The New York State Hospital Development Commission was organized in 1917 by an act of the Legislature, known as Act No. 238. The personnel of this Commission is made up as follows: First, there is the Chairman of the Senate Finance Committee, the Chairman of the Ways and Means Committee of the Assembly, and a minority member of one or the other of these bodies to be selected by his associates; then there is the Chairman of the State Hospital Commission, the State Architect, the State Engineer, and two members who are not connected with the state hospital service, appointed by the Governor. The act organizing this Commission made several definite recommendations and outlined the work which was expected of it.

The first thing that we were called upon to do was to take a census of the patients in the hospitals of the state, and to estimate the probable number that would be under state care at the end of ten years, as it is the idea that this Commission shall be perpetuated and shall exist during a period of 10 years, and that annual appropriations shall be made covering the needs of the different hospitals for their proper efficiency and development, and that these expenditures shall be divided as nearly as possible in equal amounts over this period of ten years. The survey showed that in all probability this would involve an expenditure of \$20,000,000 at the rate of \$2,000,000 each year.

We were then directed to measure up and arrange upon some scientific and accurate method of calculating the capacity of the various hospitals. This was done in every hospital in the state, and is described in the preliminary report, an article entitled "The Planning of a Hospital for the Insane." We took as our working basis 50 square feet per patient in dormitories, and 40 to 50 in day-rooms, 14 to 16 in dining-rooms, and each single room the size varying from 7 x 9 to 10 x 12, was counted as space for but one bed. In this way we arrived at the capacity of each hospital and certified what the proper capacity should be. We decided among other things, that single rooms should preferably contain about 80 square feet of space, with not more than one patient in a room, and in order to prevent two patients being placed in one room we have recommended that single rooms shall be about 7' x 11' or 8' x 10'.

The Commission visited all the hospitals in New York state and many in other states, including Massachusetts, and also the Whitby institution in Canada. The members set about their work with a determination to learn everything that it was possible to learn which would be of benefit in developing the hospital system of the state of New York.

There was one duty which the Commission was called upon to perform which at first promised to be the source of a great deal of trouble; this was to consider the future policy of the state for the care of the insane—whether it was to be hospital or custodial care. This question was gone into very thoroughly, and I am very glad to state that the Commission unanimously reported against custodial care.

As a preliminary report I would say that this Commission has succeeded in getting appropriations for making certain additions to the different hospitals of the state in order to bring each hospital up to its maximum efficiency and to make each hospital as nearly perfect in arrangement as possible. Besides getting money for additions to several of the hospitals, we succeeded in getting appropriations for the plans for a psychopathic hospital in the City of New York, and for practically the rebuilding of the Brooklyn State Hospital; the building of a new institution at Creedmoor and another one at Marcy in connection with the Utica State Hospital; and also a small appropriation for the expenses necessary for the selection of a site for a new hospital in the neighborhood of New York to relieve the overcrowding of the metropolitan district. In all we succeeded in securing appropriations amounting to something more than \$2,000,000, and we expect to go on at this rate during the next 10 years.

In order to show you the attitude of this Commission, which was largely made up of legislators and other state officials, and only two physicians, I would like to read a few paragraphs from the preliminary report:

"The Commission desires in this report to do justice to the management of the state institutions visited. It is a pity that every tax-payer in the state cannot visit these great institutions and see how his money is being expended. We believe that he would return from such an inspection with greater pride in his state and with a lively sense of gratitude toward those who are spending their lives in an endeavor to improve the mental health and to alleviate the sufferings of the helpless wards of the state. The defects in our system and in our individual institutions are not due either to our very efficient Hospital Commission, or to the management of the separate institutions. Rather are they due to an unawakened public conscience, a lack of knowledge both in the medical profession and in the State Legislature, and a lack of system in our method of making appropriations.

"Every insane hospital in the state is spotlessly clean and well kept. In every hospital the facilities at hand are used to the utmost and everywhere the patients are treated with humanity, kindness and understanding. But it is impossible to accomplish cures where a condition of overcrowding exists to such an extent that new arrivals and chronics must be cared for in the same wards, and where the day-room space is filled with beds. For such conditions neither the Hospital Commission nor the superintendents are in any way responsible. The responsibility rests with a so-called economy (unwise, inhumane and ignorant, for which a better name is parsimony) in needed appropriations. But even under these adverse conditions the superintendents have managed to keep up their courage and to a large extent their enthusiasm, and have done the best they could and have given the best that was in them to humanity and the state."

When we can get a legislative investigating body to write in such a sympathetic way in regard to the care of the insane and the work that is being done for them, I feel that we have reason to hope that New York during the next 10 years will achieve results which are most to be desired.

The following papers were read:

"The Organization of the State Hospital Service in Illinois," by H. Douglas Singer, M. D., Kankakee, Ill. Discussed by Dr. Brush and Dr. Singer in closing.

"The Rehabilitation in the Community of Patients Paroled from Institutions for the Insane," by Samuel N. Clark, M. D., Chicago, Ill. (Read by title.)

THE PRESIDENT.—To expedite the disposal of the program I will ask Dr. Southard to give us an abstract of Dr. Solomon's paper, who is not present.

Dr. Southard gave a brief abstract of the paper entitled:

"Syphillis in Mental Hospitals and the Community," by Harry C. Solomon, M. D., 1st Lieut. M. R. C. Discussed by Drs. Mitchell, Brush, Gorst and Pierson.

On motion the meeting adjourned.

AFTERNOON SESSION.

THE PRESIDENT.—The Association will please come to order.

Dr. Southard has several resolutions to offer.

DR. SOUTHARD.—I would offer the following resolution:

Resolved, That a War Work Committee of seven members be established.

DR. BRUSH.—I move that the committee mentioned in the resolution be appointed.

Motion seconded.

DR. WOODSON.—What is the real object of this committee, and would it be an expense to this Association?

DR. SOUTHARD.—It is not the idea that any expense be incurred. As to the object, it would take an hour or two to explain the details of this work. Of course, it is all done through the National Committee for Mental Hygiene, which regularly has a little money, and covers the work of reconstruction camps or units.

DR. WOODSON.—The work of the committee consisting of one from each state has done, I think, very commendable work. I have been called upon repeatedly through the committee to mention names of men who would be suitable and have recommended some sent in and a number have been accepted and I understand are making good; some have gone abroad. I think this work is a very good one; I think there is no reason why that committee should not be continued or a new committee appointed.

DR. BRUSH.—I think the Neuro-Psychiatric Division of the Surgeon General's office has been quite fortunate in having the advice and co-operation of Dr. Williams of the National Committee for Mental Hygiene; in some instances it has not had advice or co-operation from the committee appointed by this Association last year and in some instances it has not asked for it. With a small committee regularly within reach, working together, consulting with different ones they can do all the work that this widely extended committee does, which uses no standard as to the kind of men it will recommend, and I think will do very much better work than this very large committee.

Dr. Brush's motion was carried unanimously.

DR. SOUTHARD.—My second resolution is the following:

WHEREAS, A majority of the members of two committees, named below, and all their members who have replied to a circular letter, feel that the two committees should hereafter be fused into one;

Resolved, That the Committee on Scientific Exhibit and the Committee on Pathological Investigation be fused into one committee, viz., the Committee on Pathological Investigation.

I move that this resolution be adopted.

Motion seconded and carried.

DR. SOUTHARD.—Resolution No. 3 is as follows :

WHEREAS, The financial authorities of the several states and the United States have had at different times a very various policy in regard to delegation of representatives and the payment of their expenses to the annual meetings of the American Medico-Psychological Association ;

WHEREAS, The failures so to appoint delegates and defray expenses are sometimes due to the lack of a just appreciation of the Association's work and sometimes to a spirit of pseudo-economy ;

Resolved, That the American Medico-Psychological Association hereby expresses its deliberate opinion that (a) every state institution and incorporated institution for the insane or the mentally sick ; (b) every state board of control or supervision of these classes, and (c) every federal institution or unit for the care of these classes ought to be represented by a delegate or delegates, whose expenses should be defrayed by the several said State or Federal Governments or by the Managing Boards of Incorporated Institutions ;

Resolved, That a brief brochure or pamphlet be prepared by a temporary committee, stating the general and special reasons why said delegations and defrayals are in the best interests of State and Federal Governments, and of the care, treatment, and prevention of mental diseases and defect, and

Resolved, That printed copies of said brochure or pamphlet, together with these resolutions, be made available for transmission where desirable to the above-mentioned financial or controlling authorities.

DR. SOUTHARD.—I move that these resolutions be adopted.

Motion seconded and carried.

DR. BRUSH.—The Council has requested me to present the following resolution :

WHEREAS, The members of the American Medico-Psychological Association recognize the importance, in the advance of medical science, of the Army Medical Museum and the very pressing necessity of enlarging and improving its facilities ;

Resolved, That this Association urges upon Congress, and the Medical Department of the army that steps be inaugurated at once to that end.

Resolved, That the individual members of the Association be requested to bring this matter to the attention of their local representatives in Congress, urging them to support any measure introduced in Congress by the War Department through the Surgeon General's office looking to the enlargement and improvement of the Army Medical Museum and its future liberal financial support.

Resolved, That a copy of the foregoing be transmitted to Major R. W. Shufeldt, of the Medical Corps of the United States Army.

I move that these resolutions be adopted.

Which motion was duly seconded and carried.

THE PRESIDENT.—We will now hear the report of the Council.

REPORT OF THE COUNCIL, JUNE 5, 1918.

The Council recommends the election of the following named physicians to associate membership:

Roderick B. Dexter, M. D., Boston, Mass., and F. N. Maginnis, M. D., Aurora, Ill.

The Council has received the following applications for active membership. In accordance with the constitution final consideration of these will be deferred until next year:

D. C. Main, M. D., Alfred, N. Y.; C. Renz, M. D., San Francisco, Cal.; Charles C. Rowley, M. D., Grand Rapids, Wis.

(Signed) H. C. EYMAN, *Secretary*.

On motion duly seconded the report of the Council was accepted and adopted.

THE PRESIDENT.—We will now proceed to the reading of the papers on the program for the afternoon.

The following papers were read:

"Personality Study in Psychiatric Cases," by G. S. Amsden, M. D., White Plains, N. Y.; "A Clinical Summary of 106 Cases of Mental Disorder of Unknown Etiology Arising in the Fifth and Sixth Decades," by E. T. Gibson, M. D., Middletown, Conn. (Read by title.) "Recent American Classification of Mental Disease," by E. E. Southard, M. D., Boston, Mass. Discussed by Dr. Abbott and Dr. Southard in closing.

THE PRESIDENT.—Motion to adjourn will be in order. With your consent we will adjourn until this evening at 8.30 in this room.

EVENING SESSION

THE PRESIDENT.—Ladies and Gentlemen, we have with us this evening Professor Paul Shorey, of the University of Chicago. For some years past it has been the custom of the Association to devote an evening to the pleasure of hearing an address from some one not connected with our organization. Professor Shorey has kindly consented to give the address this evening.

Professor Shorey delivered his address, "Insanity and Literature," which was received with continuous applause.

DR. HILL.—Mr. President, after listening for several days to the various questions of psychiatry, hearing the matter discussed from every standpoint, learning new phases and new terms, viewing it from all angles and elevations, I am sure you all feel as I do that we have been highly entertained with the learned philologist's address this evening. I therefore move, Mr. President, that we extend to the Professor a vote of thanks for his presence and his delightful address on this occasion.

THE PRESIDENT.—All who agree with Dr. Hill in regard to this vote of thanks, and agree with Dr. Hill's sentiments, kindly signify by standing.

Professor, you have the unanimous thanks of this Association.

Adjournment.

THURSDAY JUNE 6, 1918, 10.00 A. M.

THE PRESIDENT.—The meeting will please come to order. We will first have the Council report.

REPORT OF COUNCIL, JUNE 6, 1918.

The Council recommends the election of Roger C. Swint, M. D., Milledgeville, Ga., as an associate member of the Association.

The Council has received the applications of the following named physicians for active membership. In accordance with the constitution, final consideration of these names will be deferred until next year:

Lieutenant-Colonel Pearce Bailey, M. D., Medical Corps, N. A., and H. S. Hulbert, M. D., of the Great Lakes Naval Training Station, Lake Bluff, Ill.

The Council wishes to express most sincere appreciation for the entertainment of the Association on Wednesday at the Great Lakes Naval Training Station, and extends hearty thanks to Captain Moffatt for his invitation, and to Dr. Hulbert for the extremely interesting and instructive demonstration of the work of the Psychiatric Unit.

Respectfully submitted,

H. C. EYMAN, *Secretary*.

On motion of Dr. Woodson, duly seconded, the report of the Council was accepted and adopted.

THE PRESIDENT.—We will now proceed to the election of associate members presented yesterday. I will ask the Secretary to read the names.

The following names were read:

C. Arkebauer, M. D., Little Rock, Ark.; Samuel N. Clark, M. D., Chicago, Ill.; Raymond F. Dowell, M. D., Elgin, Ill.; Blanche W. Horner, M. D., Rochester, Minn.; James J. Walsh, M. D., Elgin, Ill.; Solomon C. Fuller, M. D., Westborough, Mass., and Harold I. Gosline, M. D., Trenton, N. J., for transfer from associate to active membership.

On motion, duly seconded, the Secretary was authorized to cast the ballot of the Association electing the above-named physicians to associate membership, and transferring Drs. Fuller and Gosline from associate to active membership in the Association.

THE PRESIDENT.—As we expect to complete the program to-day we will combine this morning, afternoon and Friday as printed. The program calls for report of the Council on time and place of next meeting. This report was presented at a previous session and adopted by the Association, the place selected being Philadelphia.

DR. BURR.—I move that the Association concur in the expression of the Council and adopt its suggestion by a rising vote of thanks to Captain Moffatt and Dr. Hulbert.

Motion seconded and carried.

DR. SOUTHARD.—There are two suggestions I would like to make; one is that the name of the committee on diversional occupation be changed to read "Committee on Occupational Therapy." The point is that it will include war work and all things that are not strictly diversional, but are economic; these I think should be included. No one has raised a dissenting voice to this idea of changing the title from diversional occupation to occupational therapy. I therefore make this resolution in the form of a motion.

Which motion was duly seconded and carried.

DR. SOUTHARD.—The second is the question raised by Dr. Hulbert's work yesterday. I move that the letter of the constitution be changed so that physicians of extraordinary merit may be received directly into active membership. I make such a motion.

DR. WOODSON.—I move that Dr. Southard be requested to put that in form so that it may lay over until another year.

THE PRESIDENT.—We are willing to waive the clause in the constitution which states that this shall be done at the first session of the second day.

Motion carried.

Dr. Southard offered the following resolution:

Resolved, That the following change in the constitution be placed on the docket for consideration at the annual meeting of 1919, viz.:

Insert after the phrase "Active membership," Article V, line 33, the following sentence:

"Candidates for active membership who are of extraordinary merit may be elected at the same meeting at which their names are proposed, provided that six names of active members representing six different states are affixed to the application blank."

DR. ORTON.—I wish to call the attention of the Association to the fact that we have elected a man as Secretary who is in active service of the

United States. I think the work of the Secretary of this Association is in itself a considerable task and work that could not be done by a man whose hands are more than full. I think we are doing rather an injustice to Dr. Herring in asking him to take over the work of the secretaryship in addition to his own work. The suggestion I would make is that either the matter be turned over to the hands of the Chairman of the Nominating Committee, or that the Council reconsider the election of Dr. Herring with the idea of relieving him of the duties and placing the work in the hands of some one who will be able to devote more time to the work of the Association.

DR. WAGNER.—I would like to add that from personal knowledge of the work of the Secretary I am able to state that the position of the last speaker is very well taken indeed. The Association now numbers more than 900 members; the work of the Secretary-Treasurer has increased enormously in the last few years; the routine procedure is complicated and therefore it is important that the incoming Secretary should be here at this meeting in order to get a grasp of the details. As he has not been able to be present I foresee a good deal of trouble in organizing the next meeting. Those who have occupied the office of Secretary appreciate more than anybody else the need of a thorough knowledge of the routine procedure of this Association in the preparation of the program and the details for a meeting of this kind. I think we should if possible take steps to guard against failure of the meeting next year, which I fear might occur if Dr. Herring is occupied with his military duties the larger part of his time. I think it is due Dr. Herring that something be done to guard against trouble of that kind.

DR. BRUSH.—I concur in what Dr. Wagner says. The constitution provides that officers shall take their places immediately on election. The Secretary is not here to take his place.

DR. EYMAN.—I can bear out what has been said about the duties of the Secretary, and I am sure I would not have been able to do the work without instruction from Dr. Wagner, and without any instruction I do not believe Dr. Herring will be able to do it.

DR. WOODSON.—It is a regrettable affair that this matter has been overlooked, and I would make the motion that the Association authorize the Council to nominate Dr. Wagner to fill the office of Secretary during the time of the war.

DR. WAGNER.—While I thank Dr. Woodson for the compliment he implies, I beg to decline for the simple reason that I have served as Secretary for six years and cannot undertake further service. It is a very laborious task to perform the duties of the Secretary; I have gotten out of the routine of it, and it would be a hard matter for me to take it up again, and, besides, I am getting old. We want a younger man with energy, a man full of vigor and "pep" who will put his heart and soul into the work of the Association; I know such a man—he sits near me on my right, Dr. Mitchell.

DR. WOODSON.—I withdraw my motion.

DR. BURR.—I heartily accept Dr. Wagner's motion.

DR. WAGNER.—I do not know that I could offer a motion until some action is taken to clear the way. As the Association has elected Dr. Herring Secretary, the difficulties that appear in the way of his officiating in that capacity would seem to warrant the Association in taking some action to clear the way.

DR. ENGLISH.—I would move that the action of yesterday regarding the report of the Nominating Committee be rescinded in so far as it refers to the Secretary.

Motion seconded.

THE PRESIDENT.—All in favor of Dr. English's motion please rise.

Carried.

DR. BURR.—I move that Dr. Woodson's amendment be accepted and the name of Dr. Mitchell be substituted in place of Dr. Wagner.

THE PRESIDENT.—I understand Dr. Herring has been consulted and has consented to accept the office of Secretary. If he is willing to do the work it puts him in a rather awkward position.

DR. WOODSON.—If it be in order, I suggest that you appoint a committee from the Council to confer with Dr. Herring and if he can do the work, that he be retained; and if not, authorize the Council to fill the office.

Motion seconded.

DR. ORTON.—I move the name of Dr. Mitchell be placed before the Association as the new Secretary. If it is necessary for the names of officers to go through a Nominating Committee, I move that the Nominating Committee be instructed to place the name of Dr. H. W. Mitchell before the society for the office of Secretary.

DR. J. C. MITCHELL.—I cannot see how we can instruct the Council to present a certain name before the society when the Nominating Committee has already made its report and it has been accepted by the Association.

DR. BURR.—Article VIII of the Constitution provides that: "All the officers and councilors shall enter upon their duties immediately after their election, excepting the President and Vice-President." How do you get around this? We have no Secretary at this meeting.

DR. BRUSH.—The Association has proven competent to elect a Secretary without referring it back to the Nominating Committee again. We have no Secretary as we have rescinded the election made yesterday and it is very important to elect a Secretary.

DR. WOODSON.—Dr. Burr's reading of the Constitution covers the ground, and I would suggest that the Nominating Committee retire at once and let us fill this position. I move, in view of the fact that the Secretary is

not here to assume the duties of the office, and as the Constitution demands such presence, that the Nominating Committee be informed as to the desire of this Association, and that Dr. Mitchell be named to fill that office.

Which motion was duly seconded and unanimously prevailed.

THE PRESIDENT.—I will name Dr. Bancroft to take the place on the Nominating Committee of Dr. Pilgrim, who has gone home.

We will now have the report of the Auditors.

CHICAGO, June 6, 1918.

To the American Medico-Psychological Association:

We, your *pro tem.* auditors, beg to report that we have carefully examined the books and vouchers of the Secretary-Treasurer, and the editor of the AMERICAN JOURNAL OF INSANITY, and would state that in the absence of the "balance statement" of the Mutual Building and Investment Company, of Cleveland, O., one of the depositories of the Association funds, we are unable to fully review the statement presented, but it appears that there has been a slight clerical error amounting to \$10 in the making up of the balance on hand to our credit.

In the pass-book of the First National Bank of Massillon, Ohio, no entry appears of a sum of interest amounting to Four 30/100 dollars, though a deposit slip shows that such a sum was entered on the monthly statement and claimed as a receipt by the Secretary-Treasurer. Otherwise the books have been accurately and neatly kept. We would suggest that these items be adjusted before the books are handed over to his successor.

The vouchers, etc., of the editors of the JOURNAL we found accurately and neatly kept.

All of which is respectfully submitted,

(Signed) W. M. ENGLISH,
C. E. LAUGHLIN,
Auditors.

On motion, the report of the Auditors was accepted and adopted.

THE PRESIDENT.—I will call for the report of the Committee on Resolutions.

REPORT OF COMMITTEE ON RESOLUTIONS, JUNE 6, 1918.

Mr. President, your committee, charged with the agreeable duty of recording our appreciation of the courtesies the members of our Association have enjoyed during its seventy-fourth annual meeting, held in the great city of Chicago—the "Queen of the North and the West"—feels at a loss to find suitable words to adequately express the Association's sentiments.

To the Committee of Arrangements our thanks are due and given in full measure for its highly successful efforts to provide social entertainment

and pleasing diversions not only agreeable in character, but educational and profitable as well.

To the Committee on Program, on Exhibits and Diversional Occupation, and to our efficient and tireless Secretary credit is due and freely given for a most successful and satisfactory meeting, and to our President we would make grateful acknowledgment and express our unqualified appreciation and approval of his scholarly, patriotic and inspiring address.

We would also express our thanks and appreciation to the officials and citizens of Chicago for the splendid service flag presented to our Association in commemoration of the patriotic members now in the military or naval service of our country, and to the management of the Hotel LaSalle for all the courtesies extended to us during our stay within its hospitable portals.

CHARLES G. WAGNER, *Chairman*,
SAMUEL E. SMITH,
W. M. ENGLISH,
Committee on Resolutions.

DR. BRUSH.—I move the adoption of the report.

Motion seconded and carried.

THE PRESIDENT.—I will call for the report of the Committee on Statistics.

REPORT OF THE COMMITTEE ON STATISTICS.

To the American Medico-Psychological Association:

Your Committee on Statistics begs to submit the following report for the year ending June 1, 1918:

In accordance with the recommendations made by the former Committee on Statistics in its report to the Association in May, 1917, this committee has endeavored to secure the adoption of the Association's classification by state and federal authorities and the introduction of a uniform system of reports in the state hospitals for the treatment of mental diseases throughout the country.

Owing to his active leadership in the psychiatric work in the army, Dr. Salmon was not able to act as chairman of the committee nor to attend its meetings. He promoted the committee's work most effectually, however, by securing from the Rockefeller Foundation a special gift for the National Committee for Mental Hygiene to defray the expenses of the introduction of the system of uniform statistics of mental diseases during the present year. Psychiatric work in the army also prevented Major E. Stanley Abbot from taking part in the deliberations of the committee.

The committee met in New York City on February 7, 1918, and outlined a definite plan of procedure. As the National Committee for Mental Hygiene had the necessary funds at its disposal and had established a Bureau of Statistics, it was thought wise for your Committee on Statistics to become an advisory committee to such Bureau and to have the work of introducing the new system and of collecting statistics from the institutions

carried out by the Bureau. A letter explaining the proposed classification was sent on April 15, 1918, to every state hospital and to the central board of administration in each state that had not already signified its intention of adopting the new system. Replies to this letter are very encouraging. Of the 156 state hospitals, 83 have already adopted the Association's plan, 34 will adopt it and 24 others favor it, and will probably adopt it as soon as authority therefor is obtained. Two hospitals have reported unfavorably. Altogether 138 state hospitals have signified their willingness to co-operate and practically no opposition to the plan has arisen. The states fully committed to the uniform system at the time of the writing of this report were Alabama, Arizona, Arkansas, California, Colorado, Connecticut, District of Columbia, Florida, Illinois, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, New Hampshire, New Mexico, New York, North Dakota, Ohio, Oregon, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, Vermont, Washington, West Virginia and Wyoming. It is probable that favorable action will soon be taken in other states.

The Association's classification has been adopted by the Surgeon General of the Army and is being used in diagnosing mental disease at the several cantonments of the National Guard and National Army.

The 18 forms for statistical tables adopted by the Association last year, are now being printed and will be distributed gratis by the Bureau of Statistics of the National Committee for Mental Hygiene. The Bureau in co-operation with this committee is also preparing a statistical manual for the use of hospitals for the insane. This manual will serve as a guide for the preparation of statistical data and its use will be essential to the successful operation of the system.

In this connection the committee would request authority to incorporate in the manual certain minor changes in the classification which seem desirable at this time. It will undoubtedly be necessary to propose for the approval of the Association in future reports other changes that experience may show to be advisable.

It is urged that the members of the Association give their hearty support to this movement for better statistics during the coming year so that the work so auspiciously begun may soon be brought to a high state of perfection.

(Signed) ALBERT M. BARRETT,
GEORGE H. KIRBY,
JAMES V. MAY,
OWEN COPP,
A. MEYER,
Committee on Statistics.

DR. ENGLISH.—I move that the report be accepted.

Motion seconded and adopted.

THE PRESIDENT.—We will complete our program with this evening's session, when we will have an address by Dr. Ray Lyman Wilbur. What

I would like would be for all to come to this evening's session and bring their friends. I think it would be proper for Dr. Mitchell, chairman of the Program Committee, to explain who Dr. Wilbur is.

Dr. Mitchell spoke briefly of the work of Dr. Wilbur, how he had assisted Mr. Herbert Hoover in the organization of the United States Food Administration and of his work in Washington at the present time, in connection with the Food Administration.

THE PRESIDENT.—We will proceed to the reading of papers.

The following papers were read:

"Different Anatomical Findings in Three Cases of Infectious Delirium," by Samuel T. Orton, M. D., Philadelphia, Pa.; "Syphilis of the Nervous System," by Benjamin F. Williams, M. D., Lincoln, Neb.; "The Work of Psychiatrists in Military Camps," by E. Stanley Abbot, Major, M. R. C. Discussed by Drs. Burr, Pierson and Woodson.

DR. CAPLES.—Mr. President, through a misunderstanding as to the constitution providing that the Secretary and other officers shall be present and enter upon their duties immediately after election, the name of Dr. Herring was presented. The Nominating Committee has decided to withdraw that name and to present the name of Dr. H. W. Mitchell of Warren, Pa. Dr. Mitchell has been long connected with this Association and is entitled to the office of Secretary.

THE PRESIDENT.—What is your pleasure, gentlemen?

DR. J. C. MITCHELL.—I move that the report of the Nominating Committee be received and adopted, and that the Secretary be instructed to cast the ballot for the election of Dr. Mitchell.

Motion seconded and unanimously carried.

The Secretary announced that he had cast the ballot for the incoming secretary.

DR. BURR.—I move that Dr. Wagner be requested to induct Dr. Mitchell into office.

Dr. Wagner then escorted Dr. Mitchell to the platform.

THE PRESIDENT.—The meeting is adjourned until 2.30 this afternoon.

AFTERNOON SESSION.

THE PRESIDENT.—The first order of business is the election of members whose names have already been presented to the Association. I will ask the Secretary to read them.

The following names were read:

Roderick B. Dexter, M. D., Boston, Mass.; F. W. Maginnis, M. D., Aurora, Ill.; Roger C. Swint, M. D., Milledgeville, Ga.

On motion the Secretary was instructed to cast a ballot electing the above-named physicians to associate membership.

The Secretary announced that the ballot had been cast as directed.

The following papers were read:

"Food and Its Service at the Provincial Hospitals," by J. C. Mitchell, M. D., Brockville, Ont.; "The Community Mental Health Movement and Its Probable Dependence for Success on a Higher State Hospital Standard for Ward Employees," by Sidney D. Wilgus, M. D., Rockford, Ill. Discussed by Drs. Gorst, Sanger Brown, Woodson, Kilbourne, Hotchkiss and Wilgus in closing.

DR. GORST.—I desire to offer the following resolution:

Resolved, That a committee be appointed by this Association whose duty it shall be to investigate the methods of nursing and attendant care in both acute and chronic cases of the insane practiced in the United States and Canada, and to make its report, with recommendations, at the next annual meeting.

I move the adoption of the resolution.

This motion was seconded by Dr. Sanger Brown.

THE PRESIDENT.—All in favor of the motion that a committee of five be appointed to investigate the nursing of the insane in the United States and Canada, kindly signify by rising.

Motion unanimously adopted.

THE PRESIDENT.—Major Clarence S. Yoakum, Sanitary Corps N. A., Washington, D. C., will give an abstract of the paper prepared by Robert M. Yerkes, Major Sanitary Corps, N. A., entitled: "Methods of Psychological Examining Used in United States Army."

In presenting this abstract Major Yoakum spoke as follows:

The Division of Psychology of the Surgeon General's office wishes me to express its appreciation for permission to appear before you and to present briefly some of the things that we are attempting to do in connection with the National Army. I regret that the room you are meeting in is not so situated that I can give you the pictures that I brought with me, which would give you a much better idea, I am sure, of what we are doing or trying to do than anything I can say.

Major Yoakum pointed out that the psychologists in connection with the surgeon general's office were called upon to make many mental examinations of all sorts of people in an effort to weed out

those of such a grade of mentality as would be of no use in the army. He said: "The army does not want men who are not allowed to load their guns for fear of injury to their companions; it would be wasting time and money of the government to send men with such low mentality across. In the cantonments where this work was carried on last fall, about one-half of one per cent were recommended for discharge."

DR. PIERSON.—I wish to offer the following resolution:

Be it Resolved, By the Seventy-fourth Annual Meeting of the American Medico-Psychological Association this day assembled at Chicago, That we endorse and urge the passage of the two bills of Senator Owen and Representative Dyer, establishing similar ranks for commissioned officers of the Medical Corps and of the Medical Reserve Corps of the United States Army, and on the same ratio as for the Medical Corps of the United States Navy.

Resolved, That we hereby give our endorsement and active support to the movement undertaken by the War Department and the Surgeon General's office, and by the boards of health of many commonwealths, to combat venereal disease, and we appeal to our medical profession for their harmonious co-operation of this law.

Resolved, Further, That a copy of these resolutions be forwarded to the Surgeon General's office.

I move the adoption of these resolutions.

Motion seconded and carried.

THE PRESIDENT.—The Committee on Awards has a report to make.

To the American Medico-Psychological Association:

Mr. President, Ladies and Gentlemen: I have been asked by the ladies appointed on the Committee of Awards to do the duty the ladies refused to do.

First, we wish to congratulate Dr. Gahagan, as chairman of the Committee on Diversional Occupation, on the excellence of the exhibit. We also wish to congratulate the New York state hospitals on the magnificent showing they have made and also because they have followed out Dr. Gahagan's suggestion to exhibit a daily program of the work of the individuals in the different hospitals, attaching a card giving the name and address of the institution, the name of the patient, the psychosis, abstract of the history, etc., in connection with the piece of work they exhibited.

We wish to call your attention to the excellent display of the Massachusetts state hospitals, and we wish to particularly commend a far distant hospital—at Napa, Cal.

The first award goes to the Kings Park, N. Y., State Hospital.

A special award to the Napa (California) State Hospital, and a certificate of commendation to the Massachusetts state hospitals.

Respectfully submitted,

Committee on Awards,
By DR. HOBBS.

On motion the report of the Committee on Awards was accepted and adopted.

The following papers were presented in abstract:

"Neuro-Psychiatry in the Army," by Richard H. Hutchings, Major, M. R. C., abstract by Frankwood E. Williams, M. D., New York; "Community Preparations for After-War Problems in Psychiatry," by Frankwood E. Williams, M. D., New York City. Discussed by Drs. Brush and Mitchell.

"A Microscopical Study of Fat in the Cerebral Cortex," by Oscar J. Raeder, M. D., Boston, Mass. Discussed by Dr. Gosline.

THE PRESIDENT.—We will adjourn until 8.30 this evening.

EVENING SESSION.

THE PRESIDENT.—The Association will please come to order. The Council has a short report—we will hear it now.

REPORT OF THE COUNCIL, JUNE 6, 1918.

The Council has received the application for active membership of H. Mason Smith, M. D., Chattahoochee, Fla. According to the constitution final consideration will be deferred until next year.

The Council recommends:

That Owen Copp, M. D., of Pennsylvania, be elected a councilor for one year, to fill the vacancy caused by the election of Dr. H. W. Mitchell as Secretary-Treasurer of the Association.

That the Treasurer be authorized to pay Professor Paul Shorey an honorarium of \$50.00.

That the incoming President be authorized to appoint a Program Committee and a Committee of Arrangements for the next annual meeting.

Respectfully submitted,

H. C. EYMAN, *Secretary*.

On motion the report of the Council was accepted and adopted.

THE PRESIDENT.—We have with us an assistant surgeon of the navy, whose name appears on our program for a paper; he was unable to get to the city until to-night; he has been traveling several days, but was detained and it is through no fault of his that he is thus delayed. I would ask him to come now and present his paper—Dr. Albert Warren Stearns, Assistant Surgeon, U. S. N. R. F.

Dr. Stearns gave an extempore talk on the subject, "The Detection of the Psychopathic Recruit," in which he discussed the method he had used at the Naval Training Station in detecting mental disease or peculiarity, using the social history as the basis of first judgment.

THE PRESIDENT.—*Ladies and Gentlemen:* There are problems which concern us in these days to which we gave little heed in times of peace. To deal with some of them we are devoting this evening to listen to some one outside of the ranks of our Association. I take pleasure in introducing to you Dr. Ray Lyman Wilbur, President of Stanford University, now representing the United States Food Administration, who is lending his services to the nation.

Dr. Wilbur gave an exceedingly interesting and instructive address on the war-time activities of the United States Food Administration. He discussed the question of how far the food shortage has gone and to what extent it has affected the progress of the war; he emphasized the importance of food conservation in America, so that the Food Administration would be able to increase grain and meat shipments to Europe, and also told how definitely the allied nations depend on the American people for their supply of meat and grain in order to win the war. He closed with an earnest appeal to the American people for more of the spirit of self sacrifice in carrying on this war.

DR. BURR.—Mr. President, I do not believe in the soft pedal; I do not believe in too much optimism, but I do believe in words such as Dr. Wilbur has given us to-night. Dr. Wilbur, as citizens, we thank you for what you have said and done in the past and for what you have written; we thank you for what you are going to do in the future; we know you will keep right on doing. As an Association we want to thank you for the great privilege of listening to you this evening. I want to move a rising vote of thanks to Dr. Wilbur for this magnificent address.

DR. BRUSH.—I am very glad to second that motion, and I think we ought to do something more—we ought to promise President Wilbur that what little sacrifice we have made in the past shall be made ten times as large in the future.

DR. J. C. MITCHELL.—I am proud of you American people; but do you know before you took part in this war we Canadians felt very sad about our American friends. We are very closely related and we felt as if we were in this war practically alone; we wondered day after day and night after night if the great American people would not awaken and come to our aid. We felt that this was a great crisis and we wanted your help; we felt that we should have it. To-day the American people have awakened, and we honor and respect you all and we love you far more now. We are very near together and may God help us all that we may carry on until final victory crowns our efforts.

THE PRESIDENT.—All who agree to accord our speaker of the evening a vote of thanks and wish to do it in a practical way by promising in future to make greater sacrifice, kindly stand.

Unanimously carried.

THE PRESIDENT.—Is there any further business to come before the Association?

Some things are given us often; some, only once; the latter are prized.

The sun rises every morning to find most of us asleep; in Lapland the whole population flocks to see the sunrise.

I reluctantly have come to the last few moments of my presidency. My final words would be of gratitude to the entire Association; every member has been most kind; I have been supported on every hand not only by deeds, but by words. I am sure I appreciate them very much, and especially I should mention the help that has been given during the year by the Program Committee; Dr. Mitchell, in spite of difficulties, has produced what you have seen and heard. Also the chairman of the Diversional Occupation Committee; he has come in at the eleventh hour and given us splendid exhibits. Dr. Sanger Brown and the Committee of Arrangements have been most kind, and to all these especially I am grateful.

Will Dr. Kilbourne and Dr. English conduct the incoming President to the chair? He needs no introduction to this Society.

Dr. Southard, now that the flux of time has brought the hour when I may roll the burdens as well as the responsibilities of the presidency from my shoulders on to your abler ones, I pass to you this gavel—the emblem of your office—and congratulate you on your promotion, and the Association on having one so capable to guide its destinies during the seventy-fifth year of its existence.

Dr. Southard, the President-Elect, on assuming the chair expressed in a few brief remarks his appreciation of the honor which had been bestowed upon him.

DR. BRUSH.—There has already been passed by this Association some resolutions thanking various and sundry people for different things, complimenting others for various things, and if I remember correctly those resolutions spoke in terms of praise of one of the best and most inspiring addresses from the presidential chair that it has ever been my privilege to listen to. I do not know of an occasion which was so thoroughly utilized and which so inspired the hearers of the address as when we heard from President Anglin at the opening session of this Association. I remember hearing, incidentally, that some one going down in the elevator spoke in terms which were not entirely patriotic, intimating that an address of this kind would cause dissension, etc. I hope the rumor was not true. I did repeat the rumor to our newly elected Secretary and he immediately said, "Show me the man." I took hold of his arm and then felt so sorry for what might happen to the man that I made no further effort to find out who he was.

Dr. Anglin has left before us a standard of patriotism, a standard of loyalty to freedom, to democracy, decency and right, and that address which we shall carry away with us will live with us as long as we live, and I want to move that there be given to the President of this Association our hearty thanks for the manner in which he has conducted the office which we honored ourselves in bestowing upon him.

THE PRESIDENT-ELECT.—You have heard the motion; I rule that it shall be passed by a rising vote.

The motion of Dr. Brush unanimously prevailed by a rising vote of the Association.

Dr. Anglin thanked the members for their action.

THE PRESIDENT-ELECT.—Is there any further business, with the exception of a few announcements of committees? If not, I will make the following announcements:

Committee on Arrangements: Owen Copp, Chairman.

Committee on Pathological Investigation: George H. Kirby, Chairman; Adolf Meyer, S. T. Orton, A. M. Barrett, H. Douglas Singer, E. E. Southard.

Committee on Occupational Therapy: Major Frankwood E. Williams, Chairman; H. G. Gahagan, W. Rush Dunton, Major Richard Hutchings, Walter E. Fernald.

Committee on Statistics: A. M. Barrett, Chairman; Adolf Meyer, Major E. Stanley Abbott, James V. May, George H. Kirby, Owen Copp, S. T. Orton, Major Frankwood E. Williams.

Committee on Program: George H. Kirby, Chairman; C. MacFie Campbell, H. Douglas Singer, Herman M. Adler, E. N. Brush, H. W. Mitchell.

Committee on Nursing: E. H. Cohoon, Chairman; L. V. Guthrie, James V. Anglin, Daniel H. Fuller, C. I. Lambert.

Committee on War Work: H. W. Mitchell, Chairman; W. L. Russell, G. M. Kline, Major Frankwood E. Williams, W. A. White, Edith R. Spaulding, C. B. Burr.

DR. OSTRANDER.—I want to retrieve myself for last evening, so I am going to ask the audience to face the piano and join with me in singing "America."

The members of the Association and their friends all joined in singing our national anthem.

THE PRESIDENT-ELECT.—There being no further business, I declare this meeting adjourned to meet in Philadelphia next year.

HENRY C. EYMAN,
Secretary.

Notes and Comment.

THE VOLUNTEER MEDICAL SERVICE CORPS.—A certain amount of misunderstanding appears to prevail in the profession concerning the Volunteer Medical Service Corps. This misunderstanding has been increased and a new and unfortunate element, one much to be deprecated, added to the situation by the attitude taken by some of the medical journals of the country and by certain correspondents in these journals. We are loath to attribute ulterior motives to any one, but some of the statements which have been made show a spirit of jealousy unworthy the authors and attribute sentiments to those who have been active in creating the Medical Service Corps which are very foreign to any which they have entertained or expressed.

The Volunteer Medical Service Corps, formed under the auspices of the Council of National Defense, is intended to afford an opportunity for those who by reason of age, institutional or teaching position or physical condition are not able to join the Medical Corps of the army, to enroll themselves in an organization through which they may from time to time be made available for such military or civil medical service as may be found desirable by the medical departments of the army.

This organization is purely voluntary. There is no obligation, except that arising from a patriotic desire to serve the country, to join the organization upon any one.

No official authorization has ever been given to any one to state that all physicians ineligible for membership in the Medical Corps of the army are expected to join the Volunteer Medical Service Corps, nor has any one been authorized to use any coercion to obtain members of the Service Corps or the Medical Corps of the army.

If any one, at any time, at any meeting of physicians or in any other manner has intimated that members of the profession are expected to join either the Medical Corps of the army or the Volunteer Medical Service Corps he has acted solely upon his

own authority and either from misapprehension of instructions or from bad judgment.

It should be clearly understood that the object of the Volunteer Medical Service Corps is the enrollment and classification of the profession with the primary object of furnishing its classification to the Army, Navy, Provost Marshal General, Public Health Service and Red Cross, to be used as a guide in providing for their needs to the best advantage.

It is not to be inferred that a professional man who does not happen to be enrolled and classified in the Volunteer Medical Service Corps may not be called upon to perform service in one of these several departments, but the medical heads of the army or navy, the heads of the Public Health Service, the Red Cross, or the Provost Marshal General, will each find it much more convenient to select from the enrollment of the Volunteer Medical Service Corps, with its classification of the experience, special qualifications and the availability for special or limited service, just the man or men they severally need, than to each make a survey of the profession.

The government is depending upon not only the loyalty of the community, but an intelligent use of the brains of the community.

Skilled men in all departments of labor are being classified and made ready to be placed where they can render the most efficient service. There is no reason why the skill and experience of those members of the medical profession who are not able to join the Medical Corps of the army or navy should not be classified and those members who are in a position to be called upon for special or limited service enrolled ready to serve.

No enrollment of the members of the profession who are eligible for the Volunteer Medical Service had been attempted, no classification of the men been made until this Corps was formed, and the objectors to its organization or its methods or purposes appear to us to have practically no grounds for their objections. There are on the contrary we believe many and urgent reasons why the Corps should receive the hearty support of the members of the profession.

RETIREMENT OF DR. EYMAN.—The many friends of Dr. Henry C. Eyman of Massillon, Ohio, Vice-President of the American Medico-Psychological Association, will learn with regret that he

has because of ill-health felt compelled to resign the Medical Superintendency of the Massillon State Hospital which he has held since November, 1899.

Dr. Eyman was born in 1856 and received his medical degree in 1880. In 1884 he was appointed Assistant Physician at the Athens, Ohio, State Hospital and in 1887 promoted to the position of Assistant Superintendent of the State Hospital at Toledo, Ohio.

In 1891 Dr. Eyman was elected Superintendent of the Cleveland State Hospital at Newburg, Ohio, and in 1892 was made one of the building commissioners for the new hospital to be erected at Massillon.

On the resignation of the late Dr. Richardson, who had been called to the Superintendency of the Government Hospital for the Insane, Washington, D. C., Dr. Eyman was called to succeed him in the medical direction of the Massillon Hospital.

Dr. Eyman was elected Secretary of the American Medico-Psychological Association in 1915, and after filling that position in a very satisfactory manner was, at the meeting in Chicago in June last, elected Vice-President.

Dr. Eyman's resignation at Massillon does not take effect until January, 1919, but in the mean time he has been granted a leave of absence which is being spent in an endeavor to regain his health.

That he will soon be restored to a comfortable degree of health, and long spared for further useful work is the earnest wish of all who know him.

ACKNOWLEDGMENT.—The Obituary Notice of the late Dr. William Austin Macy which appears in this number of the JOURNAL is taken from the August number of *The State Hospital Quarterly*, published by The New York State Hospital Commission. Upon a failure to secure a notice, for which we had arranged, we were very glad to avail ourselves of Dr. Garvin's very full and excellent tribute in the *Quarterly*.

Book Reviews.

Diseases of the Nervous System: A Text-Book of Neurology and Psychiatry. By SMITH ELY JELLIFFE, M. D., PH. D., Adjunct Professor of Diseases of the Mind and Nervous System New York Post-Graduate Medical School and Hospital, and WILLIAM A. WHITE, M. D., Superintendent St. Elizabeth's Hospital, Washington, D. C., Professor of Nervous and Mental Diseases Georgetown University, etc. Second edition. Revised and enlarged. (*Philadelphia and New York: Lea and Febiger, 1917.*)

This work opens with an Introduction which deals with some principles underlying a classification of diseases of the nervous system. Some criticism is made of old systems and the reasons as found in a modern conception of neurology and psychiatry are given for a departure from these. It might perhaps be pointed out that occasionally the authors accept as "thoroughly well-established" conceptions which are still waiting proof to make them well established, or which in some instances must always remain as theories being beyond the pale of proof.

Chapter I, upon Methods of Examination of the Nervous System, occupies over 75 pages and is very complete and clear. Following this chapter the book is divided into three parts. Part I treats of the Physicochemical Systems, The Neurology of Metabolism. Part II considers The Sensorimotor Systems, and Part III The Psychical or Symbolic Systems—Neuroses, Psychoneuroses and Psychoses.

To the readers of this JOURNAL perhaps an elaboration of the method of classification followed in Part III will be of interest, though no critical review or analysis of the contents of this section can be here attempted.

The first chapter of this section considers The Psychoneuroses, Hysteria, Compulsion Neuroses, Anxiety Hysteria. The Actual Neuroses, Anxiety Neuroses, Neurasthenia, and the Mixed Neuroses. The next chapter deals with Manic-Depressive Psychoses, the next with the Paranoia Group. Epilepsy and Convulsive types of reaction are considered in the fourth chapter of this section. Following the chapter upon Epilepsy are chapters upon Dementia Præcox, Infection and Exhaustion Psychoses, Toxic Psychoses, Psychoses Associated with Organic Disease, Presenile and Arteriosclerotic Psychoses, and the section concludes with a chapter upon Idiocy, Imbecility, Feeble-Mindedness and Characterological Defect Groups.

The work is one which should be read and studied by every student of mental or nervous disorders and by every practitioner who wishes to learn the most modern views held in this important department of medical practice. While some of the views propounded are yet to be generally accepted and some are already being to a degree discarded, it is well that the

searcher after information and a guide to diagnosis and treatment should know of them and of the foundation upon which they rest.

The work is well prepared, copiously illustrated and has, what is of value in all works of this kind, a good index.

Neuropsychiatry and The War: A Bibliography with Abstracts. Prepared by MABEL WEBSTER BROWN, Librarian The National Committee for Mental Hygiene. Edited by FRANKWOOD E. WILLIAMS, M. D., Associate Medical Director The National Committee for Mental Hygiene. (New York: War Work Committee, The National Committee for Mental Hygiene, Inc., 1918.)

This book has been prepared and issued by the National Committee for Mental Hygiene "in order that psychiatrists and neurologists in the neuropsychiatric hospitals to the base and other military hospitals of the United States Government may have at hand the latest information upon special problems to be met in army camps."

It is difficult, indeed practically impossible, to review a book of this sort. The scope of the volume may be inferred when it is stated that the book comprises over 280 pages exclusive of an index of authors and a very full subject index. In addition to the abstracts of books and parts of books, there are abstracts of more than 300 articles from journals.

The abstracts are arranged under countries in whose language the original books or articles were published. Due to the fact that but few German books or periodical publications have been received since 1915, and that books and periodicals from other foreign countries have come with much irregularity, the omission of many important references has been unavoidable. About one-half of the book is made up from abstracts from material printed in the English language, the remainder being taken from the literature of France, Italy, the Netherlands, Russia and Germany.

One is reminded in reading here and there in this book of the order published early in the war in Germany forbidding the export of German medical and scientific books and periodicals lest the "enemy gain something of advantage from their contents."

One rather illuminating extract (page 271), in view of the light it throws upon what kind of material Germany has taken into her army, refers to the advice contained in the annual report of a German asylum against conscripting any more of its inmates for military service. The report states that the "Asylums are proud that their inmates are allowed to serve the Fatherland, but the results have not been satisfactory." The same report states that "owing to underfeeding, the death rate in the institution has greatly increased."

The War Work Committee and Miss Brown and Dr. Williams are to be congratulated upon contributing a book of real value to the literature of the war neuroses and psychoses, and have done a very material service to the medical officers of the army by placing this volume in their hands.

The National Committee for Mental Hygiene is daily demonstrating its great usefulness to the country.

Statistical Manual for the Use of Institutions for the Insane. (New York: The National Committee for Mental Hygiene, Bureau of Statistics, 1918.)

This pamphlet is virtually a republication of the classification forms recommended by the Committee on Statistics of The American Medico-Psychological Association and published with the report of this committee in this JOURNAL for October, 1917, with directions and forms.

The National Committee for Mental Hygiene has established a Bureau of Uniform Statistics and has received a special gift to defray the initial expenses of the work of collecting statistics from institutions for the insane. This manual is prepared to assist institutions in preparing and keeping accurate and uniform statistical tables.

The manual and duplicate forms will be furnished by the National Committee free to all cooperating institutions. We trust that this laudable attempt on the part of the National Committee to promote and establish a national system of statistics upon mental diseases will receive the cordial support and ready cooperation of all institutions in the country.

"Carry On." A Magazine on the Reconstruction of Disabled Soldiers and Sailors. Edited by the Office of The Surgeon-General, U. S. Army. (Washington: Published for The Surgeon-General by The American Red Cross.)

This little magazine which has now reached its third number (September, 1918) is intended to awaken interest in the reconstruction of disabled soldiers and sailors. The term "reconstruction" has by common consent of those informed in this department of the medical work of the army come to mean the reconstruction or retraining of the soldier or sailor handicapped by injuries which would tend to interfere with his following his usual or indeed any occupation. His working ability is reconstructed by training. Work is found for him suited to his limited capacity, limited by reason of disabilities received in line of service. Artificial limbs of special types adapted to the work to be done are constructed and their use taught to the soldier. Work not demanding mere manual dexterity or physical strength is found for many, and in these ways the lives of the disabled are reconstructed, their outlook brightened and they are enabled to "carry on." Not only is physical training carried on, but also mental, the two often of necessity going hand in hand.

In providing vocational reeducation and reconstruction for disabled soldiers and sailors, not only will the future happiness and welfare of these men be made more certain, but the whole country will benefit.

We are unable to refer in detail to the many interesting articles in the numbers of "Carry On" already published, but we commend them to those who are interested in the subject of reeducation of those disabled by war, or handicapped by any other means.

Obituary.

HENRY MAUDSLEY, M. D., F. R. C. P., LOND.,
LL. D., EDIN. (HON.)

BORN FEB. 5, 1835; DIED JAN. 24, 1918.

In the death of Dr. Henry Maudsley on January 24, 1918, at the ripe age of 82, British psychiatry lost one of its most prominent representatives, one who was not only distinguished by his intellectual attainments, but also by his strong feeling of social responsibility, which showed itself most strikingly in his generous gift, which led to the establishment in London of a fully equipped hospital for the study and treatment of acute mental disorders. The contributions of Dr. Maudsley to medical literature have been especially distinguished by their philosophical tone, which is as striking in his early work on the "Physiology and Pathology of Mind," published in 1867, as in his "Organic to Human, Psychological and Sociological," which appeared in 1917. Even in 1918 one may with profit turn back to his "Physiology of Mind" and read his chapter on "The Emotions or Affections of Mind"; he will not find any mention of the data, which the more recent researches of Cannon have put at our disposal, but he will find a broad formulation of the whole problem so justly conceived, that the newly acquired data fit into it without necessitating the modification of the general outlines. As his life progressed the writings of Dr. Maudsley tended to embrace a wider scope, and he became still more the philosopher; in none of his writings do we find him discussing his subject from the usual standpoint of the mere clinician. His intellectual development was no doubt favored by the fact that at a comparatively early age he escaped from the restricted atmosphere of hospital administration, and went to London, where he soon became physician to the West London Hospital, and was appointed professor of medical jurisprudence in University College in 1867. From that time on as author, as joint editor of the *Journal of Mental Science* and as a member of various medical societies, he had an important influence on the

development of psychological medicine in Great Britain. Critical and perhaps even cynical in his views, widely read and with a vast store of information, childless and with a somewhat difficult temperament, Dr. Maudsley was not of the type which readily inspires affection, but he commanded the respect of all those with whom he came in contact either in a social or in a professional way. He leaves behind him the memory of a man of serious purpose and wide culture, who throughout a long life devoted himself with unusual success to raising the medical specialty which he had embraced to a level worthy of its importance. C.

PROFESSOR EMMANUEL RÉGIS.

BORN APRIL, 1855; DIED JUNE, 1918.

It had been common knowledge among friends of Dr. Emmanuel Régis that the death of his aviator son on the field of honor, in October, 1917, had crushed the spirit of a father already suffering greatly under the stress and strain of war. The great clinical psychiatrist never fully rallied from the shock and himself made the supreme sacrifice towards the end of last June. In that death—it is no exaggeration to say—there passed on the most brilliant alienist of France and one of her noblest sons. For many years Bordeaux, thanks to Régis, had been a focus from which had radiated all that was characteristic and best of French mental medicine.

The chief landmarks of Dr. Régis' life history may be stated briefly. Son of Dr. Louis Régis, he was born at Auterive (Haute-Garonne) April 29, 1855. He made his *bachelier* at the age of 16. Through Dr. Linas, his cousin, inspector of hospitals for the insane of the Seine, he began early, even when a medical student, to devote himself to mental medicine, and the doors of the asylums of Ville-Evrard and Sainte-Anne were opened to him. At the age of 23 he took the Esquirol prize for his memoir, "La Dynamie ou exaltation fonctionnelle au début de la paralysie générale progressive." His doctor's thesis in 1880 on "Folie à deux ou Folie simultanée" won the Baillarger prize. Next year he became, at the age of 26, chief of the mental clinic of the Paris Faculty of Medicine and assistant physician of the Asylum of

Sainte-Anne. In 1883 he became chief physician of the Maison de Santé de Castel d'Andorte, Bordeaux, and began his first course of lectures in 1884. In 1905 he was appointed assistant professor, and in 1913 full professor, of mental diseases.

The contribution of Dr. Régis to French psychiatry can hardly be overestimated. He was a pioneer in recognizing the relationship of cause and effect between mental confusion and autointoxication, in elaboration of a chapter opened by Georget and Ferrus, and made that discovery the basis of a new pathology and therapeutics. He threw fresh and strong light on obsessions and fixed ideas. He was a staunch, because convinced, supporter of the specific origin of general paresis when that doctrine was new and not popular. He modified conceptions of mental disease in all fields and clarified etiology everywhere. As a clinician, he was always among the hopeful exponents of his art and insisted that disorder of mind, instead of being the invariable and ineluctable consequence of a tyrannous atavism, might be the result, as in the case of other morbid phenomena, of accidental causes, such as intoxication and infection. His great "Précis," translated into several languages (including an English version by Bannister, of Chicago), and of which several editions have appeared, embodied all his careful studies and has well been called the "breviary of the physicians of France." Upon French psychiatry, indeed on that of the world, Régis has left the indelible impress of his genius and industry. He was French with his whole soul. It was natural that he, perhaps more than any other French alienist, should have challenged the conceptions of mental disease emanating from the other side of the Rhine. He was never more impatient than when German obscurity camouflaged itself as depth. The commonplaces and pretensions of rigid and pedantic formalism annoyed him, and while he lived to be on sentry-go, it required something more than a mere Teutonic password to gain access to the sacred precincts of which he was always the valiant defender. In addition to being a great scientist, Régis was a profound scholar and man of letters. Sophocles and Euripides were his favorite recreation. As a speaker he was always eloquent and everybody knows how lucidly and charmingly he wrote. No wonder all Bordeaux wept at his bier, for, greatest possession of all to win the hearts of men, he was thoroughly human and had a warm heart of his own.

"*Homo sum: humani nihil a me alienum puto.*" When his country was pressed by the enemy he sprang instantly to its relief and organized a psychiatric unit, a necessity which he had already foreseen, and a preparation for war which he had already advocated in times of peace.

Victor Giraud has summed up in a fine passage what French civilization connotes: "*La France est liberté, grâce aimable, sens de la mesure, courtoisie, discrétion, finesse; elle est indulgence, pitié, charité; elle est humanité en un mot. Si elle venait à disparaître du nombre des nations, la vie humaine perdrait une partie de sa noblesse et de sa beauté.*" Régis embodied in his life, in his work, and in his character, all those qualities of a great race of civilized men. Nor is France alone the poorer for the master's death, for his influence on psychiatry and his achievements in science and humanity were as wide as the world itself. B.

DR. WILLIAM AUSTIN MACY.

BORN 1862; DIED MAY 21, 1918.

Dr. William Austin Macy, superintendent of the Kings Park State Hospital, Kings Park, New York, died from a stroke of apoplexy on May 21, 1918.

Dr. Macy was born at Harrison, New York, and received his preliminary education in the public schools of White Plains and Rye, New York. He matriculated at the School of Mines, Columbia College, where he remained one year, but deciding to study medicine he entered the College of Physicians and Surgeons, New York City, and was graduated in the Class of 1885. During the years 1886 and 1887, he served as interne in the workhouse and in the almshouse hospitals on Blackwell's Island. On August 6, 1887, he was appointed from the Civil Service list as physician in the New York City Asylum for the Insane on Hart's Island, and in 1888 was transferred to the City Asylum on Blackwell's Island. In 1889 he was transferred to the City Hospital for the Insane on Ward's Island, as acting assistant medical superintendent, under Dr. Alexander E. Macdonald, general medical superintendent. On June 1, 1890, he was promoted to the position of medical superintendent of the male department of that institution, and was

retained in the same capacity when the state assumed care of the insane of New York City in 1896. On January 1, 1897, he was transferred to the superintendency of the Willard State Hospital, and on June 1, 1904, he was transferred from Willard to the Kings Park State Hospital, where he continued as superintendent until the time of his death.

Dr. Macy was highly regarded as an administrative officer, and always insisted on the predominance of the medical idea in the care and treatment of patients under his charge. He placed unlimited confidence in his medical staff, with respect to the study, care and treatment of the patients in the various hospitals under his supervision. He was always receptive to new ideas, in the field of care and treatment, and ever afforded his assistants opportunity to use any well recognized therapeutic procedure for the benefit of the patients.

His standards, with respect to the choice of physicians of his staff, were always of the highest order, and he insisted that their personal conduct and relations with those in subordinate capacity be dignified, ethical and professional, thus affording an example to their associates and subordinates. His supervision of the institutions under his charge was of the closest order, and his weekly rounds of the wards and various departments were exceedingly thorough. No detail of institutional management was too minute for his attention and, unquestionably, his sense of responsibility and his disinclination to throw the burden of care off his shoulders hastened his demise.

Until the last few years Dr. Macy manifested considerable interest in sports and made frequent trips to the South on shooting expeditions in company with the late Dr. Emmett C. Dent, and other friends. His range of interests outside of his hospital work was large. He served for some time as a member of the Sub-Committee on Mental Hygiene, of the State Charities Aid Association. He was a member of the Academy of Medicine, New York City, the American Medical Association, and the American Medico-Psychological Association, and from time to time rendered valuable service on various committees of superintendents, appointed by the State Hospital Commission.

Dr. Macy was a member of Holland Lodge F. and A. M. of New York City, and also of Huntington Commandery of Knight

Templars, and formerly was very active in these associations. For many years he was greatly interested in the subject of genealogy and accumulated a valuable library on this subject and, for a time, was an officer of the New York Genealogical Society.

Since August 9, 1917, when he had his first stroke, he had been unable to perform his duties at the institution with the same degree of vigor as formerly, but was unwilling to relinquish his life's work, preferring to perform such of his tasks as were within his strength, though knowing the inevitable result of the malady which had overtaken him.

The last year of his life was brightened by the fact that three of his sons were in the service of their country in France. His end came, as he wished it, in the course of the day's work. By his death the state lost a faithful servant, his family a devoted father and husband, and those who knew him intimately, a warm friend.

WILLIAM C. GARVIN.

Half-Yearly Summary.

ARKANSAS.—*State Hospital for Nervous Diseases.*—The installation of hydrotherapeutic apparatus for the white women's receiving service has recently been completed, so there is now complete hydrotherapy in both the men's and women's receiving services.

A new industrial room has been completed where practically all of the clothing for patients is made.

As a result of the large number of admissions, which amounted to practically 100 a month last year, it has been necessary to hold daily staff meetings in order to consider this large number of cases.

CALIFORNIA.—*Norwalk State Hospital, Norwalk.*—There are at present under construction three additional cottages, two for women patients and one for men. Two of these will be used for reception service and each contains a small operating room and a small, but modern, hydrotherapeutic plant. These will more than double the present accommodations, and it is believed that before the end of the year the present population of 250 will have increased to 550 or 600.

CONNECTICUT.—*Connecticut Hospital for the Insane, Middletown.*—Work was started in June upon the reconstruction of the south wing of the main building, destroyed by fire last January, the estimated cost of which is \$255,000. The plans call for a modern fireproof structure housing 235 patients and 20 employees. The cost of reconstruction would be considerably more were it not for the fact it was found possible to use the outside stone walls of the old building, which suffered comparatively little from the fire.

During the summer the old main piggery was razed, its extremely insanitary condition rendering it a constant menace to health. In August, work was started upon the new main piggery, which will be situated at some distance from the farm barns, but still easily accessible. The plans call for a slaughter house, bone mill, and meat chilling room in connection with the piggery head house, the estimated cost of the whole structure being \$12,000. A large part of the work is being done by patients, as otherwise it would be impossible to build the piggery as planned without exceeding the appropriation.

Several pickle and sauerkraut tanks have been installed in a small barn adjacent to the farmer's office, and several tons of the latter have been stored for winter use.

A flock of 24 sheep was purchased in the spring, and has been largely maintained by grazing upon the hospital lawns. The cost of the small amount of grain it has been necessary to purchase for them has been more than covered by the wool produced.

On April 30, 1918, occurred the 50th anniversary of the opening of the hospital. It was planned to issue an anniversary publication, but it was finally determined that the expense of such would be unwarranted while war conditions prevail.

In all cases of pneumonia occurring in the hospital, efforts are made to identify the type of pneumococcus, and during the past season three cases of type one have been identified. Such patients were immediately treated with pneumococcic serum, with excellent results, good recoveries being made in each instance. In the treatment of infected wounds, the use of the Carrel-Dakin solution has been introduced in conjunction with microscopical examination, to determine the extent of bacterial invasion. Favorable results were obtained in all cases where such treatment was used.

The hospital now has 49 stars upon its service flag, four being for members of the staff in the Medical Corps of the Army, one for a member of the staff in the Medical Corps of the Navy and two for members of the staff in foreign medical service in the Red Cross organization. The Superintendent of Nurses and Head Occupational Instructress are likewise in foreign service.

—*Mansfield State Training School and Hospital, Mansfield Depot.*—The Connecticut Colony for Epileptics and the Connecticut Training School for Feeble-Minded at Lakeville have been combined under the name of the Mansfield State Training School and Hospital.

An appropriation of \$250,000 was made for new buildings in addition to the appropriation of \$200,000 which was made two years previously for buildings for the feeble-minded. New buildings have been erected and the feeble-minded cases from Lakeville have been transferred to the Mansfield department. The Lakeville department is to be abandoned and probably sold.

There are at the present time 450 cases, both epileptic and feeble-minded, and this is the only institution for these classes in the state.

FLORIDA.—*Florida Hospital for the Insane, Chattahoochee.*—A number of changes have occurred in the staff at this hospital. Until July 1, 1917, the Honorable Worth W. Trammell, a layman, was superintendent. He was succeeded by Dr. H. Mason Smith, a former assistant physician, who entered military service July 22, 1918. The chief physician, Dr. A. F. Conter, resigned in March, 1918, and this office was abolished, the staff consisting of the medical superintendent and four assistant physicians. Two of these have entered military service. Dr. Oglesby and Dr. Adams are acting as assistant physicians for the duration of the war. The service flag contains about 35 stars for employees who have joined the colors.

The staff at present consists of W. M. Bevis, M.D., Superintendent; E. R. Marshburn, M.D., First Assistant Physician; Charles R. Oglesby, M.D., Second Assistant Physician; and J. L. Adams, M.D., Third As-

sistant Physician. The position of fourth assistant physician is at present vacant but is expected to be filled soon.

ILLINOIS.—The Department of Public Welfare, with the co-operation of the Cook County Commissioners, has opened the Juvenile Psychopathic Institute at the Cook County Psychopathic Hospital. An out-patient clinic will make examinations of children who may be brought by parents or guardians, sent by the County or Juvenile Courts, or by the Juvenile Detention Home. If longer examination or treatment is necessary the child may be admitted to the Institute for a period of 10 days or less. There are two wards, each having twelve beds, for the two sexes. After-care and follow-up work will be carried on with the assistance of the state parole officers, the probation officers of the courts, and the social agencies of Cook County.

The Department of Public Welfare has also established a state-wide plan of occupational therapy and has appointed Mrs. Eleanor Clarke Slagle as General Superintendent in charge of this work. A Superintendent of Occupational Therapy has been appointed to each of the state hospitals, who is a staff officer and has charge of the occupational activities in that institution. Assistants are provided and there is also provision for volunteers.

A Training School for Psychiatric Nursing has also been established at the Chicago State Hospital.

—*Alton State Hospital, Alton.*—The Alton State Hospital was founded in 1911 and the site comprises 1034 acres acquired at a cost of \$200,000.

The ultimate plans call for 50 buildings, of which 10 are completed and in use.

It is located in the southwestern section of the state and is designed to meet the needs of the rapidly expanding population of the Illinois territory adjacent to St. Louis.

A small colony of 35 working patients had been maintained in one of the principal farm buildings since 1914, but the institution was not really opened until July, 1917, when the new Department of Public Welfare took charge of the state charitable institutions. From that time its growth was rapid and on February 1 of the present year there were 640 patients present, mostly drawn from the other state hospitals.

The buildings are fire-proof throughout and are modern in every respect. The central utility buildings are capable of serving a population of 5000.

During the current year every effort will be concentrated on intensive farming. An extensive field of winter wheat has been supplemented by 50 acres of spring wheat, and there will be a large acreage of corn and other grains. It is expected that the yield will far exceed the needs of this institution and that through the interchange of institution commodities, sanctioned by the department, much produce will be sent elsewhere.

This is perhaps the only state hospital that has never had a bar, grating or netting on any window or door. Others have removed these evidences

of imprisonment, but this institution was built without them and in no future extension is it proposed to resort to them.

The radical change in environment experienced by patients not used to this unusual freedom resulted in numerous escapes, but as the attendant body becomes more thoroughly organized and greater vigilance is observed it is expected that these occurrences will cease or be reduced to the minimum.

—*Chicago State Hospital, Chicago.*—On October first there will be opened a Training School for Psychiatric Nursing to provide nurses for all of the Illinois state hospitals. Applicants must be between 20 and 35 years of age and shall have had, at least, the equivalent of four years of high school work. The first and third year work will be carried on at this hospital, the second year at a general hospital. Graduates will be entitled to state registration. The customary four months course for attendants will continue, and in addition, there will be a second year course with four months of lecture work, leading to certification as Charge Attendant.

A Superintendent of Occupational Therapy has been appointed who has two paid assistants, and from eight to 10 volunteer workers are sent to the hospital for periods of varying length as a part of their instruction, practice teaching, in the Henry B. Flavill School of Occupational Therapy, and also in connection with Red Cross training of those who have volunteered for service in government reconstruction work. At present work is being carried on in five wards with occupational classes in the mornings and gymnastics, dancing, and games in the afternoon. About 300 patients are being treated in this way.

It is expected that within a month or two alterations will have been completed in the old power plant which will then be used as an occupational center.

A new hospital car has been built by the Chicago Railways Company at a cost of \$16,000, to be used for the transportation of patients from the Psychopathic Hospital to the state hospitals at Dunning, Elgin, and Kankakee. It has accommodation for 24 men patients, having seats for 20 and cots for four, and 14 women patients, 12 sitting and cots for two. The car has two toilet rooms. Doors are provided at the ends through which stretchers may be carried.

—*Illinois Colony for Epileptics, Dixon.*—The colony was opened for the reception of patients in May. It consists of 17 buildings on a tract of 1100 acres on Rock River, above Dixon. It is expected that eventually 2000 patients will be accommodated. Dr. Henry B. Carriel is Superintendent.

INDIANA.—*Central Indiana Hospital for the Insane, Indianapolis.*—During the summer this hospital was obliged to refuse the reception of patients and place them upon a waiting list. This was caused by the overcrowded condition of the hospital and the scarcity of labor. The number of patients is over 1500.

KENTUCKY.—As a result of a survey conducted by Dr. Thomas H. Haines for the National Committee for Mental Hygiene a bill was passed by the legislature providing a training school and colony farm for feeble-minded and epileptic persons.

MAINE.—*Augusta State Hospital, Augusta*.—This hospital has established a clinic for mental and nervous patients to be held each Wednesday in the City Hall, Portland. It will be open from 10 a. m. to 4 p. m.

MARYLAND.—*Spring Grove State Hospital, Catonsville*.—Governor Harrington approved an appropriation of \$80,000 for the equipment and completion of the new psychopathic building at this hospital. It has been offered to the government for the use of soldiers and sailors suffering from mental and nervous diseases.

—*Sheppard and Enoch Pratt Hospital, Towson*.—At the 12th annual commencement of the Training School for Nurses of this hospital, held May 22, 1918, a portrait of the Physician-in-Chief and Medical Superintendent, Dr. Edward N. Brush, was presented to the hospital. Dr. William Rush Dunton, Jr., Senior Assistant Physician, made the presentation on behalf of over 350 friends of Dr. Brush, who had subscribed for the portrait, which had been painted by Mr. Thomas C. Corner, a Baltimore artist. Dr. Charles H. Riley, President of the Board of Trustees, accepted the portrait for the hospital.

MASSACHUSETTS.—By an act of legislature the Commission on Mental Diseases is empowered to make contracts with the federal government for the support of soldiers and sailors who become mentally ill and cannot be properly cared for at the army post or naval station or hospital where they may happen to be. These may be received by the superintendent of any state hospital upon the written application of the officer in charge.

—*Gardner State Colony, East Gardner*.—The fourth annual cattle show and fair was held at this hospital on September 10 and 11. The first date was for the benefit of the patients, the second for the general public, of whom about 1800 attended. The proceeds, about \$500, were contributed to the Gardner Chapter of the American Red Cross. There was but little change in the program each day. There were midway attractions, flying horses, athletic games, band concerts, a baseball game, contests of draft horses, threshing demonstrations, and parades. This last had more than 30 features. By visiting this fair the public becomes familiar with the aims and results of this institution and with the care of the insane in Massachusetts as a whole.

MICHIGAN.—On March 28, 1918, the supreme court of this state declared the act of legislature of 1913 which authorized the sterilization of mentally defective inmates of public institutions to be unconstitutional, as it was class legislation.

—*Kalamazoo State Hospital, Kalamazoo.*—This hospital has furnished its quota for army service, a trustee, five assistant physicians, and 54 nurses, attendants and employees having enlisted.

The institution, with the co-operation of the probate courts and charity organizations, conducts monthly clinics in Kalamazoo, Grand Rapids, Jackson, and Lansing. Calls for service of this kind have come from several places outside of this hospital district. The work has not yet been authorized by the state. It was inaugurated by this hospital two years ago, the counties where the clinics are held bearing all expenses.

Excepting the State Psychopathic Hospital at Ann Arbor, which started a clinic in Detroit shortly after the work was begun by this institution, no other state hospital of Michigan holds mental clinics. They have met with public approval and have become an important part of hospital service.

The hospital is also making mental tests of prostitutes who are under the surveillance of the State Board of Health as a war measure. About 100 such examinations have been made.

Occupational therapy is being developed more than ever and the recreation of patients will soon be placed in trained hands.

MINNESOTA.—*Rochester State Hospital, Rochester.*—An outbreak of typhoid fever is reported as having occurred recently at this hospital, 12 patients and one nurse being ill. Thirteen hundred patients and all of the employees have been inoculated against typhoid.

NEW JERSEY.—*New Jersey State Hospital at Morris Plains.*—Because of new legislation enacted during the last session of the New Jersey legislature a State Board of Charities and Corrections has been appointed, with general control over all state institutions, including the state hospitals. The board employs a salaried commissioner with necessary deputies. The effect upon the state hospitals has been to do away with the dual form of management which had been in effect since 1885, and they now are under a chief executive officer. Dr. Britton D. Evans who was Medical Director under the old régime for 26 years, was elected Chief Executive Officer and Medical Superintendent of The New Jersey State Hospital at Morris Plains. This step aided greatly in facilitating the work in the institution. There is better co-operation and numerous readjustments have been possible.

In the men's department of the Main Building several bath rooms have been refitted with tile walls and floors, and shower baths have been installed. In connection with the dairy a bottling room is being built. Material is on hand for the construction of a fire-proof garage and the work of digging for the foundation has begun. At the Dormitory Building new floors and plumbing are being placed in all toilets and bath rooms. This is of an impervious character and will prevent water from leaking from one room to another with consequent disintegration of the masonry.

All departments of the hospital are short of help and this condition is a serious one.

The convict and criminal insane have been transferred to a specially erected custodial building in connection with The New Jersey State Hospital at Trenton.

The new classification recommended by the National Committee for Mental Hygiene and the American Medico-Psychological Association has been adopted for use at this hospital at the beginning of the hospital year, July 1.

NEW YORK.—The New York State Prison Commission has appointed a Committee on Mental Disease and Delinquency to make inquiries leading to future legislation for psychiatric facilities for the state penal and reformatory institutions.

A recent law created a State Commission on Feeble-minded. Dr. Walter B. James of New York City has been appointed chairman. The other members are the Fiscal Supervisor of State Charities and the Secretary of the State Board of Charities.

The State Hospitals Commission calls attention to the fact that owing to resignations of nurses and attendants to enter government service there is at present a shortage of 1000 in the nursing staff. As it has been arranged with the federal government that the New York state hospitals will receive all mental cases arising in citizens of the state who are in army or naval service, the situation may eventually be more serious than it is at present. Every effort is being made to induce men who are ineligible for military duty to enter training as attendants, and the commission is providing a shorter training course of six months.

—*Binghamton State Hospital, Binghamton.*—The most important development at the hospital during the past six months has been the loss of many employees resulting from calls made by the United States Army and Navy, and the better inducements in the way of wages offered by commercial enterprises in the business world. These causes have led to a shortage of more than 100 employees much of the time, and this shortage has in turn necessitated the closing of one of the hospital buildings containing four wards, a small ward in another building and the summer camp.

On May 1, 50 women patients were received by transfer from the Central Islip State Hospital, and on June 28, 20 men patients were received from the Matteawan State Hospital, to relieve the crowded conditions of those hospitals; the transfers from the Matteawan State Hospital were in all cases patients whose offences prior to commitment to the criminal asylum were of mild character.

May 21, the Binghamton Academy of Medicine held a meeting in the hospital assembly hall, at which papers and clinical material were presented by members of the hospital medical staff.

On July 2, the graduation exercises of the school of nursing were held in the assembly hall; the graduating class numbered five.

On September 10, the Twenty-seventh Annual Field Day was held on the hospital grounds; of special interest were the facts in connection

with the field day entertainment that for 27 years the field day exercises have been held on the hospital grounds without postponement on account of weather conditions or other interference, and that on every occasion during this long period Mr. William H. Hecox, now one of the managers of the hospital, has been present as one of the judges of the events.

There are at the present time 68 employees of the hospital in the federal military service; six members of the medical staff have received commissions during the past year, one of whom is now in France and the remaining five are in training camps in the United States.

During the past six months the officers and employees of the hospital have subscribed \$26,000 to the third Liberty Loan, and more than \$6000 for the purchase of War Savings Stamps; they have contributed \$1072 to the Red Cross, and \$130 to the Navy League.

—*Brooklyn State Hospital, Brooklyn.*—In October, 1917, the State Hospital Commission held its annual meeting with the members of the Board of Managers at the hospital, and in November of the same year the State Hospital Development Commission visited the institution, the recommendations concerning which will be found in the report of the Commission to the legislature of 1918.

Clinics were held by Dr. Eastman, of the Long Island College Hospital, and Dr. Elliott, Superintendent of the Willard State Hospital, delivered a number of lectures on mental disease, at the hospital, for the benefit of the medical class of the Long Island College Hospital.

On May 15, 1918, the quarterly conference of the Commission and managers with the superintendents of the various state hospitals was held at the hospital. The meeting was well attended and the following program was rendered:

FORENOON, 10.30 A. M.

1. Address of WelcomeHon. Hugo Hirsh.
2. Proposed Plans for the Completion of the Brooklyn State Hospital and CreedmoreHon. Lewis F. Pilcher.
3. Some Psychiatric Problems of the Metropolitan DistrictDr. Isham G. Harris.
4. Discussion (of the preceding papers).....Dr. Walter B. James.
5. Inspection of the new hospital buildings.

AFTERNOON, 2.30 P. M.

(Papers Limited to 20 Minutes.)

1. The Future Work of the Psychiatric Institute....Dr. George H. Kirby.
2. Constitutional Types of Reaction in Cases of Syphilis of the Nervous SystemDr. Erving Holley.
3. Responsibilities of the State Hospitals in the Treatment of Neurosyphilis in Both its Latent and Active Forms..Dr. Clarence O. Cheney.
4. Remissions in Cases of Paresis and the Subsequent History of Paretics Discharged from State Hospitals....Dr. Frank R. Haviland.

5. An Experiment in the Feeding and Management of Patients in a Disturbed WardDr. R. C. Woodman.
6. Reports of Committees.

EVENING, 8.00 P. M.

1. A Critique of Some Endocrinopathies.....Dr. Walter Timme.
2. Dementia Præcox as a Social Problem.....Dr. Horatio M. Pollock.
3. Work in the Psychiatric Clinic.....Dr. Joseph Smith.

The State Hospital Development Commission in its report to the legislature of 1918, speaks of the excessive overcrowding of the Brooklyn State Hospital, and recommends that the institution at Brooklyn be developed to accommodate 2100 patients; that the old buildings should be demolished as new ones may be erected to take their places; that the old buildings are unworthy of repair.

The Commission also advises the construction of a new state hospital at Creedmoor to accommodate 3000 patients; that the Creedmoor Hospital be a department of the Brooklyn State Hospital under the same superintendent in order that the country department may be made adjunct to the city department and so secure for the patients and their friends a maximum of advantage and convenience.

An appropriation of \$30,000 was made by the legislature of 1918 for the commencement of a sewage disposal plant at the Creedmoor site. Plans and specifications for the construction of this plant have been completed and advertisements for bids on the same will be published this month.

The Reception Hospital and new buildings for chronic patients, west, at the Brooklyn site, are practically completed. The Reception will accommodate 150 patients. The chronic building west has been named by the Board of Managers, Whitman Hall. This building will accommodate 400 patients. The work on these buildings has been greatly delayed because of the failure of the contractors and inability to obtain material and labor.

During the past year, construction was begun on dining rooms for Whitman Hall, and a new building on the east side of Reception Hospital, which is practically a duplicate of Whitman Hall. Also a new laundry building has been started.

The repairs of the cottages at Creedmoor have progressed quite slowly but it is expected to place about 150 patients in this colony during the fall months. General repairs have been made at the Brooklyn site and new floors have been laid in a number of the wards.

The employees of the hospital have been very much interested in Red Cross work. An auxiliary chapter was organized by the employees of the hospital. A large quantity of dressings was made and a number of sweaters, helmets, wristlets, socks, etc., were knitted. A number of dances were given during the year for the Red Cross, which has made possible the donation of quite a sum of money, and also to have remaining on hand sufficient to purchase a quantity of wool and materials for gauze dressings, etc.

During the Liberty Loan Campaigns the sum of over \$10,000 was subscribed for by the employees.

It has been very difficult to secure hospital help during the past year, and it has been necessary to employ patients who have been paroled to their own custody.

—*Central Islip State Hospital, Central Islip.*—The legislature of 1917 authorized the construction of a centralization power plant. The contractors began work upon this in November, 1917, and have made satisfactory progress. The chimney, 150 feet in height, has been completed, the iron frame work is in place and the brickwork is being laid about it.

An extension to the laundry, which was authorized at the same time, has been completed, the machinery having been installed and connected.

The State Hospital Development Commission has outlined the future development of this hospital which is to have a capacity of 5200 patients. The present certified capacity is 4100 with a census of 5485. Two hundred thousand dollars were appropriated for a reception building for acute cases to accommodate 75 men and 75 women. One hundred and fifty thousand dollars were also appropriated for a building for chronic cases. Owing to the continuance of the war, suitable contracts could not be made for the erection of these.

The hospital staff has been seriously depleted by reason of enlistments in the medical corps, a total of seven now being absent in military service. In addition, seventy-two (72) hospital employees are in the military service.

—*Dannemora State Hospital, Dannemora.*—Eleven employees have either enlisted or have been drafted for service in the army. Of this number one has since died at Camp Gordon. Two attendants have enlisted in the British Army; one has been killed in action and the other severely wounded.

A training class for male nurses was instituted February 15, 1918, with nine members. The results from this class are already beginning to be appreciated in increased efficiency in the care of patients.

A corridor with six rooms adjoining has been remodeled by removing the walls, making a ward for tubercular patients. This ward is so located that light and ventilation are exceptionally good. During the day it is practically a sun room.

A reclassification of the patients throughout the institution has been made with a resulting improvement in sanitary conditions.

Construction is being continued on a new wing to accommodate 100 patients. An old shop building is being remodeled for use as an attendants' cottage.

A knitting machine has been added to the industries, and the results obtained are gratifying.

Dementia præcox cases are being re-educated along the lines of useful labor, and they assist materially in the construction work that is going on;

in reclaiming land, and in working on the farm and other industries connected with the hospital.

—*Gowanda State Homeopathic Hospital, Gowanda.*—The new pathological laboratory and mortuary is nearing completion.

An addition has been built on the east side of the power house and a new feed-water heater is being installed.

A new garage has been built to replace the one burned last year.

A concrete ramp was constructed at the old dairy barn to replace the stone structure and new James Way stanchions are installed in this barn.

Cement feeding platforms have been constructed in connection with the new hog ranges, near the piggery and slaughter house. These ranges are from one to two acres in size, each having separate colony houses and shelters.

Many wards and the corridors of the Administration Building have been redecorated.

—*Manhattan State Hospital, Wards Island.*—Since the war, the strain upon Manhattan, serving the largest district for the insane in the country, has steadily increased. It is enormously overcrowded, due to the large admission rate and inadequate accommodation. The suspension of immigration, which in normal times supplied the hospital requirements for administrative help, and the halt in the deportation of alien patients, have aggravated conditions. Patients from training camps add to the number and work of the hospital.

The exacting duties of a great hospital, never light, bear more heavily every day upon those remaining. Suitable attendants cannot be procured. The military draft and alluring wages offered by munition plants, have left available only physical and mental decrepits, many of them unfit to be harbored in a state hospital. Those left have responded to the demands of the service with increased efficiency and self-denial.

Some of the staff are away doing their part in the mighty struggle. The service flag proudly shows 103 stars for men at the front, but demands are larger than ever, with every ward crowded.

With the falling off in habitual alertness, an increase in the number of accidents and elopements might be expected; but the greater liberty allowed lessened care of locked doors, and the rôle of attendant essayed by some of the patients, have not resulted in any increase in the number of either elopements or accidents. Two patients about to be discharged, growing impatient, yielded to the opportunities afforded by lightly guarded doors, and left without the customary benison.

The prevailing influenza has not obtained a footing in the hospital, thanks to the excellent sanitary conditions, plenty of food and sleep, and open air exercise. The extra-mural hospital activities, such as community problems and outside clinics, have not abated a jot.

Staff meetings are regularly attended by commissioned officers of the army and navy medical reserve, and by several young ladies of the Y. M.

C. A., who are taking intensive instruction in psychiatry for over-sea service. Clinics are also held almost daily by members of the staff and institute.

Dr. E. F. Walsh, the erudite medical lecturer, delivered a most entertaining and instructive address to the nursing staff on Friday evening, September 13, on the subject of "Nursing, Past and Present," with felicitations.

A naval hospital to accommodate about 1000 patients is in process of construction at the southeastern end of the Island. It will occupy about 20 acres. Closely adjacent, a dock has been built to afford transportation to the hospital. The patients will probably be conveyed by means of tenders, direct from transports to the Island. It is believed that the hospital will be built on the cottage plan. There will be a central group of three buildings of an operating pavilion, administrative offices, kitchen, dining-rooms, etc., grouped about this central unit, 25 "H" plan ward buildings will be erected. Each ward building will probably contain about eight separate wards; the buildings for the most part will be of two stories, and used as a general hospital.

—*Middletown State Homeopathic Hospital, Middletown.*—The second section of the piggery, for which an appropriation of \$2500 was made last year, has been completed.

With some material left from the piggery building, and with some old brick and tile, it has been possible to build a fattening pen, 35 x 48 feet.

During the winter the hospital received an additional appropriation of \$20,000 for the construction of the tuberculosis pavilion, \$10,000 for a dairy barn and silos, and \$9500 for a cottage to accommodate 30 patients at the Comfort Farm.

Ground for the tuberculosis pavilion was broken on the 27th day of February, and at this time the building is practically completed.

The dairy barn and silos are underway, but no start has been made on the cottage at Comfort Farm.

The old power plant is being converted into a mechanical shop, but because of delay in securing material, the work is progressing slowly.

—*Mohansic State Hospital, Yorktown.*—Governor Whitman has signed a bill for the protection of the Croton watershed in which this institution is situated. It will therefore be necessary to locate it elsewhere.

—*Rochester State Hospital, Rochester.*—The additions to the men's building have been completed and allow an additional accommodation of 36 cases.

Forty-seven employees have entered the army or navy, one of whom, Joseph P. Rooney, was killed in France.

—*St. Lawrence State Hospital, Ogdensburg.*—A total of 42 officers and employees of the hospital are now in the service of the United States Army.

The total subscription of the officers and employees to the Third Liberty Loan was \$12,750.

On May 14, 1918, a dance was given at the hospital for the National League for Woman's Service and \$90.15 were turned over to the committee in Ogdensburg.

The total amount collected at the hospital in the Red Cross Drive, May 20 to 25, 1918, was \$874.93.

The total subscription for War Savings Stamps June 28, 1918, was \$4405.

The following articles have been made by the patients and employees of the hospital for the National League for Woman's Service and the Red Cross:

One hundred and forty-three sweaters, 71 scarfs, 549 pairs socks, 87 pairs wristlets, 24 caps, 2 washcloths.

The old barns on the Morrison farm have been torn down and the material which was suitable, together with new, has been used in the construction of a modern dairy and hay barn, which has been completed.

A horse barn is under construction to accommodate 28 farm horses. This barn is placed nearby the present farm barns. The present stable for these horses, which is on the second floor of one of our barns over the cows, will be renovated and made into a granary for the storage of farm crops and dairy feed.

—*Utica State Hospital, Utica.*—The Senior Class of Syracuse Medical College was given two clinics at the hospital during the month of April.

Graduating exercises of the Training School were held on the evening of June 28. There were 11 graduates—all women.

During the summer extensive and much needed repairs have been made to the boiler plant.

The activities of the hospital have been necessarily limited by the shortage which has prevailed in the corps of attendants and in the medical staff for several months past. It has been difficult to do the necessary farm labor, much routine work has been curtailed, entertainments interfered with, and often it is difficult to maintain an adequate force in the various wards.

—*Willard State Hospital, Willard.*—The hospital district was increased May 1 by the addition of Onondaga County, which includes the city of Syracuse. The district now comprises ten counties, viz., Allegany, Cayuga, Onondaga, Ontario, Schuyler, Seneca, Steuben, Tompkins, Wayne and Yates.

There are four vacancies on the medical staff; 62 vacancies for men attendants and nurses, and 42 vacancies for women attendants and nurses. The ward services are now so crippled that exemption will be claimed for all drafted men doing ward service, under the forthcoming draft, in accordance with a provision in the "Revised Selective Service Regulations."

A meeting of the Committee on Mental Hygiene and After Care was held at the hospital May 10. Dr. Ethan A. Nevin, Superintendent of the State Custodial Asylum at Newark, gave an address on "The Feeble-Minded."

The Tompkins County Medical Society met at the hospital June 20, 22 members being in attendance. A clinic was held at which dementia præcox and manic-depressive insanity were considered.

New iron and concrete foundations have been put in the dining rooms at Sunnycroft, and tile floors laid.

OHIO.—At a conference of civic organizers held in Cincinnati, March 18, 1918, resolutions were adopted calling on the governor and State Board of Administration to establish an institute of psychiatric research which would have the supervision of all institutions caring for the insane, criminal and epileptic, and to take measures for the improvement of their care.

—*Massillon State Hospital, Massillon.*—A meeting of the Ohio Board of Administration and the managing officers of Ohio state institutions was held at this hospital on May 2, 1918. It was made the occasion of congratulations to our vice-president, Dr. Henry C. Eyman, who that day had completed 34 years of service in Ohio state institutions. He went to the Athens State Hospital on May 2, 1884, and remained there three years. He was then at the Toledo State Hospital for five years. Next he was at Cleveland State Hospital for eight years. He was elected superintendent of this hospital in 1899 and has been its managing officer ever since.

At the afternoon session the following addresses were made: Seven Years of the Ohio Board of Administration, by Professor J. W. Jones; Changes in Methods of Treatment and Management, Dr. O. O. Fordyce; New Methods of Caring for Prisoners and Defectives, Warden P. E. Thomas. At the evening meeting Dr. Eyman gave Reminiscences of 34 Years With the Insane, and was followed by Mr. Charles McIntyre, who spoke on Why a Public Institution Should Operate a Farm.

OKLAHOMA.—*Oklahoma State Hospital, Norman.*—A disastrous fire occurred at this institution on April 13, 1918, when about 30 negro patients lost their lives. Three frame buildings were destroyed and a fourth was badly damaged. The property loss was estimated at \$40,000. The legislature of 1916 had made an appropriation of \$85,000 for a new fire-proof building, but it had only recently become available.

PENNSYLVANIA.—*Danville State Hospital, Danville.*—The graduating exercises of the Training School for Nurses of this hospital were held on June 13, 1918, at 8 o'clock in the amusement hall. The graduates numbered 22, 15 women and seven men.

—*Philadelphia Hospital for the Insane, Philadelphia.*—The war has caused a delay in the removal of this hospital from West Philadelphia to

Byberry. The five large buildings now under construction, including an administration building and four dormitories, have been accepted by the Surgeon-General as a military base reconstruction hospital. The buildings are about half completed and nearly all of the necessary material is at hand. The four dormitories have a capacity of 800 which can easily be increased to 1000. They are situated in a tract of about 200 acres.

SOUTH CAROLINA.—*State Hospital for the Insane, Columbia.*—During the past six months the work of rebuilding and remodeling the old building has continued, and every effort is being made to provide clean, wholesome, and sanitary surroundings for the patients. The work, however, is considerably hampered on account of labor conditions.

VIRGINIA.—*Central State Hospital, Petersburg.*—There are 1800 patients here. During the past 12 months there has been 535 admissions—a 10 per cent decrease as compared with the previous year.

The statistical tables recommended by the American Medico-Psychological Association have been adopted at this institution and will be used in the report for the fiscal year just ending.

The legislature at the recent session appropriated \$525,000 for maintenance for the two ensuing years—\$125,000 more than the previous two years. This amount, however, is considerably less than that recommended by the Board of Directors and the superintendent. For special improvements and additional accommodations, the legislature appropriated for the two ensuing years, the amount that had been recommended by the hospital authorities.

The principal improvements that have been made during the past few months are as follows:

One cottage (wood construction) was built on the grounds, and is now being occupied by the first assistant physician as a residence. A new modern bakery and oven, an ice-making and cold storage plant have been completed and are in use. A new corn mill, operated by surplus electric current, has been installed, and a few other minor improvements have been made. On account of difficulty in procuring material and labor, large improvements of a permanent nature have been deferred.

Both last year and this the activities about the farm have received special attention; 350 acres of tillable land have been kept in cultivation of vegetables and other food stuffs, and feed for the hospital stock. Extraordinary preparations are also being made, looking to a large crop for next year, including nearly 100 acres of wheat.

The force in every department of the hospital has been very materially reduced on account of construction in connection with Camp Lee and various industrial activities in this community, as well as the draft. The medical staff has been reduced to the superintendent and two assisting physicians; two of the assistants have entered the army. The mechanical force has suffered many changes and is now much below the minimum. The general administration and business departments of the institution

have been kept intact fairly well most of the time. The percentage of nurses and attendants has been reduced during the past year more than 50 per cent of the normal number. To meet, in a measure, the emergency, 25 or 30 patients with mild psychoses have been selected as acting attendants and assigned to duties usually performed by regular attendants. These patients are paid a small compensation.

On account of this shortage in the hospital force, it has been impossible to keep up the usual standard of the institution. In fact a critical point has been reached, but there seems no signs of relief for some time to come.

CANADA.—The Canadian National Committee for Mental Hygiene was organized at Ottawa, April 26, 1918.

MANITOBA.—*Winnipeg*.—Two years ago the provincial government voted \$50,000 for the establishment of a psychopathic institute. The General Finance Committee for Winnipeg recently held a meeting to award a contract for the erection of this institution which is to be used for the care and treatment of soldiers from Manitoba who are suffering from psychopathic conditions. It will be necessary to secure an additional grant from the provincial legislature.

Appointments, Resignations, Etc.

- ADAMS, DR. J. L., appointed Third Assistant Physician at Florida Hospital for the Insane at Chattahoochee.
- ANDERSON, DR. ALICE G., appointed head of the medical department of the Women's Division at State Hospital for the Insane at Patton, Cal., April 1, 1918.
- ASPER, LIEUT. BURT JACOB, formerly Assistant Physician at Springfield State Hospital at Sykesville, Md., is believed to have been lost on the U. S. S. Cyclops.
- AUSTIN, DR. ANNIE, Woman Physician at State Hospital for the Insane at Columbia, S. C., resigned March 26, 1918.
- BAKER, DR. JANE R., appointed Trustee of State Hospital for the Insane at Morristown Pa.
- BALCH, MAJOR RALPH E., formerly Trustee of Kalamazoo State Hospital at Kalamazoo, Mich., is in a field hospital in France.
- BEACH, DR. ESTELLE, appointed Medical Interne at Middletown State Homeopathic Hospital at Middletown, N. Y., November 8, 1917, promoted to Woman Physician January 15, 1918, and resigned July 31, 1918.
- BELL, DR. RAYMOND G., Medical Interne at Binghamton State Hospital at Binghamton, N. Y. entered military service May 4, 1918.
- BERRY, DR. JEROME F., Assistant Physician at Kalamazoo State Hospital at Kalamazoo, Mich., commissioned Captain in Medical Corps, U. S. Army, is at Camp Gordon, Atlanta, Ga.
- BEVIS, DR. W. M., First Assistant Physician at Florida Hospital for the Insane at Chattahoochee, appointed Superintendent July 7, 1918.
- BILLARD, DR. CHARLES L., appointed Ophthalmologist at St. Elizabeth's Hospital at Washington, D. C., June 6, 1918.
- BINFORD, DR. NELLIE, appointed Assistant Physician and Pathologist at Norwalk State Hospital at Norwalk, Cal., August 10, 1918.
- BREAULT, DR. ANATHOL M., appointed Medical Interne at Utica State Hospital at Utica, N. Y., July 15, 1918, and drafted into federal service August 5, 1918.
- BRIM, DR. ANNE S., appointed Medical Interne at Middletown State Homeopathic Hospital at Middletown, N. Y., November 2, 1917, and resigned February 11, 1918.
- BROUGHAM, DR. DEWITT, Medical Interne at Utica State Hospital at Utica, N. Y., promoted to Assistant Physician April 1, 1918, and resigned May 13, 1918.
- BOLLINGER, DR. EDWARD, First Assistant Physician at Nebraska State Hospital at Ingleside, resigned.
- BOND, DR. J. B., Superintendent of Western Hospital for the Insane at Bolivar, Tenn., resigned to enter private practice.
- BUCHANAN, DR. JAMES M., Superintendent of East Mississippi Insane Hospital at Meridian, resigned after twenty-five years' service.
- BULKLEY, DR. ALBERT C., Clinical Director at Friends Hospital, Frankford, Philadelphia, promoted to Superintendent.
- BUTLER, DR. ROBERT M., Superintendent of Mississippi Insane Hospital at Jackson, resigned.
- BYINGTON, DR. S. B., Medical Interne at State Hospital for the Insane at Columbia, S. C., resigned February 1918.
- CALONGE, DR. GUY E., appointed Medical Interne at St. Elizabeth's Hospital at Washington, D. C., June 10, 1918, and resigned June 10, 1918.
- CAMPBELL, DR. CHAS. MACFIE, was one of the speakers at the National Conference of Social Work at Kansas City, May 15-22, 1918.
- CASE, DR. JAMES D., appointed Superintendent of Nebraska State Hospital at Lincoln.
- CASEY, ELMER B. M., Medical Interne at St. Elizabeth's Hospital at Washington, D. C., promoted to Junior Assistant Physician April 1, 1918, resigned June 6, 1918, and commissioned First Lieutenant in Medical Corps, U. S. Army.

- CHAPMAN, DR. ROSS MCC., First Assistant Physician at St. Elizabeth's Hospital at Washington, D. C., resigned May 8, 1918, and commissioned Major in Medical Corps, U. S. Army (Overseas).
- CHASE, DR. ROBERT H., Superintendent of Friends Hospital, Frankford, Philadelphia, resigned after twenty-five years' service.
- CLARKE, DR. CHARLES K., Superintendent of Toronto General Hospital, resigned to direct the Canadian Mental Hygiene Association.
- COLBY, DR. BUFORD M., Assistant Physician at State Hospital No 2 at St. Joseph, Missouri, appointed Superintendent of General Hospital at Kansas City.
- COLLINS, DR. LAURENCE, Assistant Physician at New Jersey State Hospital at Morris Plains, commissioned in Medical Corps, U. S. Army, June 16, 1918.
- CONLON, DR. JAMES J., appointed Assistant Physician at Middletown State Homeopathic Hospital at Middletown, N. Y., November 8, 1917.
- CONTER, DR. A. E., Chief Physician at Florida Hospital for the Insane at Chattahoochee, resigned March, 1918.
- CORCORAN, DR. DAVID, Senior Assistant Physician at Central Islip State Hospital at Central Islip, N. Y., appointed Clinical Director at Brooklyn State Hospital at Brooklyn, N. Y., August 1, 1918, after competitive examination.
- CORNELL, DR. WILLIAM BURGESS, Superintendent of Randalls Island Children's Hospital and School, New York City, appointed to a position with the State Board of Education at Albany, N. Y.
- DAVIDIAN, DR. HAGOP, Junior Assistant Physician at St. Elizabeth's Hospital at Washington, D. C., promoted to Assistant Physician July 1, 1918.
- DELANEY, DR. WILLIAM J., Assistant Physician at Central Islip State Hospital at Central Islip, N. Y., commissioned in Medical Corps, U. S. Army, in August 1918.
- DOOLEY, MISS LUCILE, PH. D., appointed (temporarily) Assistant Psychiatrist and Psychotherapist at St. Elizabeth's Hospital at Washington, D. C., June 6, 1918.
- DREWRY, DR. W. F., Superintendent of the Central State Hospital, served several months last fall as contract surgeon, examining psychiatrist of the Virginia National Guards, and was again appointed in June, 1918, for similar service in the National Army, Camp Lee, but on account of an acute blood infection could not serve. He has been re-appointed by Governor Westmoreland Davis, as a member of the State Board of Health for another term of four years, and also appointed by the Governor, a member of the Virginia Commission on Training Camp Activities, and a member of the Petersburg Medical Advisory Board.
- DYKMAN, DR. AUGUSTUS B., Assistant Physician at Riverdale Sanitarium at West Hill, Riverdale, New York City, commissioned Lieutenant in Medical Corps, U. S. Army.
- ELKINS, DR. HARRY, Medical Intern at Central Islip State Hospital at Central Islip, N. Y., commissioned in Medical Corps, U. S. Army, and reported at Camp Gordon, Ga., in August, 1918.
- ENSOR, DR. CHARLES B., Assistant Physician at Mount Hope Retreat at Arlington, Md., commissioned Lieutenant in Medical Corps, U. S. Army.
- EVANS, DR. MARY L., Assistant Physician at Connecticut Hospital for the Insane at Middletown, resigned October 4, 1918, to accept foreign medical service with the American Red Cross.
- EVARTS, DR. ARRAH B., Assistant Physician at St. Elizabeth's Hospital at Washington, D. C., promoted to Senior Assistant Physician, April 1, 1918.
- EVERETT, DR. EDWARD A., appointed Medical Intern at Middletown State Homeopathic Hospital at Middletown, N. Y., March 1, 1918.
- FELT, DR. PAUL R., appointed Assistant Physician at Connecticut Hospital for the Insane at Middletown, June 5, 1918.
- FENNESSEY, DR. JOHN F., Trustee of Boston State Hospital, term expired.
- FISH, DR. JULIA F., Woman Physician at Middletown State Homeopathic Hospital at Middletown, N. Y., for over eleven years, resigned December 10, 1917.
- FORT, DR. SAMUEL J., Superintendent of a Sanitarium in Catonsville, Md., and a Major in the Ordnance Dept., Md. National Guard, has been drafted into federal service and assigned to duty in a school of musketry at Camp Perry, Ohio.
- FRY, DR. C. B., appointed Dental Intern at Binghamton State Hospital at Binghamton, N. Y., May 20, 1918, and entered military service May 27, 1918.

- FUNKHOUSER, DR. EDGAR B., Second Assistant Physician at New Jersey State Hospital at Trenton, N. J., commissioned Lieutenant in Medical Corps, U. S. Army, and is on duty at Camp Meade, Md.
- GABLE, DR. J. D., Third Assistant Physician at Florida Hospital for the Insane at Chattahoochee, commissioned First Lieutenant in Medical Corps, U. S. Army, and reported for duty March, 1918.
- GILLESPIE, DR. EDWARD, Senior Assistant Physician at Binghamton State Hospital at Binghamton, N. Y., promoted to First Assistant Physician September 1, 1918.
- GLASCOCK, DR. ALFRED, Senior Assistant Physician at St. Elizabeth's Hospital at Washington, D. C., resigned April 15, 1918, and commissioned Captain in Medical Corps, U. S. Army (Overseas).
- GOLDSTEIN, DR. ABRAHAM T., Assistant Physician at Utica State Hospital at Utica, N. Y., commissioned First Lieutenant, Medical Corps, U. S. Army, and reported at Camp Upton July 1, 1918.
- GREGORY, DR. HUGH S., Assistant Physician at St. Lawrence State Hospital at Ogdensburg, N. Y., promoted to Senior Assistant Physician June 21, 1918.
- GYMER, DR. ALFRED K., Assistant Physician at Kalamazoo State Hospital at Kalamazoo, Mich., commissioned Lieutenant in Medical Corps, U. S. Army, died of pneumonia at Camp Sherman.
- HAMNER, DR. J. E., of the Medical Staff of Central State Hospital, Petersburg, Virginia, resigned last winter to join the McGuire Red Cross Hospital Unit, now in France.
- HARRIS, DR. ADA F., appointed Pathologist at Grafton State Hospital at Grafton, Mass.
- HASSALL, DR. JAMES C., Senior Assistant Physician at St. Elizabeth's Hospital at Washington, D. C., promoted to First Assistant Physician May 9, 1918.
- HATTIE, DR. W. H., Superintendent of Nova Scotia Hospital for the Insane at Halifax, commissioned Captain M. O. H.
- HENRY, DR. H. C., First Assistant Physician at Central State Hospital, Petersburg, Virginia, has been serving for the past several months as a member of the Medical Advisory Board of Petersburg and Dinwiddle County.
- HIBBARD, ROBERT H., member of Board of Managers of Central Islip State Hospital at Central Islip, N. Y., term expired.
- HILLS, DR. FREDERICK LYMAN, Superintendent of Maine State Hospital, Bangor, Me., died in New York City, July 29, 1918, of pneumonia.
- HOLLEY, DR. ERVING, Assistant Physician at Brooklyn State Hospital at Brooklyn, N. Y., commissioned Captain in Medical Corps, U. S. Army.
- HOLT, DR. EARL K., Assistant Physician at Northern Hospital for the Insane at Logansport, Ind., commissioned in Medical Corps, U. S. Army.
- HOPKINS, DR. ROBERT R., formerly Superintendent of an Ohio State Hospital, died May 30, 1918.
- HOYE, DR. MATTHEW J. L., appointed Superintendent of East Mississippi Insane Hospital at Meridian.
- HUBBARD, MISS LOIS D., (Fourth Year Medical Student), appointed Special Attendant at St. Elizabeth's Hospital at Washington, D. C. (Temporary.)
- HUNNICUTT, DR. WILLIAM P., Superintendent of State Hospital for the Insane at Pueblo, Col., resigned to enter private practice.
- HURD, DR. ARTHUR W., Superintendent of Buffalo State Hospital at Buffalo, N. Y., resigned and will reside in California.
- HUTCHINGS, MAJOR R. H., was one of the speakers at the National Conference of Social Work at Kansas City, May 15-22, 1918.
- HYDER, DR. HERMAN P., Medical Interne at St. Elizabeth's Hospital at Washington, D. C., promoted to Junior Assistant Physician February 1, 1918, and to Assistant Physician July 1, 1918.
- JOHNPOLL, DR. HARRY S., appointed Medical Interne at Brooklyn State Hospital at Brooklyn, N. Y., June 18, 1918.
- JOHNSON, MRS. J. G., of Islip, appointed a member of Board of Managers of Central Islip State Hospital at Central Islip, N. Y.
- KARPAS, DR. MORRIS J., formerly Assistant Alienist to Bellevue and Allied Hospitals, is reported to have died of disease while serving with the A. E. F., aged 39.

- KELLOGG, MRS. FREDERICK S., appointed a member of the Board of Managers of Utica State Hospital at Utica, N. Y., March, 1918.
- KEMP, DR. MINTA PROCTOR, appointed Assistant Physician at Kalamazoo State Hospital at Kalamazoo, Mich.
- KEMPSTER, DR. WALTER, formerly Superintendent of Northern Hospital for the Insane at Oshkosh, Wis., died August 22, 1918.
- KEMPTON, DR. EARL J., Medical Interne at St. Lawrence State Hospital at Ogdensburg, N. Y., promoted to Assistant Physician June 5, 1918.
- KENYON, DR. HOWARD M., Medical Interne at Binghamton State Hospital at Binghamton, N. Y., promoted to Assistant Physician May 1, 1918.
- KILBOURNE, DR. ARTHUR F., Superintendent of Rochester State Hospital at Rochester, Minn., suffered an attack of apoplexy March 25, 1918.
- KIMBALL, DR. ARTHUR H., Ophthalmologist at St. Elizabeth's Hospital, Washington, D. C., resigned April 30, 1918.
- KINCH, DR. C. A., appointed Assistant Physician at New Jersey State Hospital at Morris Plains, April 22, 1918.
- KNOWLES, DR. GEORGE A., appointed Trustee of State Hospital for the Insane at Morristown, Pa.
- LAKELL, DR. EDWARD W., appointed Assistant Clinical Psychiatrist and Psychotherapist at St. Elizabeth's Hospital at Washington, D. C. August 31, 1918.
- LEAK, DR. R. L., formerly Medical Director at State Hospital for the Insane at Columbia, S. C., appointed Assistant Superintendent at Connecticut Hospital for the Insane at Middletown, September 1, 1918.
- LEARY, DR. EDGAR JOHN, Assistant Physician at Mimico Hospital for Insane, Toronto, Ont., was drowned in Meat Bird Lake, Ontario, August 8, 1918.
- LEARY, DR. JOHN J., Medical Interne at Utica State Hospital at Utica, N. Y., promoted to Assistant Physician April 1, 1918, commissioned First Lieutenant Medical Corps, U. S. Army, and reported at Fort Oglethorpe July 8, 1918.
- LEE, DR. D. C., Assistant Physician at State Hospital for Nervous Diseases at Little Rock, Arkansas, appointed to Medical Corps, U. S. Army.
- LEHRMAN, DR. PHILIP B., Medical Interne at St. Lawrence State Hospital at Ogdensburg, N. Y., promoted to Assistant Physician August 14, 1918.
- LEHRMAN, DR. RAPHAEL, appointed Medical Interne at St. Lawrence State Hospital at Ogdensburg, N. Y., June 4, 1918.
- LITCHFIELD, DR. PAUL NATHAN, Attending Physician at Camden County Hospital for the Insane at Blackwood, N. J., died May 1, 1918, of pneumonia.
- MACLACHLAN, DR. MARY, Medical Interne at Connecticut Hospital for the Insane at Middletown, resigned September 19, 1918, to accept foreign medical service with the American Red Cross.
- MACY, DR. WILLIAM AUSTIN, Superintendent of Kings Park Hospital for the Insane since 1904, died May 21, 1918, from cerebral hemorrhage, aged 55.
- MARNELL, DR. FRANK S., Assistant Superintendent of Nebraska State Hospital for the Insane at Lincoln, appointed to a position at Stockton State Hospital at Stockton, Cal.
- MCAUSLAN, DR. JAMES L., Assistant Physician at Gardner State Colony at Gardner, Mass., commissioned in Medical Corps, U. S. Army, assigned to psychiatric work and reported at Camp Custer, Mich., August 1, 1918.
- MCCAFFREY, DR. EDWARD H., Medical Interne at Central Islip State Hospital at Central Islip, N. Y., resigned September 1, 1918, to enter private practice.
- MEAD, DR. LEONARD C., Superintendent of State Hospital for the Insane at Yankton, S. D., received the degree of LL. D. from the State University at Vermilion.
- MEDER, DR. FLORENCE, Second Assistant Physician at Central State Hospital at Lakeland, Ky., resigned to engage in sanatorium work in Louisville, Ky.
- MELVIN, DR. GEORGE M., Assistant Physician at Connecticut Hospital for the Insane at Middletown, resigned August 17, 1918, and commissioned in Medical Corps, U. S. Army.
- MINTZER, DR. IDA, appointed Woman Physician at Middletown State Homeopathic Hospital at Middletown, N. Y., November 5, 1917.

- MITCHELL, DR. CHARLES D., appointed Superintendent of Mississippi Insane Hospital at Jackson.
- MITCHELL, DR. ELMO W., Superintendent of Eastern Hospital for the Insane at Nashville, Tenn., resigned to enter private practice.
- MOODY, DR. RAY W., Assistant Physician at Middletown State Homeopathic Hospital at Middletown, N. Y., commissioned First Lieutenant in Medical Corps, U. S. Army.
- MOORE, DR. INA, L., Medical Intern at St. Elizabeth's Hospital at Washington, D. C., resigned August 8, 1918.
- MOORE, DR. W. P., Assistant Physician at State Hospital for Nervous Diseases at Little Rock, Arkansas, appointed to Medical Corps, U. S. Army.
- MORTER, DR. RAY F., Assistant Physician at Kalamazoo State Hospital at Kalamazoo, Mich., commissioned Lieutenant in Medical Corps, U. S. Army, is doing psychiatric work at Camp Custer.
- MURPHY, DR. JOHN P. H., Assistant Physician in Charge at St. Elizabeth's Hospital at Washington, D. C., promoted to Senior Assistant Physician April 1, 1918.
- NEWELL, DR. HARRIS A., appointed First Assistant Physician at Nebraska State Hospital for the Insane at Lincoln.
- NORBURY, DR. FRANK PARSONS, is serving as acting Medical Director of the National Committee for Mental Hygiene.
- OGLESBY, DR. CHARLES ROBERT, appointed Second Assistant Physician at Florida Hospital for the Insane at Chattahoochee.
- O'NEIL, DR. D. G., Assistant Physician at St. Elizabeth's Hospital at Washington, D. C., resigned May 31, 1918, and commissioned First Lieutenant in Medical Corps, U. S. Army.
- PAINÉ, DR. HARLAN L., Assistant Physician at Gardner State Colony at Gardner, Mass., appointed as Second Assistant to Director of Massachusetts Commission on Mental Diseases, State House, Boston, October 1, 1918.
- PALMER, DR. EARL, Assistant Superintendent of Northern Hospital for the Insane at Logansport, Ind., promoted to Medical Superintendent.
- PERRY, DR. MIDDLETON L., for fifteen years Superintendent of State Hospital for Epileptics at Parsons, Kansas, appointed Superintendent of Topeka State Hospital.
- PFEIFFER, DR. JOHN A., Senior Assistant Physician at St. Elizabeth's Hospital at Washington, D. C., resigned July 7, 1918.
- PILSBURY, DR. L. B., Superintendent of Nebraska State Hospital for the Insane at Lincoln, commissioned Colonel in Medical Corps, U. S. Army.
- PINTO, DR. NICHOLAS W., Assistant Physician at Kalamazoo State Hospital at Kalamazoo, Mich., commissioned Lieutenant in Medical Corps, U. S. Army, is President of the Neuro-Psychiatric Board at Camp McArthur, Waco, Texas.
- POND, DR. SAMUEL B., Assistant Physician at Middletown State Homeopathic Hospital at Middletown, N. Y., resigned October 31, 1917.
- PRIESTMAN, DR. GORDON, Senior Assistant Physician at Willard State Hospital at Willard, N. Y., commissioned Captain in Medical Corps, U. S. Army, and is on duty at Camp Hancock, Augusta, Ga.
- RAINES, LIEUT. THOMAS HART, formerly Phychiatrist at Westchester County Penitentiary at East View, N. Y., and on duty at Base Hospital at Fort Riley, Kansas, died May 24, 1918.
- REED, DR. THEODORE D., Assistant Physician at Dannemora State Hospital at Dannemora, N. Y., commissioned First Lieutenant, Medical Corps, U. S. Army.
- REID, DR. ROBERT, Assistant Physician at Riverdale Sanitarium, West Hill, Riverdale, New York City, commissioned Lieutenant in Medical Corps, U. S. Army.
- ROBERT, DR. HAROLD R., Assistant Physician at Dannemora State Hospital at Dannemora, N. Y., commissioned First Lieutenant, Medical Corps, U. S. Army.
- ROGERS, DR. C. B., Physician in Charge of Fair Oaks Villa Sanitarium at Cuyahoga Falls, Ohio, appointed Senior Resident Physician at Cincinnati Sanitarium, College Hill, Cincinnati, Ohio.
- ROSS, DR. JOHN R., First Assistant Physician at Dannemora State Hospital at Dannemora, N. Y., appointed Superintendent, January 1, 1918.
- SANDY, DR. WILLIAM C., Assistant Superintendent of Connecticut Hospital for the Insane at Middletown, resigned July 24, 1918, and commissioned in Medical Corps, U. S. Army.

- SANFORD, DR. LESTER E., Medical Intern at Binghamton State Hospital at Binghamton, N. Y., promoted to Assistant Physician May 1, 1919, and entered military service May 15, 1918.
- SARGENT, DR. GEORGE FRANKLIN, Assistant Physician at Sheppard and Enoch Pratt Hospital at Towson, Md., commissioned Captain in Medical Corps, U. S. Army, and stationed at Camp Meade, Md.
- SAWYER, DR. CARL W., Director of Sawyer Sanitarium at Marion, Ohio, commissioned Lieutenant in Medical Corps, U. S. Army.
- SAWYER, DR. GRACE M., Medical Intern at Binghamton State Hospital at Binghamton, N. Y., resigned to enter private practice June 30, 1918.
- SCHMITZ, DR. WALTER A., Assistant Physician at Homeopathic State Hospital at Middletown, N. Y., commissioned First Lieutenant in Medical Corps, U. S. Army.
- SCHOLTON, DR. WILLIAM, appointed Assistant Physician at Kalamazoo State Hospital at Kalamazoo, Mich.
- SCHUBNER, DR. ERNEST VARIAN, formerly Superintendent of Worcester State Hospital, died June 14, 1918.
- SHAPIRO, DR. BENJAMIN H., Medical Intern at Brooklyn State Hospital at Brooklyn, N. Y., resigned October 9, 1917, to enter private practice.
- SHEA, DR. RICHARD L., appointed Assistant Physician at Connecticut Hospital for the Insane at Middletown, June 24, 1918.
- SILK, DR. SAMUEL A., Assistant Physician at St. Elizabeth's Hospital at Washington, D. C., promoted to Senior Assistant Physician, April 1, 1918.
- SMITH, DR. H. MASON, formerly Assistant Physician at Florida Hospital for the Insane, at Chattahoochee, appointed Superintendent, July 1, 1917, and commissioned in Medical Corps, U. S. Army, May 31, 1918.
- SOUTHARD, DR. ELMER E., was one of the speakers at the National Conference of Social Work at Kansas City, May 15-22, 1918.
- SPIERS, DR. W. H., Second Assistant Physician at Florida Hospital for the Insane at Chattahoochee, commissioned in Medical Corps, U. S. Army, August, 1918, and is in training at Camp Greenleaf, Fort Oglethorpe.
- SPRADLEY, DR. J. BRUTUS, appointed Dental Intern at Binghamton State Hospital, at Binghamton, N. Y., June 10, 1918.
- STANLEY, DR. CHARLES F., Assistant Physician at Connecticut Hospital for the Insane, at Middletown, resigned July 15, 1918.
- STILLMAN, DR. IRWIN M., appointed Medical Intern at St. Elizabeth's Hospital, at Washington, D. C., July 1, 1918, and resigned July 31, 1918.
- STOUGH, DR. DOWLING B., appointed Medical Intern at Binghamton State Hospital, at Binghamton, N. Y., July 15, 1918.
- SULLIVAN, DR. MARGARET S., appointed Assistant Physician at Kalamazoo State Hospital, at Kalamazoo, Mich.
- TAYLOR, DR. F. A., Assistant Physician at Connecticut Hospital for the Insane, at Middletown, resigned July 1, 1918.
- TERFLINGER, DR. FRED W., Superintendent of Northern Hospital for the Insane, at Logansport, Ind., commissioned in Medical Corps, U. S. Army.
- THOMPSON, DR. JOHN M., appointed Assistant Physician at New Jersey State Hospital, at Morris Plains, January 1, 1918.
- TOWNSEND, DR. THEODORE I., First Assistant Physician at Binghamton State Hospital, at Binghamton, N. Y., commissioned Captain in Medical Corps, U. S. Army, September 1, 1918, and is on duty at Camp Meade, Md.
- TRIVETTE, DR. W. A., Third Assistant Physician at Central State Hospital, at Petersburg, Virginia, commissioned in Medical Corps, U. S. Army, and is now with a Neurological Hospital in London.
- VAN DYKE, DR. EDITH ANDERSON, Assistant Physician at Faribault School for Feeble-minded at Faribault, Minn., died April 18, 1918, of Pneumonia.
- VAUX, DR. C. L., Senior Assistant Physician at Central Islip State Hospital, at Central Islip, N. Y., commissioned Captain in Medical Corps, U. S. Army, and reported at Camp Joseph Wheeler, Macon, Ga., in June.
- WADE, DR. J. PERCY, Superintendent of Spring Grove State Hospital, at Catonsville, Md., elected President of the Baltimore County Medical Association.

- WATSON, DR. WILLIAM SETH, Medical Director of Institute for Nervous and Mental Diseases, at Fishkill-on-Hudson, N. Y., died May 26, 1918, aged 67.
- WEARNE, RAYMOND G., Assistant Physician at Willard State Hospital at Willard, N. Y. promoted to Senior Assistant Physician at Brooklyn State Hospital at Brooklyn, N. Y., September 1, 1918.
- WEISSMAN, DR. DAVID, appointed Assistant Physician at Kalamazoo State Hospital, at Kalamazoo, Mich.
- WEST, DR. C. A., Assistant Physician at State Hospital for the Insane at Columbia, S. C., resigned March 1, 1918, commissioned First Lieutenant, Medical Corps, U. S. Army, and sent to Camp Jackson, Jacksonville, Fla.
- WESTON, DR. PAUL G., Pathologist at State Hospital for the Insane, at Warren, Pa., was operated upon at the Warren General Hospital, August 26, 1918, and is reported as recovering.
- WILLEY, DR. GORDON F., Assistant Physician at Kalamazoo State Hospital, at Kalamazoo, Mich.
- WILL, DR. ELSA B., Medical Interne at St. Elizabeth's Hospital, at Washington, D. C., promoted to Junior Assistant Physician, April 1, 1918.
- WILLEY, DR. GORDON F., Assistant Physician at Kalamazoo State Hospital, at Kalamazoo, Mich., commissioned Captain in Medical Corps, U. S. Army, and is on duty at San Antonio, Texas.
- WILLIAMS, MAJOR FRANKWOOD E., was one of the speakers at the National Conference of Social Work, at Kansas City, May 15-22, 1918.
- WILSON, DR. JOHN G., appointed Resident Physician at Hillside Sanatorium for Mental Defectives and Indigents, near Scranton, Pa.
- YULE, DR. LORNE W., Assistant Physician at Northern Hospital for the Insane, at Logansport, Ind., resigned.

AMERICAN JOURNAL OF INSANITY

RECENT AMERICAN CLASSIFICATIONS OF MENTAL DISEASES.*

By E. E. SOUTHARD, M. D.

The American Medico-Psychological Association has now adopted a classification of mental diseases which appears in general to be a highly satisfactory classification. This new standard American classification has been drawn up with the interests of district state hospitals largely in mind and is in some respects not suitable to the somewhat broader material confronted by the general practitioners and by the staffs of psychopathic hospitals. It is with the interests of general practice and of psychopathic hospital practice that I have been in recent years busy in the matter of early diagnosis. Accordingly, it was with great interest that the classification presented by the highly competent committee of the association was greeted by those of us who had to do with the task of diagnosing the "incipient, acute and curable" group of mental diseases flowing through the psychopathic hospital wards and out-patient departments. It was with the last two groups (21 and 22 of the American Medico-Psychological Association's classification) that psychopathic hospitals obviously had most to do, namely, with the so-called "undiagnosed psychoses" and the so-called "not insane." Whereas the Association's committee evidently regards the group of "undiagnosed psychoses" as a comparatively small one and specifically states that the "not insane" group should receive the occasional cases which, after investigation and observation, give no evidence of having had a psychosis, it is clear that psychopathic hospitals and out-patient departments will always find at least a minority of their cases in one or other of these groups of "undiagnosed

* Presented in outline at the seventy-fourth annual meeting of the American Medico-Psychological Association, Chicago, June 4-7, 1918.

psychoses" or "not insane." It appears likely therefore that future developments in mental hygiene with the establishment of psychopathic hospital facilities attracting great numbers of "incipient, acute and curable cases" into the psychiatric circle, will require some corresponding developments in the American Medico-Psychological Association's classification. The American Medico-Psychological Association's classification appears in short to be one dealing with the insane in the committable sense and not with psychopaths in the broader sense of modern mental hygiene. The committee terms this last group, namely, the "not insane," a group in which it is determined that no psychosis existed. It is doubtful whether the association committee should use the term psychosis in this narrow sense of a disease suitable for care in hospitals for the insane. It ought to be a task of this continuing committee, at least in the writer's opinion, to arrive at a decision whether the term psychosis should be used as equivalent to medicolegal insanity (in the sense of at least potentially committable "certifiable") or whether the term psychosis should be used in a broader sense to cover cases of mental disease which are not even potentially committable. In our local Boston Psychopathic Hospital practice, we have fallen into the habit of specifying, in all instances where there can be the slightest doubt, whether we are dealing with,

A, a psychosis, committable,

B, a psychosis, not committable, or

C, a psychopathic condition too ill defined to warrant the term psychosis.

And beyond these psychopaths might be

D, a group of eccentrics or anomalous persons who only concern the psychiatrist remotely, amongst whom might be found, *e. g.*, many of the so-called defective delinquents. Whatever the decision in this matter, it is clear that the vistas of diagnosis opened out by psychopathic hospital practice are far deeper than those of district state hospital practice in its usual sense.

Of course, the practising neurologist, who was in effect all the time a kind of psychiatrist, had always to deal with this penumbra of psychiatric diagnosis, and practical alienists in the medicolegal sense of that term had in point of fact to be the most delicate observers in the world of just these nuances of psychiatry.

But one should not find so small a fly in the ointment of the new American Medico-Psychological Association's classification, and it would appear to me that in the course of a very few years, especially with the stimulation afforded by the neuropsychiatric problems of the war material, the American Medico-Psychological Association's classification will be whipped into a still more generally applicable shape.

Our own problem in the field of diagnosis of the "incipient, acute and curable" group was not so much the nature and conditions of a classification as the method by which one should most speedily and accurately arrive at a diagnosis. It was not so much the nature and number of the entities in question as the process-types of their diagnosis that formed the new task of the Psychopathic Hospital. Again, let me insist that by calling the task new, I do not mean to say that it is not in one sense a problem as old as the hills, confronting every general practitioner, every consulting neurologist and every specializing medicolegal alienist; but the problem is new in the sense that hardly any institutions in America, except the Psychopathic Ward of the University of Michigan at Ann Arbor, and the Psychopathic Hospital in Boston, had been so equipped as to confront a large mass of material with all modern diagnostic weapons. For, despite the relative accuracy and practical moment of the results attained in institutions like the Bellevue Hospital Psychopathic Ward and the Psychopathic Ward in Cook County, Illinois, it cannot be said that these institutions had been supplied by the local governmental authorities with enough means and large enough staffs to do justice to modern methods.

Again, let me insist that I do not decry the efforts of local governments in establishing such institutions as the Bellevue and Cook County institutions, which in their practical way may accomplish as much as or even more than institutions which are theoretically and scientifically better off. Nor can I think of any means of sharpening psychiatric diagnosis better than a four or six months' course in contact with the mobile and polychromatic material passing through the New York and Chicago institutions mentioned. However, in the interests of mental hygiene it seems that the local governmental authorities should strengthen such institutions as these by enlarging their staffs, greatly developing

their laboratories, and immensely extending their social services. The tasks confronted by the four institutions mentioned, two of which have been properly equipped from the scientific point of view and two of which have served their practical turns even better than could have been expected, are tasks of diagnosis that any attempt at classification must take into account.

Stimulated by this problem in mental hygiene, a problem really of the greatest magnitude for almost everybody's future, and stimulated by the progress made by the American Medico-Psychological Association's committee on statistics, I examined recent American text-books of psychiatry with the aim of learning how many entities were considered by competent psychiatrists really to exist. I had blocked out a paper dealing with these classifications, anticipating most interesting divergences of opinion and hoping to learn something from the mutual critique which the various classifications would afford. There had indeed been a certain healthy disputatiousness in recent American psychiatry, or at least an interesting appearance of acrimony, which led one to hope much from a study of these supposed divergences of opinion. In point of fact, I found extraordinarily few genuine divergences. There were, to be sure, divergences of nomenclature and there are many amongst us who hardly distinguish between nomenclature and classification; but setting on one side nomenclatural questions, the actual and fundamental differences which can be found, *e. g.*, in a comparison of a text-book by Dercum with a text-book by White, are singularly few. I was somewhat disappointed to find so little actual theoretical controversy in American psychiatry. The only sign of healthy competition in hypotheses is to be found in the Freudian discussions which are certainly acrimonious enough, little as they frequently attack the central and underlying problems at stake. But, aside from the small Freudian unpleasantnesses, there is singularly little viable controversy over psychiatric theory in recent American work. Accordingly, I gave over my projected analysis of the supposed divergences in American theoretical psychiatry as shown in the favorite text-books (amongst which may be mentioned DeFursac in Rosanoff's latest modified edition; Dercum; Diefendorf; Knapp in Strümpell's "Practice of Medicine"; Peterson in Church and Peterson's Text-book; and White), and

can only report the extraordinary unanimity above mentioned, a unanimity which was doubtless at bottom the reason why the Medico-Psychological Association could so readily bring about an adoption of its classification. Whatever anybody's doubts as to the details thereof, the classification could certainly be practically used. I hope only, from the point of view of general developments in mental hygiene, that the committee will be a truly standing and dynamic committee, ready to consider year by year modifications which may be proposed, to the end that possibly at the expiration of either a hemi-decade or a decade, the classification may be revamped.

But how shall any classification of mental diseases be employed? How shall we approach the classifying of mental diseases, as we, for example, approach the classification of an unknown plant or animal? What are the processes employed in actual diagnosis aside from the methods of collecting data and observation? This is no merely academic task. It has been the daily task of the Psychopathic Hospital in Boston during the last six years and in the practical handling of over 10,000 cases, a large minority of which are decidedly doubtful as to their place in any psychiatric nosology. This task must also be very prominent, as indeed the reports of these institutions show, in such hospitals as the Psychopathic Ward at Ann Arbor, the Bellevue Psychopathic Ward, and perhaps to a less extent in the Psychopathic Hospital in Cook County, Illinois. After the youthful aspirant to honors gets over his initial confusion at variations in nomenclature and becomes cognizant of the chief constituents of psychiatric nosology by their actualities if not by their names, how shall he consolidate his progress and generalize his diagnostic method? It is somewhat in psychiatric diagnosis as in the learning of an intellectual game, such, for example, as chess: the early difficulties as to nomenclatural variations correspond to the initial difficulties in learning the names and movements of chess men, but this superficial and early difficulty in chess is speedily replaced with difficulties of an entirely different logical nature.

The chess enthusiast now reads chess books, goes over game variations, studies openings and endings, and tries to become an accomplished chess player through transfer of book knowledge to his practice. In this effort he naturally, as in all other depart-

ments of science and art, always fails. He then acquires through practice, with continual reference to books or authorities, that measure of true chess knowledge which he is able to attain. He now becomes equipped with certain chess fundamentals, not too easy to reduce to propositions, although some endeavor has recently been made to accomplish this even in that most complex of all games—chess.

The medical problem of diagnosis in mental disease resembles more closely the process of classification of plants and animals than it does the choice of lines of play in chess. Probably in a later stage of psychiatric science, we shall find, in the choice of therapeutic terms and in their pragmatic modifications, much more of an analogue to the difficulties of chess.

But, it may be asked, how is it possible to reduce the classification of mental diseases to such simplicities as now run in botany or zoology? One could not hope for quite the definiteness which prevails in the taxonomies of biology when one has to deal with any form of disease, let alone the mental diseases. Still, after all, the distinction between genera and species is a distinction which is not at all confined to botany and zoology, but is a most ancient logical distinction, found at least as early as the Greek logicians. Heads and sub-heads have been known to all thinking persons since thinking persons arrived on the scene.

Out of purely practical considerations, there was developed from the Psychopathic Hospital experiences what I termed a "Key to the Practical Grouping of Mental Diseases," published in the *Journal of Nervous and Mental Disease* for January, 1918, in which mental diseases were divided roughly into 11 great groups, corresponding somewhat accurately to the so-called botanical or zoological "orders." Above I mentioned the fact that some persons do not readily distinguish between nomenclature and classification and consider that, where there are many nomenclatural divergences, there are also many divergences in classification. I said that facts proved, on analysis of leading American psychiatric text-books, that despite sundry differences in nomenclature, their classifications betrayed an extraordinarily single mind on the part of American psychiatrists. Now I find that other persons, who shall also be nameless, find it difficult to distinguish not only between nomenclature and classification, but

between classification and a key to a classification or the method by which a classification is used.

Conceding that the American Medico-Psychological Association's classification, adopted as it has been by a great number of American institutions and by the United States Government for war purposes, is a reasonably good classification and aware that its constituent elements fairly well correspond with what all American psychiatrists fundamentally agree upon, the problem still remains, how shall this classification be used; how shall we arrive at the result that a given case falls into one of the 22 groups listed by the Association's committee?

Again I find that, just as some persons fail to distinguish nomenclature and classification and others fail to distinguish classification and key, so still others fail to distinguish between the process of diagnosis and the process of collecting facts upon which a diagnosis is grounded. I find no special divergences of opinion on the part of American psychiatrists as to the methods of observation; that is, the art of collecting data of observation. To be sure, there is one eminent neurologist who triumphantly proclaims that he knows really no one or hardly any one who can take a knee-jerk; but this kind of claim of superiority in the art of observation is hardly to be endured save by some process of cleverly adapted ridicule. There is really no important split in the psychiatric world upon the methods of collecting data. Even the perennially diurnal methods of collecting a clinical history, recommended by the Freudians, do not logically differ from the scandalously inadequate cheese-boring methods adopted by the unregenerate psychiatrist of every-day life.

Suppose then that,

A, nomenclatural divergences be for the moment forgotten; suppose that,

B, some classification, *e. g.*, the A. M.-P. A.'s classification, be accepted as containing all the constituents wanted for statistical tables; and suppose that,

C, the collectors of data are duly making proper observations according to modern standards, there will still remain the question of the process of logically arriving at a diagnosis; that is, a diagnosis of the entity to which the case may be supposed to belong.

I find, however, that there are some persons who choose to deny that there are any psychotic entities and presumably that there are any pathological entities whatever. The term entity for these persons appears to have some bristling dread arcanum about it, having a smack of metaphysics; inasmuch as every individual is, through the fact of his being an individual, so very different from every other individual, how can we compress him into an entity? Shall we not do him therapeutically an enormous injustice by subsuming him under any head whatever? Here, in my opinion, is an extraordinary overdevelopment in application of the principle of identity of indiscernibles. Was it not Leibnitz who proved or proclaimed that no two leaves of grass were identical with one another? By the same token, should we not all agree that no two persons and, *à fortiori*, no two psychopaths are at all alike? And does not this assertion mean that we cannot put any two psychopaths into one entity? This is not the place in which to discuss the inner spirit of the principle of the identity of indiscernibles; but I confess that those persons who overemphasize the principle of individualization are to my mind just as little at ease in the logical world as those who are forever generalizing. Without further argument, therefore, I want to say that I have no objection to any entity whatever, provided there is a good argument in the general psychiatric mind for its existence.

The argument in my brief paper entitled "A Key to the Practical Grouping of Mental Diseases" was an argument for an application of the original principle of order, a principle which has been greatly developed in modern logic. I have put a few historical remarks upon this matter in a paper to be shortly published in the *Journal of Clinical and Laboratory Medicine*, entitled "*Diagnosis per Exclusionem in Ordine*: General and Psychiatric Remarks." In this paper I have called attention to the late Professor Royce's remarks upon the principle of order in modern logic and have given some reasons why it seems to me an important thing for medical diagnosis to follow this modern line of logical developments. It will be wise, however, to emphasize in this inductive age that the considerations in the paper called "A Key to the Practical Grouping of Mental Diseases" were born in practice and not in books of logic. The fact is, that in mental diseases there are few or no reliable indicator symptoms.

I have tried to develop this point somewhat more in detail in a paper "On the Genera in Certain Great Groups or Orders of Mental Diseases" presented before the Neurological Association and to be shortly published. The fact that there are practically no indicator symptoms of particular mental diseases led me to be able to say to the neurologists the following: "Let a young diagnostician of the dogmatic or slightly paranoid type get the initial idea that a case belongs in the dementia præcox group, he will be able to defend his thesis against all comers by the use of symptom lists founded upon the very best text-books. In fact, the better the text-book, the easier for the young tyro to carry his point—for the time being."

In short, if we attempted to use in the field of psychiatric diagnosis any such scheme as that of the "presenting symptoms" of Richard Cabot's formulation, we should land in quagmires of classification. For any presenting symptom, *e. g.*, mania, depression, grandiosity, delusion, even hallucination, would suggest any one of a great quantity of mental diseases. Some small tip or "hunch" would then suggest that the said symptom belonged in group X. Upon reference to books of authorities, said symptom would be unfailingly found in group X. A great number of collateral symptoms would also be found therein. To be sure, the systematist might have given some little idea of the statistical frequency of the given symptom; but he would be careful to say, for example, that a depression is occasionally found in dementia præcox and that auditory hallucinations are occasionally found in manic-depressive psychoses. The tyro bent upon making a diagnosis of one or other of these diseases would hardly get the statistical nuances of the entire situation.

Without going into this matter of the lack of indicator symptoms in the field of mental diseases, I think it will be conceded by all that a young diagnostician (or even an academic old one) is very often able to press the phenomena of practically any case into any one of half a dozen groups. Hence the obscurity and the delights of psychiatric diagnosis!

Where there are no indicator symptoms, it seems desirable to examine the entire logical material in an orderly way, confronting in sequence the various possibilities. This might be done by lot or in some other arbitrary fashion, as, for example, by an

alphabetical method, or do it by a mere casting up of lots. For example, this method could be applied to the A. M.-P. A.'s classification as follows:

1. Is this a case of traumatic psychosis?
2. Is it a case of senile psychosis?
3. Is it a case of psychosis with cerebral arteriosclerosis?
4. Is it a case of general paresis?
5. Is it a case of psychosis with cerebral syphilis?
6. Is it a case of the psychosis of Huntington's chorea?
7. Is it a case of psychosis with brain tumor?
8. Is it a psychosis with other brain or nervous disease?
9. Is it a case of alcoholic psychosis?
10. Is it a case of psychosis due to drugs and other exogenous toxins?
11. Is it a case of psychosis with pellagra?
12. Is it a case of psychosis with other somatic disease?
13. Is it a case of manic-depressive psychosis?
14. Is it a case of involution melancholia?
15. Is it a case of dementia præcox?
16. Is it a case of paranoia or paranoic conditions?
17. Is it a case of epileptic psychosis?
18. Is it a case of psychoneurosis or neurosis?
19. Is it a case of psychosis with constitutional psychopathic inferiority?
20. Is it a case of psychosis with mental deficiency?
21. Is it a case of psychosis which we are unable to diagnosticate in any one of the previous 20 forms?
22. Is it a case which, on investigation and observation, gives no evidence of having had a psychosis and is, in the nomenclature of the A. M.-P. A.'s classification, "not insane"?

It is probable that the fatigue point would be reached early in this method of couching the questions of a diagnosis in sequence. It would in fact appear to the writer that the A. M.-P. A.'s grouping is a grouping based upon a deductive order derived from other considerations than those of diagnosis. The grouping is probably based upon certain notions of etiology. Psychoses with destruction of brain tissue appear to be placed early in the list, and psychoses in which the brains are normal or relatively normal are, with a few exceptions, placed late in the list.

The order is one affected by numerous German text-books and is the opposite of what most French text-books affect. For the latter are apt to place their equivalents of manic-depressive psychoses, *dementia præcox* and the like at the outset of their discussions. Deductively, it would hardly matter which order one adopted in a reference book. For, having by some means obtained a diagnostic clue to the fact that a disease was probably alcoholic or pellagrous or paranoic, one might then refer by index or table of contents to the reference book, in which would be given the differential signs for the disease in question. This would be the method adopted for general medicine in, for instance, Herbert French's "Index of Differential Diagnosis." It is in some sense the method adopted by Cabot in his "Differential Diagnosis."

It does not appear to the writer that this attempt at an etiological ordering has proved especially successful. It does not appear to him that either the German or French method can be said to be particularly superior to the other. It would, on the other hand, appear that a pragmatic ordering in the interests of diagnosis would be preferable to a theoretical ordering in the interests of etiology. To be sure, where etiology has been established and particularly where the morbid agent is single and definable, it is true that the theoretical and the pragmatic groupings would prove identical. But in how many mental diseases can we say that the etiology is established? In how many is it probable that a single morbid agent will be proved to be ample to bring the psychosis about?

In short, I feel that etiological classifications may have their place and that we are gradually approaching a unanimity in this most difficult matter. But from the standpoint of pragmatic diagnosis, that is to say, from the standpoint of choosing some therapeutic plan to follow in a given case, I think that the A. M.-P. A.'s order, to say nothing of the Kraepelinian order which it roughly follows, or any other ordering, *e. g.*, of French text-books, has little to recommend it from the standpoint of practical diagnosis. Shall any one say that we ought to begin to consider whether a psychosis is traumatic, senile, arteriosclerotic, before we consider that it is syphilitic, choreic, neoplastic, etc.?

However, the main objection to the A. M.-P. A.'s grouping, from the practical standpoint, is that the number of groups is

too large to bear practically in mind, at least for the diagnostic tyro. It would seem desirable to throw these groups still further together, if we are not to transgress the fatigue point for the inexperienced diagnostician. So far as the expert diagnostician goes, he truly may not require any special ordering at all, for the expert may on inspection catch up enough tips and "hunches" by which to arrive forthwith at something like the actual diagnosis. But we are not here considering what the process type of diagnosis on the part of the expert is. We are, on the other hand, trying to choose an order in which to consider the entities of psychiatric nosology for the practical purpose of arriving at the entity whose choice will aid the patient as to treatment.

Da Costa used to remark that the process of diagnosis by exclusion was a tedious one. The remark appears to have been founded upon the idea that one might have to exclude all the nosological entities in the text-books one by one in order to arrive at a proper diagnosis by exclusion. Da Costa's text-book was one of the earliest of the modern single volume text-books in medicine that have so dominated medical schools and consulting room practice. The processes of diagnosis which the Philadelphia school and their followers have advocated and used, no doubt with great practical success, have been processes of clinical type-matching rather than processes of diagnosis by exclusion. I went into this matter somewhat *in extenso* in the paper called "*Diagnosis per Exclusionem in Ordine*," to which I will refer an interested reader. In point of fact, diagnosis by exclusion does not need to be tedious, if only the diagnostician is able to unite the different entities in his diagnostic field into a small number of groups characterized by particular signs and symptoms, or groups of such signs and symptoms.

How then might the diagnostician who should want to apply the logical principle of order in his diagnosis use such a classification as the A. M.-P. A.'s classification? Omitting to consider nomenclatural differences and thinking of the observational data in hand which he may desire to use, how shall the diagnostician proceed to choose one of the 22 groups of the A. M.-P. A.'s classification, or one of the 65 (more or less) clinical types mentioned under 11 of the 22 groups? (11 of the 22 groups of the A. M.-P. A.'s classification were subordinate clinical types; for

example, group 4, "General Paresis," is not supplied with special clinical types to be used in general statistics, nor is group 5, entitled "Psychoses with Cerebral Syphilis," supplied with special clinical types, although the plural form "psychoses" indicates that there are probably several such types. Accordingly it would be safe to say that we deal with far more rather than far less than 65 clinical types in the A. M.-P. A.'s classification of mental diseases.)

How then might we order these groups and entities? I have proposed in the paper "A Key to the Practical Grouping of Mental Diseases" the following list, in what seems to me to be the most practical diagnostic order of consideration. (Let me here insist that this is *not an order suggested for the collection of data*, but an order for the consideration of all the data after they have been collected in due amount for diagnosis: any attempt to proceed to diagnosis before a due amount of data is in hand is bound to be dangerous or at all events of transitory value.)

MENTAL DISEASE GROUPS (ORDERS).

- I. Syphilitic Syphilopsychoses.
- II. Feeble-minded Hypophrenoses.
- III. Epileptic Epileptoses.
- IV. Alcoholic, drug, poison..... Pharmacopsychoses.
- V. Focal brain ("organic," arterio-sclerotic) Encephalopsychoses.
- VI. Bodily disease ("symptomatic")... Somatopsychoses.
- VII. Senescent, senile Geriopsychoses.
- VIII. Dementia præcox, paraphrenic..... Schizophrenoses.
- IX. Manic-depressive, cyclothymic..... Cyclothymoses.
- X. Hysteric, psych-, neurasthenic..... Psychoneuroses.
- XI. Psychopathic, paranoiac, *et al.*..... Psychopathoses.

As for group I, the Syphilopsychoses, it will be noted that, for practical purposes, I would wish to group the A. M.-P. A.'s groups 4—General Paresis, 5—Psychoses with Cerebral Syphilis, and 8—Psychoses with Tabes, together simply because in early phases of the development of syphilitic psychoses, a grave damage may be done to the patient if the diagnosis "general paresis" is affixed simply because the patient appears to have some features that correspond with the book authorities on early paresis. It

seems to me that all experience indicates that no combination of clinical and laboratory signs will permit us to make a diagnosis between diseases of groups 4 and 5 without long study and the passage of years. Of course I would not mean to exclude numerous striking exceptions in which an immediate diagnosis of general paresis would be warrantable; but these striking exceptions of diagnosis virtually by inspection have nothing to do with the stock difficulties of practical diagnosis. Here, then, is a good instance in which for practical purposes two or more of the groups and types of disease mentioned in the A. M.-P. A.'s classification might be fused into a single pragmatic group, having important signs or symptoms in common. I do not need here to argue further for placing Syphilopsychoses first in the list and will merely refer to the case book on "Neurosyphilis" which Solomon and the writer issued in 1917 along these general lines.

As for what I have called the Hypophrenoses, or in practice, the hypophrenias, let me here set at rest any question of nomenclature. (I have argued somewhat in detail for the value of the term hypophrenia in a brief paper called "Hypophrenia and Hypophrenics: Suggestions in the Nomenclature of the Feeble-mindednesses," which may shortly appear.) I would here lump the A. M.-P. A.'s group 20—Psychoses with Mental Deficiency, and 22e—the Not Insane, sub-group—Mental Deficiency without Psychosis, simply because the slightest evidence of any kind or degree of mental deficiency appears to me to have extraordinary importance. The plane of division between mental deficiency of a committable kind and mental deficiency of a non-committable kind is not a particularly important plane of distinction in the first task of diagnosis. Consider, for example, how little importance attaches to this matter in the field of delinquency, at least in our early confrontation of criminal phenomena.

Just as the Syphilopsychoses were placed first on account of the relative diagnostic reliability of the present-day tests, so the feeble-mindednesses are placed second, because of the relative reliability of modern mental tests and estimates of mental capacity, based upon observations of educability and functional capacity in schools or other standard environments. In practice hardly a case gets on nowadays without the performance of mental tests in all cases lucid enough to warrant them.

The Epileptic Psychoses correspond with the A. M.-P. A.'s group 17—Epileptic Psychoses, and 22—the Not Insane group of epilepsy without psychosis. Again the A. M.-P. A.'s distinction seems to be founded upon the question of committability and not upon the very possibly more important therapeutic lines of distinction. Epilepsy is placed early in this pragmatic ordering of groups, because in practice it appears to me that epilepsy is so often forgotten and also because the clinical history of epilepsy or epileptoid states is often so relatively good compared with the clinical history of sundry other symptoms given us by lay witnesses.

Again, I have lumped in my pragmatic ordering the alcoholic, drug and poison psychoses, because the question as to their occurrence can be lodged practically in a single sentence. The A. M.-P. A.'s groups 9 and 10 roughly correspond with what I have termed the Pharmacopsychoses. (Nomenclature is not here in question, but it would appear that the Greek term in the first half of the word "Pharmacopsychoses" corresponds pretty exactly with both the alcohol and drugs involved in this group and the poisons there specified.)

The next fusion process in group V, which I have termed the Encephalopsychoses, may seem a good deal more questionable to the practical worker, but I consider that a group which takes into account those neurological signs which we think of under

A, signs of heightened intracranial pressure, and

B, signs of reflex asymmetry,

and the like, is a practical grouping. This group is in fact the neurologist's group. The technique of determining the focal brain lesion group of psychoses is the technique of determining the existence of focal brain lesions which are partly responsible for or are indicators of the cause of the mental symptoms, in a given case. I here lump the A. M.-P. A.'s group 1—Traumatic Psychoses, group 3—Psychoses with Cerebral Arteriosclerosis, group 6—Psychoses with Huntington's Chorea, group 7—Psychoses with Brain Tumor, and the larger part of group 8—Psychoses with other Brain or Nervous Disease (excluding Tabes).

It seems to me that the practical decision whether a case belongs in any one of these five A. M.-P. A.'s groups depends upon the neurologist's clinical technique and largely upon whether the

neurologist can find signs of heightened intracranial pressure or signs of reflex disorder, asymmetry, and the like. It seems to me that the process of getting at the question whether such an encephalopsychosis is traumatic, arteriosclerotic, neoplastic, etc., is a question logically subsequent to the decision that the case belongs in the group as a whole. It may be inquired whether general paresis and cerebral syphilitic psychoses ought not to be classified as Encephalopsychoses. It is true that from one etiological point of view, they might well be so classified; but we are not here attempting an etiological classification. We are trying to make a pragmatic classification that shall be of practical diagnostic and therapeutic value. There can be no question that from the standpoint of therapeutics, it is decidedly important to eliminate logically the question of syphilis before we come to deal with other forms of encephalic disease producing psychosis. The same principle of order in diagnosis may now be applied of course to the sub-groups or genera in the Encephalopsychoses, and some arguments in this direction have been given in the paper above mentioned "Genera in Certain Great Groups or Orders of Mental Disease." But to proceed to the more general ordering. Having gotten rid of the syphilitic mental diseases, the almost (in some form) omnipresent question of feeble-mindedness, the hardly less frequent question of some epileptic or epileptoid condition or equivalent, having disposed of the alcohol, drug and poison question, having applied the neurologist's technique and eliminated such matters as heightened intracranial pressure and reflex asymmetry, in what order shall we consider the remainder of psychiatric nosology?

Practically, I feel that the next question is that which the internist might best solve, and for this purpose I would group together, A. M.-P. A.'s group 12—Psychoses with other Somatic Disease, with its seven sub-groups, and group 11—Psychoses with Pellagra. I have given some arguments for the order in which these sub-heads under the Symptomatic Psychoses, group VI, might well be considered, in the paper above mentioned.

Having now put out of the way the internist's contribution, how shall we attack the numerically smaller, but logically more difficult residuum? Practically, I think at this point one should try to eliminate all the involutional, presenile, and senile questions. As

for involution-melancholia itself, it is possibly of little moment whether it be classified under the presenile and senile group or under the manic-depressive group. We shall get the entity out in any event by our orderly approach. With some misgivings, I have, however, preferred to place the involution-melancholia group below with the Manic-Depressive Psychoses, leaving the other presenile psychoses to be grouped with the senile ones. It is of special value in this method of attack that we have pulled so far apart the arteriosclerotic conditions from the senile ones.

We now approach the most difficult questions. I would practically place the schizophrenic question ahead of the cyclothymic question, because it seems to me that dementia præcox symptoms blanket manic-depressive symptoms from a diagnostic standpoint. Otherwise expressed, is it not in general true that practically any psychopath may show at times the characteristic mania or depression of the cyclothymic, but is it at all so true that characteristic dementia præcox symptoms appear in every form of mental disease? That schizophrenic symptoms do so appear, in the midst of, *e. g.*, manic-depressive psychosis, at least occasionally and as a rule singly, cannot be denied. But that any characteristic constellation of schizophrenic symptoms appears in any other disease than dementia præcox must be regarded as very doubtful.

Having then eliminated schizophrenia, that is, A. M.-P. A.'s group 15, and a part possibly of group 16, namely the part called "paranoic conditions" I would then proceed to the cyclothymic conditions which appear in the A. M.-P. A.'s classification as group 13—Manic Depressive Psychoses, and group 14—Involution Melancholia.

It seems to me that in practical discussion in early phases of mental disease, it is very salutary to fuse the question of Manic-Depressive Psychosis and Involution Melancholia, so that the diagnostic disputant might present to his audience all the phenomena that he thinks are cyclothymic at the outset.

We have now accounted for all the A. M.-P. A.'s groups except a portion of 16, 18, 19, and 21 and the larger part of 22. Having eliminated the cyclothymic states, I would proceed to eliminate the Psychoneuroses, group 18 of the A. M.-P. A.'s classification. Then, for my part, I cannot see any gospel for the orderly diagnosis of the remainder of the so-called entities, which appear to

me to be of a very nondescript and variegated description. For example, paranoia seems to me not to have been proved to be of schizophrenic nature, and, although some forms of it appear to resemble chronic mania that some might press into the cyclothymic division, on the whole would it not be wiser to relegate paranoia to an extremely doubtful, special and unresolved group of conditions? As with 16—Paranoia, so with 19, the A. M.-P. A.'s group of Psychoses with Constitutional Psychopathic Inferiority, this phrase means much and little. It has successfully borne an enormous weight in the matter of exclusion of certain immigrants. It is doubtless of great value in the matter of recruits. It is an ore for future psychiatric mining; but for my part I would not like to make the diagnosis until I had excluded all the previous ten great groups that I have just mentioned.

Of course, the undiagnosed psychoses, the A. M.-P. A.'s group 21, also belong in my chosen "ragbag" group 11, and there might appear 22d—Constitutional Psychopathic Inferiority without Psychosis, and 22f "others to be specified."

From the general results of this analysis, would it not be possible to say that the A. M.-P. A.'s classification, relatively successful as it is from the standpoint of a reference table for statistical purposes, and relatively successful as it may be in representing a reputable German etiological ordering, can be used with a certain readjustment in a practical orderly manner for the purpose of pragmatic diagnosis, having in mind special treatment and management as its aim? In short, may we not use this classification of the A. M.-P. A. like many others, by throwing its groups and subordinate clinical types into pragmatic groups arranged in key form, following the practical standards of, *e. g.*, Gray's "Botany"?

We thus arrive at the following general considerations concerning the recent American classifications in psychiatry:

1. There is an extraordinary unanimity on the part of American psychiatrists as to the constituents of psychiatric nosology and this despite a number of nomenclatural divergences.

2. The classification proposed by the American Medico-Psychological Association and adopted by the United States Government for practical war work is a suitable reference table for statistical purposes of the major groups and clinical types of mental disease.

3. The classification may be somewhat inadequate for the purpose of general and psychopathic hospital practice, but a slight revamping might resolve this difficulty.

4. The American Medico-Psychological Association's classification appears to follow an etiological ordering borrowed ultimately from reputable German sources, and this etiological ordering is a good one if a certain etiological viewpoint is in mind.

5. The question is raised, Whether it would not be better to order the groups and types of mental disease in a pragmatic rather than a theoretical order, that is, in an order having therapy in mind rather than an order having etiology in mind?

6. The writer proposes such a pragmatic order of certain great groups or orders of mental disease, corresponding with the botanical or zoological orders.

7. The writer finds that the 22 American Medico-Psychological Association's groups might well be compressed for practical purposes of diagnosis into 11 groups. He finds that the clinical types subordinated to the great groups of the American Medico-Psychological Association's classification correspond more or less accurately to the genera of a botanical or zoological classification, and proposes that in practice these sub-groups be considered in order, in general accordance with the principles of botanical or zoological taxonomies.

8. This question of how to use a classification may be defined as the question of a key to the grouping of diseases. The key question is entirely independent of the classification or reference-table of entities and entity groups, and both the key question and the classification-list question are independent of questions of nomenclature and terminology. Moreover, the writer would insist that the logical process of *diagnosis per exclusionem in ordine* here developed has nothing whatever to do with the order in which data can or should be collected.

AN ANALYSIS OF THE ACCURACY OF PSYCHOPATHIC HOSPITAL DIAGNOSES.*

By LAWSON GENTRY LOWREY, A. M., M. D.,

*Instructor in Neuropathology and in Psychiatry, Harvard Medical School;
Temporary Investigator of Brain Syphilis, Massachusetts Commission
on Mental Diseases; Chief Medical Officer, Psychopathic Department,
Boston State Hospital.*

Studies of the outcome in psychiatric cases are obviously very important, especially where, as is true at the Psychopathic, diagnoses are based upon symptoms and the longitudinal section of the patient's life before admission. Only in a few cases do we have opportunity to see the final outcome and so check the diagnosis ourselves. The Kraepelinian conception of mental disease, to which we attempt to adhere, was largely founded upon a study of the terminus of pathological states. Accordingly, one important zone of psychiatric advance, for us at least, lies in a study of the outcome of the cases we see here.

The best method available to us for doing this is to follow those cases (about 60 per cent of our admissions) which are committed to the state institutions. This gives us information concerning outcome and also gives us an opinion independently formed; often, as can easily be shown, with diagnostic standards quite different from our own.

Accordingly, we have devised a follow-up scheme by which we secure from each institution its diagnosis and a brief note concerning the condition of the patient three months, six months and one year after commitment. Of course, in the organic cases and those already demented when seen by us, one note is usually sufficient unless there be disagreement in diagnosis. But in the active, acute cases, it is best to secure the full series. In this way conflicting diagnoses in the same case are sometimes given by the institution or institutions.

* A contribution from the Psychopathic Hospital, series of 1918. Read at the seventy-fourth annual meeting of the American Medico-Psychological Association, Chicago, June 4-7, 1918.

Advance in psychiatry can only come, as I have pointed out elsewhere,* if we carefully study the whole patient; make correct symptomatic diagnoses and then check such diagnoses against outcome. Furthermore, the real test of our diagnostic skill lies in applying such a rigorous system of inquiry regarding the further history of our patients. An additional value to such follow-up studies is that they reveal errors in working technique which need modification. They keep the workers keyed up to do the best possible work and tend to establish the habit of careful analysis. Furthermore, they show which groups of cases are most difficult of diagnosis; tend to establish causes for errors; lead to a wider co-operation and understanding between institutions; lead to more uniform standards of diagnoses. The application of uniform standards of diagnoses is really of much greater value than the selection of a uniform statistical grouping for patients.

Two previous studies of Psychopathic Hospital diagnoses have appeared. In 1914 Southard and Stearns* published a report dealing with the accuracy of Psychopathic Hospital Diagnoses in 1913. The study was carried out by following the patients committed from the Psychopathic Hospital to other state institutions and ascertaining the diagnosis of the institution to which the patient was sent. They found that about one case in five got no diagnosis at the Psychopathic, and that of those cases that had received a diagnosis, one in four had the diagnosis altered in the next state hospital. They found that a residuum of about 6 per cent remained unclassified. They considered that the most difficult field of diagnosis was shown to be that of dementia præcox and manic-depressive psychoses, and offered some abstracts of the more interesting individual patients. They were struck by the few changes made in the Psychopathic diagnosis of manic-depressive.

Recently the writer* has published a paper dealing with the accuracy of early diagnoses within the Psychopathic Hospital. This was done by checking the diagnosis in the admission office against the rounds, or staff meeting, or discharge diagnosis in the same patient. Of course this represents the checking of one diagnostic standard against itself and not against another standard, as is obtained when the Psychopathic Hospital diagnosis

is checked against the diagnosis of some other state institution. It is really a study in the accuracy of snap diagnoses in psychiatry, and it was shown that a high percentage of early diagnostic accuracy depends upon accurate observation, careful interpretation and sufficient information.

In this paper, data are presented dealing with the diagnoses in 419 cases committed to some state hospital, after a residence in the Psychopathic Hospital for from a few days to a month or more. The patients forming this group were committed during the period from November 1, 1916, to June 1, 1917, and were

TABLE I.
THE ERRORS SHOWN BY HOSPITALS.
(Omitting Psychopathic unclassified and undiagnosed.)

	Agree.	Disagree.	Total.	Per ct. error.
1. Boston	125	42	167	23.7
2. Worcester	67	17	84	20.2
3. Westboro.	32	14	46	30.4
4. Taunton	21	4	25	16.0
5. Danvers	22	4	26	15.4
6. Medfield	9	4	13	30.7
7. Foxboro	2	1	3	....
8. Private	1	2	3	....
9. McLean	3	2	5	....
10. Northampton ...	1	0	1	....
11. Grafton	15	0	15	0.0
12. Norfolk	1	1	2	....
13. Monson	6	0	6	....
Total	305	91	396	23.0%

reported on by the other institutions once, twice or three times. All cases with change in diagnosis were reported on at least twice in order to make sure whether the institution would change its diagnosis. So the group has been followed for from a year to a year and a half. I wish here to express our thanks to the superintendents of the various state hospitals who, by their reports, made this study possible.

Of the 419 patients, 23, or 5.5 per cent, received no definite diagnosis at the Psychopathic, *i. e.*, were left "unclassified"; leaving 396 patients receiving a definite diagnosis.

Table I shows for each institution the number of patients sent; the number in which the diagnosis agreed and the number in

which the diagnosis disagreed with the Psychopathic. The table shows that in 91, or 23 per cent, the diagnosis was changed, leaving 305 in which the diagnoses agreed. This figure is very near that found by Southard and Stearns.

In Table II are found by diagnosis and by institution the agreements in diagnosis so that an idea may be had of the type of cases sent to each institution.

TABLE II.
TO SHOW THE AGREEMENTS IN DIAGNOSIS BY HOSPITALS.
(Excluding unclassified.)

	Total.	1. Boston.	2. Worcester.	3. Westboro.	4. Taunton.	5. Danvers.	6. Medfield.	7. Foxboro.	8. Private.	9. McLean.	10. Northampton.	11. Grafton.	12. Norfolk.	13. Monson.
Dementia Præcox	155	55 ⁷	39	22	12	12	7	2	1	3 ⁶	1	1	..	..
Manic-Depressive	42	24	5 ¹	5 ³	2	5	..	..	..	..	..	1	..	..
Neurosyphilis	36	11	12	1	..	4	..	..	..	..	..	8	..	..
Ac. Alc. Psy	8	2 ¹	3 ⁴	..	2	..	..	..	..	..	..	..	1	..
Chr. Alc. Psy	7	5 ²	1	..	1	..	..	..	..	..	..	..	..	..
Senile Dementia	14	8	4	2	..	..	..	..	..	..	..	..	..	..
Epilepsy	12	..	1	..	..	..	..	..	..	..	..	5	..	6
Arteriosclerotic	12	7	..	1	2	1	1	..	..	..	..	..	..	..
Korsakow	7	5	1	..	1	..	..	..	..	..	..	..	..	..
Paranoid Condition	3	2	..	..	..	..	1	..	..	..	..	..	..	..
Post Puerperal	1	1	..	..	..	..	..	..	..	..	..	..	..	..
Psychoneurosis	1	..	..	1	..	..	..	..	..	..	..	..	..	..
Not Psychotic	7	5	1	..	1	..	..	..	..	..	..	..	..	..
Total	305	125	67	32	21	22	9	2	1	3	1	15	1	6

¹One case first called manic-depressive, but on second inquiry the diagnosis agrees.

²One case first called presenile dementia, but on second inquiry the diagnosis agrees.

³Two cases first called dementia præcox, but on second inquiry the diagnosis agrees.

⁴One case first called dementia præcox, but on second inquiry the diagnosis agrees.

⁵One case first called dementia præcox, but on second inquiry the diagnosis agrees.

⁶One case first called psychopathic, but on second inquiry the diagnosis agrees.

⁷Four cases first called manic-depressive, and one infection-exhaustion psychosis, all eventually called dementia præcox.

Table III presents all of the data concerning diagnosis in readily accessible form. This shows, for each psychopathic diagnosis, the diagnoses made at the other institutions. The interesting features will be pointed out in the discussion below.

Table IV is a summary in which the results in all psychopathic groups having more than 10 cases are brought together. It will be seen that the error in dementia præcox is low, while the error in manic-depressive is high; this in contrast to the findings of Southard and Stearns. In certain smaller groups the error is

also high, as in the acute alcoholic psychoses and in the arteriosclerotics. These figures, however, are less valuable because of the small number of cases concerned, but perhaps indicate an over stressing of certain symptoms or symptom-complexes in the diagnosis of these conditions.

The data presented in these tables are most conveniently discussed according to the psychiatric groups involved. The points of major interest are found in the cases with change in diagnosis. Accordingly, the greater stress is laid on these. In each case with recorded error, I have analyzed the Psychopathic Hospital record and have based a *personal opinion* as to diagnosis on that. Where-

TABLE IV.
SUMMARY BY DIAGNOSES.
(Arranged in Order of Diagnostic Accuracy).

	Psychopathic Hospital Diagnosis.	OTHER INSTITUTIONS.		
		Agree.	Disagree.	Per Cent. Disagree.
1. Epilepsy	12	12	0	0.0
2. Neurosyphilis	39	36	3	7.7
3. Dementia Præcox	183	155	28	14.8
4. Senile Dementia.	18	14	4	22.3
5. Manic-Depressive	60	42	18	30.0
6. Chr. Alc. Psychosis...	10	7	3	30.0
7. Acute Alc. Psychosis..	12	8	4	33.3
8. Korsakow.....	11	7	4	36.4
9. Arteriosclerotic	22	12	10	45.5

ever possible, I have also either seen the patient or the record from the other institution. This, however, has only been feasible with those patients committed to the Boston State Hospital, representing less than half of the number of errors. I have tried to make an impartial analysis and an unbiased criticism in these cases, with the aim of locating the causes for error if possible.

Group I.—Dementia Præcox: This diagnosis, made 183 times at the Psychopathic, was concurred with in 155 cases and disagreed with in 28. This amounts to an error in 14.8 per cent of cases—well below the error previously recorded. In 28 additional cases another Psychopathic diagnosis was changed to dementia præcox. So, if we incorrectly call 15 per cent of cases dementia præcox, and miss 15 per cent, our error becomes

rather high. Of course the last error is somewhat less serious than the first, since the chances are that a better prognosis was given with a non-dementia-præcox diagnosis.

Of the 28 "errors," four have been left "unclassified" by the institution to which they were sent, leaving 24 cases in which the diagnosis seemed erroneous.

Of these, 14 are called manic-depressive and two are in hospital "unimproved"; two in hospital "improved"; one was discharged "improved" and nine were discharged "recovered." It may be noted that one case was discharged as a recovered manic-depressive, only to be returned to the institution when a diagnosis of dementia præcox was made. This is, of course, not counted as an error. In six cases the first diagnosis returned from the other institution was something other than dementia præcox, usually manic-depressive, but on second or third inquiry the diagnosis was changed to dementia præcox. These cases again are not counted as errors. It is possible that of the four cases now in hospital, a few may yet be called dementia præcox.

In examining our records on these cases, I find that in three the record seems to me typical for manic-depressive, yet a diagnosis of dementia præcox was made. So far as I can see the misleading symptoms do not appear in the record, however clearly they may have appeared in the patient. In two additional cases I cannot form an opinion from our records, as they do not give a sufficiently clear analysis of the case. Neither case was hallucinated, but both were called "indifferent."

In two cases I should judge from the history and examination that neither diagnosis was entirely correct, since one case was post-puerperal and one post-operative. The post-partum case, in particular, seems to be one of the toxic exhaustion cases with recovery. The other case presented ideas of reference for a year before the sudden onset of an excited, hallucinated, deluded state following etherization. Here, the confusion and hallucinations, with later recovery, point more to a toxic psychosis than to dementia præcox or manic-depressive.

The remaining seven cases are of some interest and may be briefly abstracted:

CASE 1.—A man, age 44, first attack of mental trouble. Always rather seclusive, he suddenly became destructive, with ideas of electricity, chok-

ing, visual and olfactory hallucinations. He was depressed, emotional, self-accusatory, had many somatic and sex ideas, ideas of influence and hallucinations for several days. Remained oriented. Except for the hallucinosis he seemed to be a case of manic-depressive. We called him dementia præcox. Six weeks later he had been discharged "recovered." Here the hallucinatory episode was allowed too much weight in the diagnosis.

CASE 2.—This unusual case is so complex that I am not satisfied that either diagnosis is correct. In 1913 he was committed, a diagnosis of manic-depressive made and he was discharged "recovered." In 1915 he was at this hospital; provisional diagnosis—dementia præcox, determined—delirium tremens. In 1916 he was twice here with a diagnosis of acute alcoholic hallucinosis. In November, 1916, he was admitted for the third time that year. He had many fantastic delusions and numerous hallucinations. At our staff meeting, five preferred dementia præcox to manic-depressive; two, manic-depressive; three, alcoholic psychosis; two, unclassified. Committed to another hospital, a diagnosis of manic-depressive was made and he was discharged "recovered." His drinking may have been due to his manic-depressive attack, but it seems that his psychosis was markedly colored by the alcohol.

CASE 3.—At 39 this woman had an attack in which she was violent, fearful, self-accusatory and called the dead. This lasted for four months. At 40 she had a similar attack of two weeks' duration; again at 42. At 43 she had an attack of four months' duration, this time influenced by alcohol. She was described as normal between attacks. At 44 she was admitted with auditory and visual hallucinations and ideas of electrical influence. There was no intelligence defect. She was indifferent; at first disturbed, then quiet, inaccessible, mute, resistive and had to be tube fed. During a month this condition continued. After transfer she was discharged as recovered from a manic-depressive attack.

If we grant that the observations were correct, and there was no history of alcohol, then our diagnosis was symptomatically correct; although the history would indicate a good prognosis for the attack.

CASE 4.—The mother of this girl developed a paranoid psychosis at about 55. The patient was disappointed in love; then became suspicious, deluded and worried. She became hallucinated, with conduct disorder based on this. She was frightened, agitated, depressed, resistive, hallucinated, suspicious, mute, deluded. She was impulsive, at times excited. This continued through her stay of two weeks. After transfer she was discharged as a recovered manic-depressive.

With the exception of the rather normal emotional response to the ideas and hallucinations, our diagnosis would seem to be symptomatically correct, but not verified by outcome.

CASE 5.—An interesting case of "late katatonia" occurring in a man of 50, with mental changes for a year and a previous attack with hallucinations. He was hallucinated and showed cerea flexibilitas, with later recovery.

CASE 6.—In this man the question of manic-depressive-mixed might be raised. He had gradually changed through three years and when seen at 38 was indifferent, irritable, deluded, hallucinated, impulsive, self-accusatory and somewhat depressed. In about three months was discharged "improved" and is now recorded as, "recovered."

CASE 7.—This patient at 29 had an attack in which no hallucinations were demonstrable, but she was disturbed and later mute and resistive. She continued to show many queer signs but has now a "well-connected depression in which there seems to be nothing schizophrenic." Hence, she is regarded as a case of manic-depressive.

The next important group in which the diagnosis was changed is the group of four cases called "not psychotic." Two of these were called "constitutional inferiority" and two were called "feeble-minded." There is no doubt of this groundwork for the mental state in all four cases, but the symptom analysis of the four certainly shows a pathological mental state hardly to be explained by just this diagnosis. I am not arguing that they were necessarily cases of dementia præcox, but that there was something added. That the committing physicians who visit this hospital are very cautious about committing cases on such grounds alone is an additional point in favor of the view that there was a psychotic state. At all events, it is perfectly clear that episodes of various types occur in such patients, but it is not perfectly clear whether they are always a part of the original state or represent a new process.

One case in particular, studied by us for more than a month and twice presented at staff meeting, was called an imbecile at the hospital to which he went, although because of agrammatisms, neologisms and what might be called neograms and certain other schizophrenic features, we had made a diagnosis of dementia præcox which evidently went back for a considerable distance into his youth. There was a possibility of an organic condition. Accordingly, one would hardly be satisfied with the simple diagnosis of imbecility in a complex case of this type.

One case was called delirium tremens, but is still in the hospital a year and a half after commitment, where he is regarded as improved and is working steadily in the kitchen. If it were really a simple case of delirium tremens one would hardly expect that he would spend a year in a hospital. Our record says there is no alcoholic history, that he was apathetic, had ideas of persecution

and somatic delusions. He was not at any time confused. All of these are points against the diagnosis of delirium tremens.

One case which we called dementia præcox with senile changes was called senile dementia. He was 68, had been at Worcester at 18, at the Boston State Hospital at 30 and in some other asylum at 40. For many years, at least 12, he had been foolish, had ideas of persecution, confusion of recent memory, was pleasant, quiet and there were probably auditory hallucinations. The correct diagnosis would depend upon the accuracy of the history of changes for many years.

Two cases called by us paranoid dementia præcox were called unclassified paranoid condition. For the discussion of the difficulties in the way of diagnosis in the paranoid group, see below under "Unclassified Paranoids."

One case was called a toxic exhaustion psychosis from morphine and this diagnosis seems to have been correct, although we got no history of any morphine use.

One case was a post-puerperal case occurring in a negro girl, but with all the characteristics of dementia præcox. However, the institution to which she was sent made a diagnosis of psychosis plus feeble-mindedness and regarded her not as deteriorated but as having been originally of low level. Of course, the diagnosis psychosis plus feeble-mindedness is really equivalent to "undiagnosed" or "unclassified," since it does not attempt to state the type of psychosis present.

Group II.—Manic-Depressive: In this group there were proportionally many more changes than in the dementia præcox group. Our diagnosis was changed in 18, or 30 per cent of the group. In addition, 21 cases called something else by us were finally diagnosed manic-depressive by the other institutions.

The most interesting change is that from manic-depressive to dementia præcox, made in 11 cases. Two cases were discharged from the hospital making the diagnosis dementia præcox, as "recovered"; one was discharged as "improved." In all three cases the history of previous attacks or the examination here indicates manic-depressive to me.

One case has died and our record is to me clearly that of a paranoid dementia præcox and not manic-depressive as we diagnosed it.

The other seven cases remain in hospital "unimproved." Of these, one was called by us "chronic mania," which is probably really dementia præcox with long-continued excitement. Three cases I should call dementia præcox from reading the Psychopathic Hospital record. One case has an involution psychosis with uncertain features. One case is clearly a manic-depressive with three attacks, a complete recovery between each, and typical symptoms of manic-depressive, manic. The last case had a previous attack with recovery, then a second attack at 41. There were certain slight changes in the spinal fluid, indicating a probable organic disease. There were some symptoms of a præcox type, but the question of organic brain disease cannot be easily ruled out.

Accordingly, we can summarize the manic-depressive to dementia præcox changes by saying that in four cases the changes in diagnosis may be seriously doubted for reasons given above; one case is a chronic mania, which is probably dementia præcox; that four cases appear to be dementia præcox from the Psychopathic Hospital records and in the other two cases the change in diagnosis may be questioned, but it is possibly correct.

One case of agitated depression at the involution period was called a post-operative psychosis, despite the absence of consciousness, disorder and hallucinations and a persistence of the process for two years. In this case I should certainly believe involutional melancholia to be the proper diagnosis.

A case with three attacks of manic-depressive psychosis spent two of them at the same hospital which finally diagnosed his case alcoholic dementia, despite the rather typical manic picture shown.

Another very interesting manic case, with unusual features pointing to præcox, was called an alcoholic psychosis, despite the fact that our rather elaborate study of the case for three weeks failed to reveal more than a minimal use of alcohol. The symptoms were chiefly those of mania.

A hypomanic case was called a defective delinquent. To be sure, the boy was both defective and delinquent, but at the time of commitment he was certainly hypomanic. It may be noted that the diagnosis "defective delinquent" needs to be handled with care. Such patients may also be, or become, insane—a fact frequently overlooked. From the same institution I have recently obtained a diagnosis of defective delinquent in a straight out-and-

out paranoid case that has been committed three times to state hospitals.

One case of depression was called a neurasthenic psychosis. With this diagnosis I have no quarrel to make, since, as I have recently pointed out, the differential diagnosis between psychosis and psychoneurosis is often extremely difficult to make and, furthermore, many so called psychoneurotics are really insane in the technical sense of the word.

Group III.—Neurosyphilis: One would not expect to find any diagnostic errors in this group, except within the group itself (i. e., cases diagnosticated paresis turn out vascular hues, etc.) because of the exact laboratory methods which are available for aid in diagnosis. However, there is a group of cases in which we find a psychosis, or even no psychosis, plus the serology of neurosyphilis, the latter producing no symptoms which can be directly attributed to it. Such cases have been reported in considerable numbers (see Barrett,¹ Lowrey,^{2,3} Southard & Solomon,^{4,5}) and several more such cases could now be added to the list.

Of the three errors in diagnoses which appear in our table only one, the case called alcoholic dementia, is of this type. This case was diagnosed "chronic alcoholic psychosis + neurosyphilis" at the Psychopathic, from which it will be seen that the major importance of alcohol was recognized, but the presence of neurosyphilis was also indicated. The two cases called dementia præcox by other hospitals are clearly, from our records, dementia præcox and there is no serological evidence to back up a diagnosis of neurosyphilis and I do not understand how such a diagnosis was made. A final case, which I have not classed as an error, was called "luetic paranoid" at the Psychopathic and "general paresis + paranoid dementia præcox" at the other hospital. I should feel that our diagnosis was probably more logical. At any rate, I should want some extremely good evidence of the existence of the usual symptoms of paresis before I made a double diagnosis. However, both diagnoses recognized the relationship: neurosyphilis + paranoid psychosis.

Group IV.—Acute Alcoholic Psychosis: Of the four errors in this group of 12, one in which we raised a question of dementia præcox has been discharged as self-supporting, although some-

what dull. Another case called manic-depressive, manic, is said to show blunting, probably due to the use of alcohol. One case called by us alcoholic hallucinosis has been discharged recovered from a toxic insanity. Of course alcoholic hallucinosis is a toxic psychosis, but is a more exact diagnosis than merely *toxic*. Another patient called by us alcoholic hallucinosis has been discharged as a recovered case of dementia præcox. We are all aware that in a typical case of alcoholic hallucinosis, the differential diagnosis is alcoholic hallucinosis versus paranoid dementia præcox. The differentiation is to be based upon three factors: 1, The history of the abuse of alcohol in a person who was previously regarded as normal; 2, the normal emotional response to the ideas and hallucinations entertained; 3, the outcome in recovery in from four to six weeks, with good insight into the past mental illness. Accordingly, I should suspect that in two, and perhaps three of these cases the Psychopathic diagnosis was more nearly correct, judging by the history, symptoms and outcome, than the diagnosis in the other institutions.

Group V.—In the chronic alcoholic group, the two cases in which the diagnosis was changed to "not psychotic" did not present enough deterioration at the Psychopathic Hospital to be committed as insane, but were sent to the institutions as "habitual drunkards." So that, although I have classed them as errors in the table, they are really not such, since in both cases the other institution makes a diagnosis of "inebriate." The third case, however, is a rather interesting one of aphasia, in which the other hospital diagnosis of arteriosclerosis seems to be correct.

Group VI.—Senile Group: One case was diagnosed as an organic dementia which really amounts to saying that there is dementia due to some type of organic disease. It does not, however, make any exact diagnosis of the organic disturbance. A second case was called manic-depressive psychosis, apparently due to some history which we had not obtained. In a third case the diagnosis was changed to cerebral arteriosclerosis. Of course the differential diagnosis between senile dementia and arteriosclerotic psychosis is not always easy and in many cases represents a question of evaluation of indirect evidence more than anything else. One interesting case, which we called a senile

psychosis, was discharged "improved" with a diagnosis of "not insane" from the hospital to which she was sent. This woman's daughter, who was about 40 years of age, had a marked paranoid psychosis of slow development. The two women lived alone and the daughter convinced the mother of the reality of her delusions and hallucinations, and the old lady firmly believed them. We called it a senile psychosis although she was not demented.

Group VII.—Epilepsy: There were no disagreements in the diagnosis of epilepsy and we missed no diagnoses of epilepsy. This is probably to be explained by the fact that the epileptic cases which we see have usually a long history of fits or perhaps have some while they are in the institution. There has not always been verbal agreement as to the diagnosis of epileptic psychosis, but that of course may be due to a clearing up of the psychotic state at about the time of discharge to the other institution.

Group VIII.—Arteriosclerotic Psychoses: On the surface it appears that our least accuracy in diagnosis lies in the field of the arteriosclerotic psychoses. The diagnoses returned by the other institutions concurred with us in only 12 of 22 cases and in addition seven cases called by us something else are called arteriosclerosis by the institutions.

Three cases were called senile dementia. As was pointed out above, this differentiation is often very difficult to make, especially in the more advanced cases, and it often represents an interpretation of certain equivocal signs and an evaluation of conditions which can only be indirectly estimated. Accordingly, although these diagnoses are erroneous, the error is perhaps not a particularly serious one.

Two patients were called organic dementia, just as a case diagnosed by us "organic dementia" was called "cerebral arteriosclerosis" in the other institution. Of course, as pointed out above, organic dementia is not a diagnosis in the ordinary sense of that word, it is merely a recognition of state and a partial putting together of symptoms. Another case is regarded as one of chronic alcoholic psychosis. Here again the major symptomatology is much the same in the two conditions and differentiation depends upon history and the evaluation of certain signs. In this case there is an alcoholic history, but there are also signs of cerebral arteriosclerosis. Another case was left "unclassified,"

between alcoholic dementia and cerebral tumor, and here from our records the diagnosis would seem to be arteriosclerosis.

Three cases were called manic-depressive. Of these, one is clearly, from our records, a case of arteriosclerotic dementia and she has apparently an early stage of chorea. Had the chorea come on somewhat earlier in the course and been more marked, we should have been tempted to call her a case of "degenerative chorea." There are no evident signs of manic-depressive. To be sure she has periods of depression and excitement, never long continued, amounting really to an emotional instability. In the other two cases the portion of the symptomatology which is unusual for manic-depressive lies in the periods of confusions. Aside from this, one case might well be regarded as a manic-depressive-mixed and the other as a manic-depressive-depressed.

Group IX.—Korsakow's: This syndrome is one which has very definite signs and one in which we should not expect the diagnosis to be in error. However, there were four cases in which we seem to have made an erroneous diagnosis. One of these was called alcoholic dementia. It is well known that the outcome of a Korsakow's attack is often dementia and this dementia is usually very marked. Accordingly, in this case we are probably both right in the diagnosis. A second case recovered from a "toxic psychosis," which, of course, Korsakow's syndrome is. A third case was discharged as recovered from alcoholic hallucinosis. There were here certain slight signs of neuritis and some confusion which allowed us to believe that it was an early phase of Korsakow's. Apparently, however, the damage was not so great and the case ran the course of an hallucinosis. The fourth case was a very interesting one in which we were none too sure of the diagnosis, "Korsakow's," but we were unable, after an exhaustive study for more than a month, to reach any other conclusion. He has been left "unclassified" and is improving.

Group X.—The paranoid conditions constitute one of the most difficult groups in which to make a differential diagnosis. The tendency has been to classify the hallucinated paranoid conditions as paranoid dementia præcox, reserving the term "paranoia" for those cases of very long and slow evolution, in which there is a

well-systematized set of paranoid ideas without hallucinations and without deterioration. We made the diagnosis of paranoid in only two cases. In each case the state institutions made a diagnosis of paranoid dementia præcox, which I believe to be correct in one and probably incorrect in the other.

According to Kraepelin's last edition only about 40 per cent of the paranoid conditions with progressive delusion formation, not due to syphilis or alcohol, are cases of dementia præcox. The deterioration is often very slow in developing in these cases. About 50 to 55 per cent of the paranoid group as limited are cases of paraphrenia, while the remaining small percentage are cases of true paranoia.

We attempt now to differentiate the paranoid præcox group from the other paranoid cases by insisting that they show the characteristic emotion and will difficulties of schizophrenia. If they do not show these signs we usually leave them in the unclassified paranoid group. In one case we made a diagnosis of paraphrenia confabulans, which was changed to dementia præcox paranoid. This and two other changes from unclassified paranoid to dementia præcox represent really differences in standards of diagnosis and not any particular differences in the conception of the case. The final case, however, was a very interesting legal case in which we were not able certainly to determine the presence of hallucinations or to show any very marked deterioration. We felt that she was probably a paranoid præcox, but thought it safer to leave the case unclassified paranoid. Since being at the other hospital she has shown very clearly the characteristics of paranoid dementia præcox.

Group XI.—Unclassified: Concerning this group I have very little to say. They represent the cases in which for one reason or another we were not able definitely to decide what the psychosis was, during the period of observation here. They present, of course, a good many problems, as do all unclassified cases. In 18 of the 23 the other institutions were able to classify them but the institutions added, to the residue of five, eight more cases which they could not classify.

The remaining changes in diagnosis need not be discussed at very great length. They represent for the most part differences

in standards of diagnoses. Under the "not psychotic group" are included cases of feeble-mindedness and of psychopathic personality, which had for one reason or another to be committed. They all have a mental disease although it is not perhaps in the form of a psychosis. The scattering of further changes is not particularly important.

SUMMARY.

Data are presented dealing with the accuracy of the Psychopathic Hospital diagnoses on 419 patients. The Psychopathic diagnosis was determined within 10 days in all but a few. In a few cases we had more time, up to a month, to study the case. The cases have been followed for a year to a year and a half.

The figures are based upon the diagnoses made at 11 state institutions, McLean Hospital, and a small group of private sanatoria, to which our patients were committed. Most cases have been reported twice, and in a few instances three times.

The general error in diagnosis is established at 23.0 per cent (omitting the unclassified cases from consideration).

This error is not evenly distributed. Our greatest accuracy is in epilepsy (100 per cent); next in neurosyphilis (92.3 per cent); then dementia præcox (85.2 per cent.) Of the larger groups we are least accurate in arteriosclerotic psychosis (54.5 per cent); then in Korsakow's (63.6 per cent); then the acute alcoholic psychoses (66.6 per cent); then manic-depressive and chronic alcohol psychoses (70 per cent).

Many cases have had more than one diagnosis from the other institutions.

We diagnosed dementia præcox in 183 cases: diagnosis changed in 28, of which four were left unclassified. Twenty-eight cases were added to this group.

Of the 24 definite changes, two were unclassified paranoid. In three cases our record seems clearly that of a manic-depressive; in one, manic-depressive + some unusual symptoms. In these four cases there should have been no error. One case of late katatonia should probably not be called manic-depressive. In three cases, our record is that of dementia præcox, and the outcome is not yet certain. In four cases our diagnosis seems symp-

tomatically correct, but not verified by outcome. In three cases I believe neither diagnosis to be correct, and in four more I am fairly certain the final diagnosis is incorrect, but have no exact opinion as to correct diagnosis. In another case the accuracy of the history must decide: in two, I can form no opinion.

The diagnosis was changed in 18 of 60 cases called manic-depressive at the Psychopathic, and 21 cases were added. One case is left unclassified.

Of the 17 definite changes, my own opinion is as follows: That in eight cases, according to symptomatology and outcome, the Psychopathic diagnosis is probably correct; in four cases the Psychopathic record is such that a diagnosis of manic-depressive should not have been made, and the other institution is correct; in three, the second diagnosis is probably correct, although the Psychopathic diagnosis may eventually be proven.

Of the three errors made in the diagnosis of 39 cases of neurosyphilis, two should not have been made, since our record clearly agrees with the other institution's diagnosis. In the third case we recognized the presence of neurosyphilis, which the other institution did not.

Of the four errors in the diagnosis of 12 cases of the acute alcoholic group, I should doubt the "recovered" dementia præcox; believe that acute alcoholic hallucinosis is a better diagnosis than "toxic insanity"; and believe that a recovered manic-depressive showing "blunting due to the use of alcohol" *probably* had an alcoholic psychosis.

Two of the three errors in the chronic alcoholic group are really not errors, since we did not regard them as sufficiently deteriorated to commit as insane. The other case is a frank error.

In the arteriosclerotic group, changes to senile dementia occur three times. Such changes depend largely upon interpretation of findings. In four of the 10 cases in which diagnosis was changed, the second diagnosis seems to be erroneous, and in two more the diagnosis is less exact than ours, while one case is left unclassified.

The four changes in the diagnosis of Korsakow's syndrome represent: 1, A very difficult case in which we were none too sure of the diagnosis; 2, an end state (dementia); 3, a "toxic" psychosis; 4, alcoholic hallucinosis.

The paranoid conditions are often very difficult of exact diagnosis. Four of the six changes represent differences in diagnostic ideas; one more was caused by further developments in the course of the disease.

Therefore, in 396 cases diagnosticated, there were 91 changes. Of these nine are left unclassified, and the Psychopathic diagnosis may eventually be proven correct. Of the remaining 82, 10 are cases in which, from the Psychopathic record, no error should have been made. In 21 more the Psychopathic diagnosis is probably correct. Three cases classed as errors are not really so. In three cases probably neither diagnosis is correct. So, if we exclude the cases left unclassified; the cases in which we are probably correct and those in which there was really no error, we are left with a total of 58 frank errors among 396 cases, or 14.6 per cent. This raises the question: "What is the error in psychiatric diagnosis at large?" which can only be answered by each institution critically analyzing its own diagnoses and errors. Compilation of such figures from several institutions would be of extreme value.

It appears more and more strongly that *accurate observation and intelligent interpretation* are the fundamentals of correct diagnosis, and that there is need of a unification of diagnostic standards.

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THE ORGANIZATION OF THE STATE HOSPITAL SERVICE IN ILLINOIS.*

By H. DOUGLAS SINGER, M. D.,

State Alienist, Department of Public Welfare.

The increasing interest of the general public in efficiency of state government has led to closer attention to the organization of the Department of the State devoted to the care of handicapped individuals which represents one of the largest items in a state budget. The subject is relatively simple where there are but one or two institutions to be considered, but becomes increasingly complex as the number rises. Each institution is a unit which, because of varying conditions in different localities, must have considerable autonomy and yet, for efficient administration, it is essential that there be uniformity of general policy with proper provision for real responsibility.

Prior to 1909, Illinois, like most other states, operated each of its institutions as an independent unit under the direction of a local board of trustees. A State Board of Charities, advisory only in its functions, served to establish some small measure of coordination. The great defect in this system was the fact that each unit worked for its own interests alone and could thus bring about considerable inequality in the distribution of funds and other means for operation. The superintendent again was responsible only to the board of trustees who were unpaid and, acting as a board, could not very well be called to account.

The interference by politicians which obtained during this kind of management in many institutions cannot be attributed to the system itself, but the fact that such domination with all its baleful consequences could continue unchecked and largely unknown to the public must be considered a defect in the method.

The first big change in system was an effort to eliminate this political control by means of a Civil Service Act which became

* Read at the seventy-fourth annual meeting of the American Medico-Psychological Association, Chicago, June 4-7, 1918.

operative in 1905. This, at first, was applied only to the state hospitals, but has since been extended to the penal and correctional institutions, although in all instances the managing officer is still excluded.

In 1905, also, the State Charities Commission became much more active by reason of the character of its personnel and this body did much to improve conditions generally and to lay the foundation for the next step which was taken in 1909 when the various boards of trustees of the state hospitals, the colony for the feeble-minded and the charitable institutions were abolished and replaced by the State Board of Administration.

This body consisted of five members appointed by the governor with the consent and advice of the Senate. It was provided that one member of the board should be a physician experienced in mental diseases and that at least two members should be of the minority political party. In other words it was a bipartisan board with the control in the hands of the majority party. The provision for the bipartisan character of this board unquestionably tended to bring with it a recognition of politics as a factor in determining its personnel. An attempt was made to guard against the domination of the board by politics by arranging that the term of office should be six years, thus exceeding that of the governor by two years. The terms were so arranged that not more than two would expire in one year. In practice this provision was, however, nullified by the ability of the governor to secure the resignation of all members at his request.

The board acted as a whole, each member casting his vote upon any question which might come up even though the functions of the individual members were vaguely defined by their designation as president (elected by the board), secretary, fiscal supervisor and alienist. The fifth member had no title. The defect in this arrangement is obvious. The alienist, for example, although selected because of professional experience, had theoretically no more voice in determining the medical policies of the hospital than had the secretary or fiscal supervisor. Hence he could not in any sense be held responsible.

Through this administrative body it was possible to secure far greater uniformity of methods and budget organization within the hospitals. All purchases for all institutions were also made by it

upon requisition of the managing officers thus rendering it possible to buy more economically. Although not inherent in the system, the practical result of its methods of operation was a gradual centralization of authority in the board, even in regard to details, with corresponding loss on the part of the individual superintendent. This is a danger that must always be guarded against by any central body for, under such conditions, the superintendent can no longer be held responsible.

To assist in the direction of the professional work of the hospitals, a state psychopathic institute, originated by the State Board of Charities in 1908, was officially established in 1909 by the act creating the Board of Administration. The alienist was designated by the board as the director in chief of the institute. Founded with the objects of giving psychiatric instruction to medical officers and conducting research into the problems of insanity it had, however, no authority in the hospitals except through the Board of Administration.

In 1917, as the result of the personal efforts of our present governor, Frank O. Lowden, there was passed a code of civil government which has in effect resulted in the abolition of approximately one hundred boards and commissions and their replacement by nine state departments. The prime objects of this development were the removal of scattered, and often duplicated, authority and the establishment of really responsible management in all fields of state activity. Among others the Board of Administration was abolished and its functions centered in the Department of Public Welfare. At the same time the boards of trustees of the two penitentiaries and of the reformatory, together with certain other boards and commissions, were abolished and their activities brought under the same department.

The civil code provides that each of the nine departments (which are known as finance, agriculture, labor, mines and minerals, public works and buildings, public welfare, public health, trade and commerce and registration and education) shall be under the command of a director responsible for the work of that department. It also creates a number of divisions within the departments each with an officer at its head. The directors and their staffs are appointed by the governor by and with the advice and consent of the Senate. All subordinate positions, with the exception of the

managing officers of the various institutions who are appointed by the director, are selected through the Civil Service Commission.

The system of organization within each department is essentially similar and we need describe only that of the Department of Public Welfare in which mainly we are here interested. The staff consists of seven members, four of whom are administrative and three functional. They are: An assistant director, a functional officer who acts as secretary, keeps the records and has charge of the seal; a fiscal supervisor who superintends the business transactions of the whole department; a superintendent of charities who is responsible for the operation of the hospitals for the insane, the school for feeble-minded, the epileptic colony, the schools for delinquent boys and girls and the charitable institutions; a superintendent of prisons, responsible for the administration of the penitentiaries and reformatory; a criminologist who acts also as the director of the Juvenile Psychopathic Institute and is responsible for the professional work in the penal and correctional institutions and the direction of the machinery for the study and prevention of delinquency and the after-care of delinquents; an alienist who directs the teaching and research work of the Psychopathic Institute, supervises the medical and professional work of the state hospitals, school for the feeble-mind, epileptic colony and the charitable institutions.

Besides these seven officers there is also within the department a Board of Public Welfare Commissioners, five in number, who serve without pay, but are provided with an executive secretary. The functions of this board, which replaces the State Commission of Charities, are advisory but they are specifically required to investigate the condition of the various institutions under the Department of Public Welfare, their equipment and management and to collect and publish statistics relating to insanity and crime.

Each officer is directly responsible to the director for the work of his division. The functions of each are now reaching a clear definition. The organization is therefore essentially different from that of the Board of Administration in which each member had equal authority in all matters. The scheme also provides for a very valuable distinction between administrative and professional work. These two functions are so different in character that it is very rare to find any individual capable of performing both and

there has been a very general tendency to subordinate medical to administrative qualification, which is, in my opinion, largely responsible for the slow development of our state hospitals. They are almost universally well managed in the way of general upkeep, but there is only too often a decided poverty in professional progress.

Under the Illinois system the managing officer of a state hospital is responsible for the operation of the institution to the superintendent of charities, but is subject to the direction of the alienist in regard to matters involving the professional care and treatment of patients. Means for cooperation between the various divisions is provided by holding staff meetings over which the director presides.

The administrative machinery is perhaps a little complex, but in practice works very smoothly. The purchase of supplies is made by the superintendent of a division of purchases and supplies in the Department of Public Works and Buildings and not by the Department of Public Welfare. Requisitions from the managing officers pass through the hands of the fiscal supervisor and are then sent to the purchasing division which buys everything used by the state government. The forms to be used for bookkeeping, vouchering, etc., the preparation of the budget and the financial supervision generally are vested in the Department of Finance. The erection of buildings, supervision of architecture and engineering work for the whole state including the institutions under the Department of Public Welfare are upon requisition conducted by the Department of Public Works and Buildings.

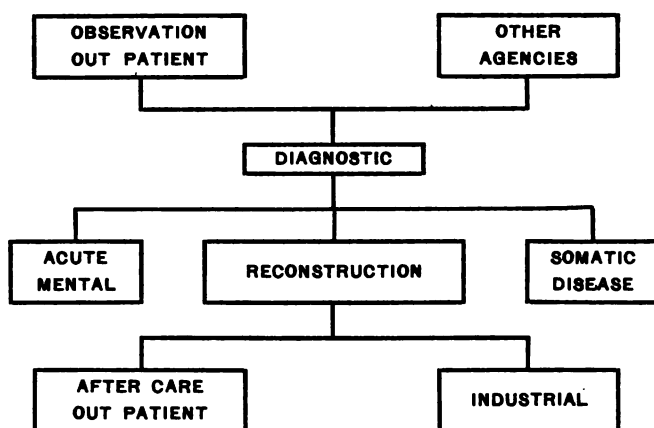
To ensure cooperation in these interdepartmental activities meetings of the directors are held at frequent intervals at which general policies are discussed and decisions reached. This body thus acts as a cabinet to the governor and serves to preserve a proper balance in the work of the state.

I have already called attention to the provision for separate control of the administrative and professional work of the institutions. This division of duties brings with it the possibility of establishing a clear-cut professional organization of the state hospital which should be the central feature around which the administration is built instead of dividing the institution for convenience in administration as is usually done. As yet the department is too

young to have succeeded in finally defining such a scheme, but a tentative arrangement has been adopted which I have described in some detail in a paper now in the press. This I may here briefly outline.

The scheme is shown in graphic form on the accompanying chart. The two groups in the top line represent the agencies through which a patient enters the institution that to the left being part of the hospital organization chart. The chief feature of the plan consists in the establishment of a "reconstruction" division through which all patients must pass before being either released,

PLAN OF STATE HOSPITAL ORGANIZATION



with or without supervision, or being placed in the custodial or, as here called, industrial division. This reconstruction division carries out work which should be considered as the principal function of a state hospital. Its aim is the rehabilitation of the individual to the highest degree possible, whether he must remain permanently within the institution, in which case he is trained for taking part in its industrial work, or is to be permitted to resume more or less of the responsibilities of citizenship. In this latter case the effort is made to fit him better for life in the world by giving instruction in occupation and habits of adjustment.

The hospital divisions, one for acute mental disorder and the other for somatic disease, take their place as adjuncts for tempo-

rary residence in which are provided special means for treatment designed to promote a return to sufficient health to permit of reconstructive work.

Special attention may be directed also to the provision for special observation wards and outpatient departments which, according to circumstances, may or may not be located within the confines of the hospital. In any event they form a most important part of the organization both for prevention and after care and will also include the means for obtaining information for use in diagnosis. The diagnostic division, which will include the laboratories, corresponds with what is usually known as the reception service, but is given this title in order to emphasize and clearly define its functions.

The division labelled "industrial" corresponds with what is more commonly designated as the custodial service and necessarily contains the large bulk of the inmates of the institution. The title here used is intended to convey what I believe should be its real function. Idleness should not be permitted and the fullest use possible should be made of the capacity for employment of those who must remain segregated from the world not only for economy, but also for the benefit of the patients themselves. As already indicated, special training with this in view will be given in the reconstruction division.

Such, in brief, is the plan upon which the Illinois state hospitals are being organized, but before concluding let me call your attention to another feature in the provisions of the civil code which we regard as one of the most important. This concerns the inclusion of the penal and correctional, in the same department with the insane and charitable, institutions. That crime and delinquency are disorders of behavior requiring similar methods of study and diagnosis to those of insanity, feeble-mindedness and dependency is gradually being recognized. Under the Illinois system there becomes possible a very close cooperation between the two groups with interchange of means for study and treatment. The medical staffs have been amalgamated in the sense that physicians can be transferred from one group to the other, thus providing for a broader training of medical officers and the introduction of psychiatric methods into the penal and correctional institutions. The general plan for the professional organization of the peni-

tentiaries is being made to follow very closely the lines laid down above for the hospital.

The machinery for research and preventive and after-care work will also, to a large extent, be fused so as to avoid unnecessary duplication and permit of the greatest economy. This work is as yet in its infancy in this state, but a beginning has been made by the establishment, in temporary quarters, of the Juvenile Psychopathic Institute in Chicago which is, at present, serving not only in the study of delinquency and juvenile behavioristic problems, but also in the after-care of cases from those state hospitals which receive from the Chicago district. This it is planned to greatly enlarge and to incorporate with the Psychopathic Institute in permanent quarters. This institute thus formed will act as a research and teaching center which will in all probability have close relations with the medical college of the State University.

The outline here given is necessarily somewhat sketchy, but will afford a general idea of the plan of operation. Its principal advantages are: (1) The establishment of direct responsibility in all fields; (2) the elimination of much unnecessary reduplication of machinery, and (3) the clear recognition of the distinction between professional and administrative functions.

PSYCHOPATHOLOGICAL OBSERVATIONS IN A GROUP OF FEEBLE-MINDED.

By ESTHER LORING RICHARDS, M. D.,

Instructor in Psychiatry, The Johns Hopkins University.

The material comprised in this paper does not represent an attempt to write what Goddard has called "A chapter in the story of feeble-mindedness which is not yet written,"¹ namely, the relation of insanity to constitutional mental retardation. The subject-matter here is offered for what it is worth, merely as a record of psychopathological facts observed in the examination of certain cases from The Training School for Feeble-Minded at Vineland, N. J., which were referred by Superintendent Johnstone as having "insane streaks." In the examination of these patients all data of the family history, past history, behavior curves since admission to the institution, as well as the psychological tests for determining the patient's mental level, have been taken directly from the institutional records.

Three of the 16 patients examined were found to be frank epileptics with episodic outbursts of irritability, combativeness, and confused behavior, such as wandering about unclad. These episodes followed a convulsive seizure, or a series of the same, and all were followed by complete amnesia for the behavior during the attack.

Four of the remaining 13 patients showed in association with their original mental deficit a definite psychotic development. The following are brief records of these cases:

(1) A. B.; æt. 24. Female.

Family history, negative.

The patient did not walk until 20 months and is described by her parents as always stubborn, affectionate at times, sometimes untruthful, resentful of correction, sly, morose, moody, seclusive with no play interest, but almost daily temper tantrums. She was backward in school. On admission to The Training School, March, 1915, her "mental age," according to the Binet-Simon test, was 9 years, the basal year 4, with scattering successes which brought her up to 9 years. On admission she was neat in appearance and in the care of her room, did a little housework about the cottage, but showed no interest in anything around her. She was inclined to be impudent

and disobedient, was undemonstrative to the family on their visits, laughed and giggled to herself without cause, and would sit and dream for hours. During 1916 and 1917 the behavior of the patient underwent a general slump. She grew careless in her appearance, slovenly and gluttonous in her eating, surly, openly autoerotic; she showed bizarre behavior, such as throwing herself flat on the floor in the school-room, and had outbursts of screaming, kicking and striking attendants and children, so that she had to be sent to the hospital with these attacks every few days. In April, 1918, the patient's behavior was described as untidy night and day, openly autoerotic, and given to such queer activities as rushing into the dining-room and snatching all the food off the table.

Mental Examination, July, 1918.—The patient was found idly fingering her dress and unbuttoning it to the waist. At times she would break into empty, mirthless laughter without any obvious association or relation to questioning. She allowed her reflexes and pupils to be tested, but when asked to hold up her right hand, she held up her left hand, and then both hands. When asked to name such objects as key, watch, pin, etc., she would not speak, but nodded her head in the affirmative if the examiner called these articles by their right name. For the most part she answered questions by nodding her head, except on two occasions when she gave her name and the city where she lived. It was impossible to get any cooperation from her in response to questions as to orientation and memory; she did not show the slightest appreciation of her environment.

Physical examination, negative.

Discussion.—It is unfortunate that we know little about the patient previous to admission. The parents' account of her disposition and make-up, with seclusiveness, day-dreaming, vacant laughter and episodic emotional explosions, shows that we are dealing with an individual whose course and development from the start has differed from that of the ordinary feeble-minded individual of 10 years' "mental age." So far as we know, the patient's shut-in characteristics did not begin to assert themselves at any definite date. There has been a gradual introversion of the personality with a progressively downward curve of adaptability, of interests and activities to the dementia-like condition of the present time. From a study of the facts of this case one is inclined to believe that the developing schizophrenic process and the mental retardation are merely associated phenomena, and do not bear the relation to each other of cause and result.

(2) C. D.; æt. 15. Male.

Family history, negative.

Nothing backward was noted in his early development except a difficulty in articulation until the age of 6. He attended private school for 5 years,

but did poorly. The father states that his lack of progress did not seem to be so much a difficulty in learning, as a peculiarity of disposition. The patient was "never like other boys"; he stayed by himself, was not fond of play, was sensitive, "reflective," timid and shy. On admission to The Training School, July, 1917, his "mental age," according to the Binet-Simon test, was 9 years, basal year 4, with scattering from 4 to 9 years.

Behavior Notes.—During the first few months the patient harped on certain institutional requirements which conflicted with his religious ideas, such as doing cottage work on Sundays and having Sunday religious services in the afternoon instead of the morning. The cottage matron describes his behavior as follows: "He bursts out laughing without any reason. Most of the time he just sits and dreams, and when working at the loom will drop the shuttle and sit staring into space. He seems to be thinking either on religious subjects or other mature material. He is moody and wants to be left alone; will throw himself on the grass for hours at a time as if in a deep study."

Mental Examination, July, 1918.—The patient came to the office without reluctance. His gait was short and sidling, with a good deal of hip movement. During the examination he sat quietly except for twirling a bit of string in his fingers. His face wore a constant, shallow, vapid smile which seemed to have little or no emotional value and impressed one almost as silly coquettishness. His response to questions was more or less stereotyped and delivered in short, jerky sentences with the same formula of utterance, as follows: (Long pause following the question, while the patient gazed into space with head poised on one side. After a second he would start and say:) "Let's see did you speak to me? Oh! yes, how old am I? Well, I am 15 years." With this manner of jogging through the mental status he was found to be correctly oriented and to have a good memory for remote and recent events. He could retain 7 digits after once hearing them, and get the gist of test stories with one reading. General information and calculation were good. He described his mood as happy except when he felt languidly revengeful for the imposition of Sunday labor. He mentioned occasional imaginary voices whispering to him, but could not tell what they said, he spoke of once seeing an imaginary person standing by his bed, and admitted continuous rumination along religious lines. He and God are alike because they are "both good and incapable of sin." (Does God ever talk to you?) "No." (Where does your mind run when you sit and stare?) "I just sit that way and my mind dwells on nothing and I don't know and nobody knows but God. God and I are alike because we are both good." (Why don't you take an interest in something?) "I like to rest." (Do you think that is right?) "Yes! God likes it because I do." There were no ideas of reference nor tendency to the mind-reading complex.

Physical examination, negative.

Discussion.—This patient, with a shut-in constitutional make-up and a history of gradually narrowing range of interests, activities

and contacts with the world of reality, represents a psychopathological condition resembling that of A. B. in the early course of her development. We see the same dogged persistent rebellion against authority in the case of this patient, associated with fantastic ruminations along religious lines, and vague hallucinatory experiences. Any attempt to keep in touch with the real world in the form of cottage duty, school work, handicraft, etc., has failed, and we see him slipping daily more and more into the world of fantasy, as outwardly expressed by his increased preoccupation, seclusiveness and general inaccessibility.

(3) E. F., æt. 23. Male.

Family history, negative.

The patient did not begin to talk until 2 years or to walk until 19 months. With failure to get on in public school he attended a class for defective children for 8 months. His father described him as always very nervous, hard to manage, shy, preoccupied, seclusive, given to temper tantrums with crying and overtures of affection afterward. The psychological examination on admission to The Training School, 1913, showed a "mental age" of 8 years (basal year 4, with scattering from 4 to 12 inclusive).

Behavior Notes.—The patient has no ambition to work or play and talks to himself a great deal. He is always quarreling with the other boys and sometimes runs around in a circle and screams without any observable provocation. He has a mania for picking up strings. He talks a great deal, but cannot do the simplest things in handicraft or cottage work. In making beds he will put on the bed clothes and take them off again several times. When dressing he will dress and undress himself, as if unable to stop until told to do so. Dusting and scrubbing and sweeping are away beyond him. "He likes to stay by himself and is always being offended by some imaginary trouble that could be easily remedied if one could only get him to tell what the trouble is."

Mental Examination, July, 1918.—The patient came to the office from the laundry where he had been dismissed because of a quarrel in which he tore up sheets. He told of the episode with naiveness and with no residual of anger nor any other emotion; he answered questions relevantly, but when left to his own conversational originality he talked about nothing but a tooth on the right side, which, according to the institutional records, has been a chronic topic of conversation without cause for a number of years. He was correctly oriented for time and place. His mood was a jocular smoothing over of his obsessive-like behavior in dressing and undressing. There were no hallucinations nor delusions. He said that he had "scarey spells" brought on by sudden noises and people "hollering" at him. (Do you have nervous spells?) "I get scarey sometimes when people around me yell." (What are you afraid of?) "I am afraid of birds, black birds and doves and hens." (Why?) "I am afraid of the feathers." (In what

way?) "They just seem alive and going to jump at me." (Why do you sometimes dress and undress without stopping?) "It's the neuralgia in this tooth." (How does that work?) "Well, you see, this right side of my face is always sore and I keep putting my clothes on and taking them off to see if I can do it without touching my face." The patient's memory was poor. He gave his age, but could not tell the date of admission to or how long he had been at the institution. He repeated 7 digits after once hearing them and retained 3 phrases for 5 minutes.

Physical examination, negative.

Discussion.—In considering the facts in this case one is struck by an adaptive level below that of the average individual with a "mental age" of 9 years. The patient cannot wash or dress himself without help, or tie his shoes. Associated with this is a peculiar obsessive-like behavior, such as dressing and undressing continuously, for which he gives somewhat peculiar motives. His explanation for this conduct impresses one as frankly childlike, rather than an attempt to smooth over any delusional material. His emotional outbursts of anger followed by childish penitence are akin to the tantrum-like reactions which seem to be a fairly frequent occurrence with the feeble-minded. However, his queer episodic behavior coupled with seclusiveness, preoccupation and poor adaptability are suggestive of an essentially schizophrenic process.

(4) G. H., æt. 25. Male.

Family history, negative.

The patient did not walk until 3 years, and was slightly backward in school. His disposition was described as nervous, excitable, morose, obstinate, seclusive and hard to manage. Prior to admission he is said to have done "office work" for his father. Psychological examination on admission, October, 1916, showed a "mental age" of 8 years (basal year of 4 with scattering, which brought him up to 8 years).

Behavior Notes.—"Patient is practically worthless in any kind of work. He will stand and stare and cannot do the simplest things. This does not seem as if it were because the patient is not bright, but because he is thinking of something else. He will not associate with the other boys, but sits around by himself, talking, always about his father and family. While at work in the field he sometimes starts and runs a quarter of a mile without giving any reason for his conduct. At night he often sits on his bed for 2 or 3 hours muttering and holding imaginary conversations, in which he talks of jails and asylums and prisons without much connection."

Mental Examination, July, 1918.—The patient hurried into the office saying, "Do you think there is any hope for my mind, doctor?" (What is the matter with your mind?) "I am all right. I do my work all right.

Do you think there is any hope for my mind?" When the patient's attention was fixed he would answer relevantly, giving his name, age and birth-place, but if left to himself drifted immediately to the above topic. When questioned about his peculiar behavior in dressing and muttering to himself at work, he said, "My mind is in bad shape. I get scared when I see a hearse and I run. My hands look red—everything looks red. When I go to bed at night I talk to imaginary people. I imagine people are talking about me and sometimes they are after me. Everybody is against me. My father is against me and my brother." The patient could not be induced ever to go beyond this point in the discussion of his imaginations. When his attention was fixed he was found to be oriented as to time, place and person. His memory for remote events was good. He was able to repeat 7 digits after once hearing them and remembered the test phrases for 5 minutes.

Discussion.—It is unfortunate that the records in this case give us little idea of the patient's developmental traits and his assets in the form of work, play and general interests prior to admission. Fundamentally, his psychopathological picture has not changed since he entered the institution 2 years ago. During this period the following characteristics stand out in his behavior and general adaptability, in more or less striking contrast to that of his colleagues of corresponding "mental age," viz.: Lapses of attention due to preoccupation and day-dreaming; poverty of interests; seclusiveness; adaptive inferiority far below his "mental age"; stereotyped harping on home matters, with suspicions and feelings of injustice; probable hallucinations of hearing; and peculiar behavior, such as tearing about the grounds, gesticulating, and shouting queer utterances about Harry Thaw, jails, etc. One feels that the patient had an original defect, in connection with which there has been a gradual decline in assets and a tendency to withdraw into a world of fantasy and rumination.

Summary.—These four cases show a psychopathological picture of a schizophrenic process, which so far as we make out from the data at our disposal seems to have been co-existent from the start with the mental retardation, or may have been implanted as a "Pfpopfhebephrenic." As has been pointed out in the individual cases, one notices a progressive adaptive inferiority, quite out of keeping with the behavior accredited to the ordinary feeble-minded patient of an 8 years' "mental age." Attention should also be called to the occurrence in the above cases of the so-called shut-in constitutional make-up, which has been described since Meyer's analysis of the neurotic constitution in

1903," as a characteristic finding in studies of the personality in schizophrenic patients without original mental defect.

The remaining 9 cases presented no definite psychosis, but included a wide range of individual reactions characterized as temperamental idiosyncrasies of the feeble-minded. This phrase includes such mood upheavals as temper tantrums, either as a spoiled child's means of attaining an end, as a sudden tempest of petulance and impatience, or as a sort of getting-square reaction in relation to teasing and similar minor provocations; it embraces panic states over such petty situations as walking alone after dark, or over early bedtime imaginations of ghosts and people under the bed; there is also found an ease of excitability with "flying all to pieces" and confusion when "somebody hollers at me quick" or "tells me to hurry up" or "there is a crowd around." These vagaries of behavior are self-contained individual reactions comparable with those observed in the so-called "normal" child of a chronological age corresponding to the "mental age" of these feeble-minded patients. It would be tedious for the reader to follow a discussion of the personal difficulties represented in each of these 9 cases, and I am accordingly presenting only a few of the psychopathological pictures taken at random from case notes made at the time these studies were undertaken.

I. J., æt. 19. Male.

The patient was admitted to The Training School in 1913, showing a "mental age," according to the Binet-Simon test, of 8 years. He was referred to the examiner chiefly because of outbursts of temper in which he "beats up" the other boys. During the examination the patient reminded one of a lazy, overgrown boy. He answered questions readily, naively confessed his faults while he played with various objects on the table in a childish manner. He was oriented as to place and time. His mood was one of lazy good nature with marked aversion to teasing and implicit faith in his own methods of retaliation. There were no delusions or fancies. (How are your spirits?) "All right, except when I get mad at the boys." (Then what happens?) "I crack them in the jaw." (Why do you get mad with them?) "They tease me and throw stones at me." When asked about his ambitions and interests he replied: "When I get to be 21 I am going to take my foot out of here and buy a gun and a box of bullets and a sword, and I am going on a battleship and be captain of the sailors."

Discussion.—So far as one can judge from the patient's history and mental status, there is no indication of a psychopathic process at the present time. He has always shown marked indolence of

mind and body, which is a constitutional feature, perhaps more responsible than is his mental retardation for his work deficit, which is such a continual source of annoyance. That he should react to teasing by seeking justice with his fists or running away from the school grounds, as he sometimes does, seems quite consistent with his usual methods of getting square with things that irritate him, and certainly is in keeping with his pirate ambitions to buy a gun, box of bullets and a sword.

K. L., æt. 46. Female.

The patient was admitted to The Training School in 1910 with a "mental age," according to the Binet-Simon scale of 7 years. She was backward in walking and talking, and in early childhood had crying spells and night terrors. As she grew older the family noticed that she was very touchy and easily irritated to the point of screaming and tearing her clothes when crossed in any way. Her assets and interests corresponded to those of a child of 7 years. She is fond of playing with dolls and toys, looking at picture books, dabbling with crayons, and has been trained to do a few simple things about the house. The patient was referred to the examiner because of certain tantrum-like episodes which have stood out since her admission as a great point of differentiation between her and the ordinary feeble-minded individual of her mental age. These attacks come on an average of once in 6 weeks, although she has been as long as 9 months without one. They are frequently associated with gifts or visits from her family. They often come in the morning after the patient has been called for breakfast or is having her hair combed, or perhaps has been asked to pick up scattered playthings. The onset is sudden; the patient screams, kicks, bites, strikes and spits at attendants and others around her. She never uses profane or vulgar language, but sobs loudly that she hates everybody and wishes they were dead. If unrestrained she tears her clothing, stamps her feet, over-turns furniture and destroys anything within reach. The attacks last, on an average, 2 hours, following which she is aggressively penitent and affectionate. It has been found that a change of surroundings such as moving from one cottage to another, will abort these outbursts for periods of several months at a time. The entrance of some unfamiliar person, such as a doctor or the superintendent, will stop an attack instantly.

Mental Status.—When first seen the patient was at the height of one of these episodes, but no sooner did she hear that the physician was on the way up to her room, than she quieted down immediately, so that when the examiner arrived the patient was in the penitent, sobbing stage. She told everything she had done, threw her arms around the attendant's neck, kissed her and begged to be forgiven. She would give no explanation, except: "I guess the devil got into me, he makes me act this way sometimes. I was very naughty, wasn't I?" When seen a week later the patient

remembered all the circumstances of the previous attack, and cooperated to the best of her ability in discussing the matter. She described her mood as "happy except when I am cross." She said she knew exactly what she was doing during the attack and could stop it if she wanted to. (How do you feel?) "Sometimes I feel like this (patient takes her hand and slaps the air). I do sometimes too. I hit one of the girls in the dining-room when I got mad the other day." (How do these mad spells come?) "I don't know. I wish I did." (Are you afraid of anything when you have them?) "No, I am not afraid of anything but thunder and lightning." (What do these spells mean to you?) "It's a sort of hatred that comes over me. It's bad and wrong." (Can you stop them?) "Yes, if I wanted to." (Why don't you do it?) "I think I will every time and then when it comes I just don't stop them but let go. I am never going to be bad again."

Discussion.—The nature of the behavior, the periodicity of the outbursts are suggestive of the so-called epileptic equivalent. On the other hand, the patient has a complete realization of what she does and says during an attack, and accurate memory for its details afterwards. Her own mood description and post-tantrum penitence remind one of the temper storms of a spoiled child expressed with the vigor and combativeness of an adult body. It is hard to say how much she is able to control these outbreaks. It is interesting to note that the patient says "I could stop if I wanted to" and promises "to try hard and never do it again"; also that the entrance of a new face, or a change of surroundings, either checks an attack almost instantly if she is in the midst of one, or wards off such explosions for weeks and even as long as 6 to 9 months at a time. Whether this is brought about by distracting her attention from herself, or by virtue of the introduction of a new and unfamiliar element of control, it is impossible to state. One would like to have a fuller record of the patient's constitutional make-up and early environment, and more details of her habits of reaction since admission to the school, in order to study this matter adequately from the standpoint of etiology and readjustment.

M. N., æt. 23. Male.

The patient was admitted to The Training School in 1907, with a mental age of 9 years, according to the Binet-Simon scale. As to his past history he seemed normal until 3 years, except for backwardness in talking. His parents state that he was always easily startled by noises and seemed timid. He was a poor sleeper, afraid of the dark, and had nervous spells at night in which he would wake up and want to be reassured that no one was going to hurt him. His record since admission to The Training School has been

that of a faithful and willing worker. He has been trained to do good garden work, showing judgment in planting as to the depth of seeds, etc. He is childishly fond of fairy tales, likes pictures, and draws fairly well. The patient was referred for psychopathological examination because of crying spells and outbursts of temper on the slightest provocation. Frequently at night he becomes panic-stricken, so that the matron of the cottage has to quiet his imaginary fears by turning on the light in his dormitory and reassuring him.

Mental Examination.—The patient impressed one as having a frank, open face and manner of address. His replies were prompt, to the point, and accompanied by no evidence of embarrassment. His manners were pleasant and agreeable. He was willing to discuss his emotional outbursts, saying that he has always been easily frightened by sudden noises, and that his panicky states at night were usually inspired by ghost stories, or fears that somebody was under his bed. He said that when the room grew dark and the boys started to tease him he became so worked up that he often fancied that voices were whispering to him. His heart beat faster, cold perspiration broke out over him and he could not be comforted until reassured by careful search that no one was in the dormitory under his bed. He associated his outbursts of irritability and "flying all to pieces" with the delaying of letters from his mother. He spoke with a great deal of feeling of his father who had died since the patient had entered The Training School, saying, "I will show you his picture if you will come to my room." He seemed to realize his lack of control when letters did not come on time, saying that he got so mad he could tear his mother's picture to pieces. The patient could not understand, why, with his strong body, he could not get out and support his mother instead of being an expense to her. He said that at times he brooded over this fact until he burst out crying and then the boys teased him and he got mad.

Discussion.—The patient impresses one as an individual with poor affective control. His "scarey spells" come at night, are in relation to ghost-story teasing by the boys and represent acute panic states which subside quickly with reassurance. It will be remembered that as a child he was afraid of the dark and had "nervous spells" at night. His "moodiness" seems to have a definite causal relation to his home longing, and his behavior at such times in reaction to disappointment and feelings of maternal neglect is an outburst of rage expressed with all the vigor of a husky body of 22 years. Considering the patient in the light of the data we have on him thus far, one would say that he presents a problem of temperamental idiosyncracies in the feeble-minded individual, rather than a psychotic process.

O. P., æt. 27. Male,

The patient was admitted to The Training School in 1912, showing a mental age of 7 years, according to the Binet-Simon scale. He has been definitely hard of hearing since scarlet fever in childhood. Perhaps this accounts in part for the seclusiveness and unsocial tendencies which are described by his parents as always characteristic of the patient. They also state that ever since they could remember the patient has displayed a mania for washing his body and clothing, particularly before and after voiding. Ever since admission to The Training School this impulsive washing has constituted such a problem in his management, that it was necessary to hide the soap from him and to watch him constantly to see that he did not wash even his bed clothes every day. For the last year or two he has not shown this habit as much as formerly. He was referred for examination partly because of this washing mania, and partly because of his variations in mood. At times he seems elated to the point of singing and displaying a great deal of push and go. This phase is usually followed by a "sullen spell" in which he has been so violent as to break windows, and on one occasion he drew a knife at another boy. At work he is described as thorough, attentive, quick and trustworthy, but he gets along best on jobs where he is by himself.

Mental Examination.—There was nothing particularly striking in the patient's general behavior. His deafness is quite marked and probably accounts for some of the misunderstandings which he has with those about him. Nothing could be gathered from the patient as to the basis of his washing habit; he would not speak of the matter voluntarily, and admitted recorded statements about it with embarrassment. (How do you feel?) "I feel happy most of the time." (And other times?) "Well I get mad; I ain't like I used to be." (Why do you get mad?) "The boys tease me all the time." (About what?) (At this point the patient became obviously embarrassed, blushed, fingered his hat, wriggled in his chair and in spite of many approaches to this subject would give no other cause for the teasing except "a lot of things.") (Do you ever have nervous spells?) "Yes, I get excited and worked up when there is a lot of people around. As long as I get jobs by myself I am all right." (Are you afraid of anything?) "Just things that everybody would be afraid of. I am always afraid I will walk on snakes in the woods. I wouldn't want to go on a long road by myself after dark, and sometimes when I am walking in the daytime and hear a dog running after me I get scared and want to run away." (Do you ever feel you must do certain things?) (Patient confused and uneasy again.) "I used to—don't wash any more." (What thing inside you makes you want to do this?) "I don't know, I guess it's a habit." (Have you ever felt that things around you were not clean?) "No." Further questioning along the line of the dirt phobia failed to bring out any substitutive material.

Discussion.—The patient's careful avoidance of his obsessions during an interview, in which he talked freely of other troubles,

and his shamefaced, sheepish admission of the various recorded facts brought to his attention are doubtless the reaction to a great deal of teasing on this subject, and to its treatment as a bad habit rather than as a matter to understand and explain. One feels that if it were possible to get him to talk frankly, he would be able to tell us much about the fears and impulses which are at the bottom of his washing performances. His sensitiveness and tendency to quarrel with those about him are probably more or less a product of his deafness, by virtue of which he hears only snatches of talk, and builds suspicions and misinterpretations upon these fragments. The deafness and washing obsession contribute equally and unconsciously to setting him apart from the other boys; of this isolation, self-inflicted though it is in part, he is doubtless very conscious and perhaps resentful.

In considering the psychopathological findings described above, one is struck at once by the variety of reactions which these patients display. This fact is particularly impressive if one has been accustomed to think of patients with constitutional mental defect as having to belong in one of two air-tight compartments: either in that of feeble-mindedness, which contains the idiot, the imbecile and the moron with set behavioristic capabilities and stereotyped adaptive mechanisms somewhat arbitrarily standardized; or in the compartment of "feeble-mindedness *plus* insanity"¹ which contains any and all aberrations from the behavior typical of the patients in the first compartment. One cannot but infer from even these few recorded observations that in this branch of psychiatry also, in spite of the sound and tangible help to individualistic study offered by the Binet-Simon test, we have spent more time in consideration of feeble-mindedness as a disease in general than in a study of the facts presented by each individual patient. Obviously, the existence of temperamental idiosyncracies showing so many links in common with the ordinary variations in behavior found in the child who is not mentally defective, necessitates some attention to the individual personality if we are really to do justice to our feeble-minded patients. Inquiries along such lines are not merely of etiological interest as matters for research, but can also be made of practical help to teachers and all others wrestling with the problem of the care and training of

the mentally defective. Physicians dealing with these cases should certainly have psychopathological experience and training.

I should like to express my indebtedness to Dr. Adolf Meyer of The Johns Hopkins Hospital for his kindly oversight and helpful suggestions in the course of this work.

I would also thank Prof. E. R. Johnstone, Superintendent of The Training School at Vineland, N. J., for permission to use the case material presented above.

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THE PROBLEM OF PULMONARY TUBERCULOSIS IN A PSYCHIATRIC HOSPITAL.

BY S. A. SILK, PH. G., M. D., WASHINGTON, D. C.,

Senior Assistant Physician, Saint Elizabeth's Hospital, Washington, D. C.
Formerly: Resident Physician, Philadelphia General Hospital; As-
sistant Physician, Pennsylvania State Sanatorium for Tuberculosis,
Mont Alto, Pennsylvania; and Medical Superintendent, J. C. R. A.
Sanatorium, Los Angeles, California.*

Whatever our opinion may be regarding the relationship of pulmonary tuberculosis to the various psychoses, whether we believe that pulmonary tuberculosis in some instances is the cause or the result, either entirely or in part, of the psychosis, or that it is an entirely independent condition—whether, as White¹ suggests, “tuberculosis might be defined as a failure in the sublimation of respiratory libido,” the causes of which could only be determined if the unconscious mind of the patient were known,—we all agree that pulmonary tuberculosis is and will remain quite a problem in every hospital for the mentally ill.

Tuberculosis does not confer any immunity against the development of a psychosis, nor does the presence of a psychosis confer immunity against tuberculosis. Of the vast number of humanity afflicted with pulmonary tuberculosis, some will develop a psychosis, and of the equally great number of the mentally ill, some will develop pulmonary tuberculosis. The hospital for the mentally ill will, therefore, be called upon to admit patients in whom pulmonary tuberculosis is present upon their admission to the hospital, and, also, to care for those who develop the disease after a greater or lesser period of stay in the institution, but who were apparently free from it upon admission. While it is quite evident that it is the duty of every hospital to cure as many cases of either class as possible, using all the modern means known to the medical world in combating this disease, the far greater problem is the prevention of the spread of the disease

* This hospital was known until recent years as the Government Hospital for the Insane.

among the non-tubercular population, and the discussion of the problem in this paper therefore will be mainly with that object in view. On superficial consideration of this problem, it may lend itself to an apparently simple solution. It would seem as though all that would be necessary is that every psychiatric hospital should have a proper building, specially adapted for the purpose, where all patients known to be tubercular could be segregated. Practically, however, because of the special nature of the disease, the problem presented is by no means a simple one.

Pulmonary tuberculosis is a rather chronic disease, extending often for a period of 15, 20, or more years. The original affection usually takes place during childhood, and the disease as seen in the adult is generally the reactivated process of childhood days. Though due to a specific micro-organism, the actual development of the disease and its progress depend upon so many other factors, as heredity, susceptibility, state of general resistance of the body, environment, and mental state of the individual, that the germ itself takes a place of secondary importance in the etiology and progress of the disease. The human body shows a great resistance to the disease, and even after definite infection takes place the body is able to check the progress and arrest the pathological process begun. However, while one lung or a portion thereof may successfully arrest the disease process, the other lung, or another portion of the same lung, may eventually succumb thereto.

The balance may, at times, be a very fine one. At times, it may require very little effort to raise the general resistance of the body in order to successfully arrest even a quite extensive disease process; while, at other times, the general resistance may be so low that, once the disease took root, no extraneous efforts could save the body from disintegration. The lowering of the bodily resistance does not depend upon any one specific factor, but anything that causes a rapid drain upon the energy of the individual may lead to the same result. It matters not, apparently, whether it be overwork or dissipation, impure air or mental strain, such as worry or fear.

In treating tuberculosis, we therefore must consider the individual as a whole, and his various reactions to internal and external stimuli.

With this more or less theoretical conception in mind, we shall proceed to point out the practical side of the problem.

Efforts to prevent the spread of pulmonary tuberculosis must be begun at the time of the building of the institution. It should be located preferably on an elevation away from the city limits, and should be constructed so as to have the maximum available amount of sunshine, light and fresh air at all times. The general architecture should not be depressive, and the institution should be so constructed that, while the patients could be successfully kept from eloping, their movements should not be confined to the limits of a ward, no matter how clean and pleasant the ward may be.

Large porches, or specially enclosed parts of the hospital grounds, should be used for all the ambulant patients. Most hospitals built in recent years provide necessary and proper hygienic surroundings in making the plans for the building. However, after the place is built, and after several years, the capacity of the institution is gradually increased, and the floor space originally allotted for ten beds, on the basis of normal hygienic surroundings, serves later on for 15 or more beds, so that the hospital originally built according to sound hygienic principle frequently becomes an unhygienic place. Ventilation should depend as much as possible on windows and transoms, the windows should come down as low as possible and reaching the ceiling. The food must be wholesome and more varied. The majority of modern institutions provide ample food for the patients, but they all usually sin in the lack of variety. Again, more individual attention should be paid to the patient. In some of the institutions all the patients eat in one big dining-room, and though a number of nurses and attendants are present, they are there chiefly to prevent any accident and to maintain general order, but they pay little attention to the quantity of food and manner in which it is eaten by the patient.

It is, of course, evident that the indifferent, self-satisfied hebephrenic type of præcox case, who has reached a certain level of adjustment, has merged into an apathetic and lazy state, and who increases in width, perhaps, at the expense of brain-matter, needs less nourishment than the paranoid type who has not reached any level of adjustment, and who faces a tremendous

conflict, who is hallucinated, and who is wasting a lot of bodily energy; or, the manic-depressive case during his stage of excitement or depression.

While loss of weight is no cause of pulmonary tuberculosis, nor is it specially peculiar to it, it is, nevertheless, one of the most constant symptoms of this disease, and any patient showing this tendency should be carefully observed before tuberculosis is ruled out.

Fresh air: This is usually a problem in winter time. Most of the larger institutions are not adequately heated for most cold weather, and there is a tendency to conserve the heat of the room at the expense of the fresh air. In cold weather, especially at night, the patient should be kept warm by additional blankets, and not by keeping out the fresh air because it happens to be cold air.

As to the methods of segregation, and the management of those cases already segregated, it may be of value to briefly review the way this problem is being handled by most of the institutions, and point out some of the fallacies of such a management. Most of the institutions for the mentally ill have some provision for segregation of the known tubercular cases, which suggests that they all agree that pulmonary tuberculosis is quite a problem, though a somewhat unwelcome one; however, most of the institutions do not go beyond that. When the patient is *definitely* diagnosed as suffering from pulmonary tuberculosis he is transferred to that department, where he usually remains until the time of death. The reason for it is that the diagnosis is only made either when a positive sputum is obtained, when the patient has a hemorrhage, runs a very high fever, or becomes very emaciated, though emaciation is not considered a very serious symptom, since the mentally ill are prone to considerable wasting. A diagnosis, because of the physical signs, is rarely made.

In visiting recently a large Eastern institution, I was struck by the fact that all their tubercular cases were bed-ridden, though segregated in a large tent. Considering the fact that it takes about three years for the average victim of active tuberculosis to require bed treatment, it becomes evident that those patients were in their far advanced stage.

It is, of course, quite fallacious to have special provisions, such as cottages, tents, etc., for patients *dying* from tuberculosis.

When a tubercular patient has to remain in bed all the time, he is beyond hope, and while in such condition is much less of a danger to spread the disease among the other inmates than when he was an ambulant patient, coughing and expectorating all over the ward, or being transferred from one ward to another. The reasons for this deplorable fact are many, but they are chiefly the neglecting of the physical side of the patient and lack of knowledge on the part of the members of the medical staffs of the physical signs indicating pulmonary tuberculosis.

Ochsner,² in discussing the relative value of five diagnostic procedures in 400 consecutive cases investigated by group-study method of pulmonary tuberculosis, comes to the conclusion that the physical examination gives the most reliable information, often requiring an hour for the examination of one chest. A carefully obtained history, he considers the next important procedure. As to sputum, he states that once in 10 times it is positive, and too often this pathologic conclusion gives the attending physician a feeling of false security that the case is a negative one.

Most of the tuberculosis workers will agree with the above conclusions, but in the institutions for the mentally ill the order is reversed. They rarely transfer a case to the tubercular department unless the sputum is found to be positive, and though much has been written on this subject, the fallacy of which is apparent, it is still being strongly adhered to.

The history as obtained from the patient is often unreliable, and very seldom an effort is made to elicit the truth of it.

The physical examination is usually the last procedure, performed more or less to ease one's conscience, or as a matter of form, like the examination of the senses of smell and taste in the performance of the neurological part of the routine physical examination.

In most of the hospitals, the physical examination of the newly arrived patient is relegated to the younger members of the staff, who are lacking in skill. Those who have had any experience in a tuberculosis sanatorium are not surprised to hear of cases in the far advanced stages, with definite cavity formation, referred to by "experienced" physicians as "incipient" or "suspicious" cases. I have spoken to many physicians engaged in large institutions who frankly confessed that they are unable to interpret

the physical signs of a chest elicited by them. If we are really desirous of reducing the occurrence of tuberculosis to its possible minimum and cure or help to arrest the disease in those already victims of it, whether the disease was present at the time of admission or developed in a patient while a resident of the institution, we must attack the problem in a systematic manner.

Every institution should have a certain number of beds for tubercular cases in specially constructed buildings. It is impossible to state an arbitrary number of beds with any degree of accuracy, but about thirty (30) beds per one thousand (1000) population would be usually sufficient.

The modified and much improved Loomis shack, as adopted by the Saint Elizabeth's Hospital, is most admirably adapted for such purpose, and I cannot recommend it too highly. In addition to such tubercular cottages, a large ward, surrounded by porches, should be reserved for suspicious cases who do not cough nor expectorate and hence they are no danger to the other patients and may be kept there for a certain period of time while the diagnosis is for some reason unclear. This ward may be properly called the "Preventorium."

The tubercular department proper should be conducted, not as serving the purpose of a death-house, but as affording the best surroundings for arresting or curing those suffering from tuberculosis, while at the same time serving the purpose of segregation of all those who are a danger to the non-tubercular population of the institution.

A patient once definitely diagnosed as suffering from *active* tuberculosis should be transferred to one of the tubercular cottages. It should not, however, be forgotten that a tubercular process may become quiescent, arrested, or even cured; and no one should, therefore, remain in the tubercular cottage forever, but should be transferred back to the general wards, thus always making room for open and active cases who are in need of treatment, and who are a source of danger to the non-tubercular patients. It may be a good plan, in many cases, to transfer quiescent and arrested cases first to the Preventorium, and after being there for several months, depending upon the symptoms manifested, they either may be sent to the general ward or back to the tubercular cottages, as conditions may indicate.

The constant and proper transfer of patients from the general wards to the Preventorium, then to the cottages, and vice versa, would bring up the efficiency of the tubercular department to the highest possible point.

The management of the Preventorium and the tubercular cottages should be under the charge of a physician, specially trained in the diagnosis and treatment of this disease, but where this is for some reason impracticable or unobtainable the management of this department should be entrusted to a member of the staff who is best fitted for such work and who will evince an interest therein. While it may be frequently advisable to transfer members of the staff from one department to another, this department should not be disturbed in this respect.

All patients in the Preventorium should have a careful chest-examination at least once a month and the findings carefully noted on special chest-charts. They should be weighed every week. Temperature, pulse and respiration should be noted twice daily, preferably at 8 a. m. and 4 p. m. The presence of cough and expectoration should be carefully noted. Sputum may be frequently sent to the laboratory for examination. As soon as a definite diagnosis is made, and the case is that of "open" tuberculosis, the patient should be transferred to the tubercular cottage.

A certain routine should be followed in the Preventorium and the cottages. All patients in these two departments should be given additional nourishment in the form of milk and eggs at certain fixed hours, twice or three times daily, two or three hours after each meal, but not at the time of the meal. Remembering that rest is one of the chief curative measures against tuberculosis, they should be made to rest as much as possible. Patients should not be allowed to do much walking, nor should they be allowed to do any strenuous work. Any patient whose temperature reaches 100, or whose pulse is above 100, even though the temperature be normal, should remain in bed until above have remained normal for a week or longer, unless above disturbances were due to some gastro-intestinal or other known condition.

Reference has frequently been made to active and inactive cases, or opened and closed tuberculosis. In the proper management of tubercular cases, a clear conception of the above two

conditions is quite essential, or a great deal of energy on the part of the institution and the patient may be wasted.

Bearing in mind the great importance of a careful physical examination, let us assume that signs of a definite tubercular lesion, such as increased tactile fremitus, impaired resonance, increased vocal fremitus, broncho-vesicular, or even bronchial, breathing over a localized area were discovered. This would only mean that the patient is tubercular, but would not necessarily mean that the lesion is a recent one or an active one. A lesion which has become quiescent, arrested, and even cured, will still give physical signs. Of the physical signs, the presence of râles is the only sign which, in a measure, indicates whether the disease is active or not. A healed lesion shows no râles. An arrested lesion may show the presence of a few residual crepitant or sub-crepitant râles. The presence, however, of any great quantity of râles, which become increased after the patient is made to cough, is a strong evidence that the disease is active in a greater or lesser degree. The symptoms, however, are of more importance. The following is the order of their importance:

1. *Fever*.—Any case showing a definite lesion, but whose temperature while the patient is up and about remains normal indicates that the lesion is not very active. The morning temperature is quite important. 95 or 97 in the morning is not normal.

2. *Rapid Pulse*.—An increase in rate is a very frequent sign of an active lesion, and is frequently present when fever is absent. If a carefully counted pulse, recorded twice daily while patient is up and about, shows no appreciable increase in rate, the lesion is probably an inactive one.

3. *Loss of Weight*.—Loss of weight, though a constant symptom of pulmonary tuberculosis, may appear late in the disease, and non-tubercular patients suffering from any psychosis may show great loss of weight. However, in patients showing physical signs of a tubercular lesion, but whose weight is normal or above normal, it may be considered as an evidence that the disease is not very active.

4. *Cough*.—Cough is considered by some authorities on tuberculosis as the most constant symptom of this disease, and some go so far as to say, "No cough—no tuberculosis." Its sig-

nificance is, in my opinion, greatly exaggerated. It may be absent while the disease is progressive, and a hacking cough may be present, though the disease is quiescent, arrested or cured.

In the *præcox* cases, especially the catatonic group, cough is often the very latest symptom to appear. However, a patient who is up and about, and showing a tubercular lesion, but who does not cough, may be considered as showing an inactive lesion.

5. *Expectoration*.—This is a more important sign than cough, and is often present when there is apparently no cough. Presence of expectoration by itself is of no especial significance, as it may be due to a chronic bronchitis, asthma, etc. However, in the absence of expectoration, the catatonic *præcox* cases being excepted, the lesion may be considered as an inactive one. Like in all other conditions, the presence or absence of one symptom should be less relied upon than the presence or absence of an entire group of symptoms. Any patient, then, sent to a tubercular cottage, but who after three, four, or more months does not show the above indicated symptoms, or the symptoms disappear, may be properly considered as an inactive or arrested case and sent back to the Preventorium, and if there is no recurrence of symptoms he may be sent back to the general ward. In the presence of the above symptoms, where the proper physical examination cannot be performed because of lack of coöperation on the part of the patient, or his negativism, such a patient should be considered tubercular unless another condition can be definitely established accounting for above symptoms.

Special attention should be paid to the dementia *præcox* group of cases, especially the catatonic type. My own studies,⁸ and those of others, of this group would tend to show that this group of mental cases is especially vulnerable to pulmonary tuberculosis. Many symptoms are absent until late, and their negativism and failure to coöperate render the diagnosis of these cases especially difficult. In their desire to withdraw from reality, they try to perceive of themselves as dead. They, therefore, refuse to speak, to eat, etc. They immobilize their chests, doing as little breathing as possible, thus furnishing a good medium for any tubercle bacilli which may be present. It is, of course, an established fact that the tubercle bacillus thrives best where there is less fresh air. On this basis is the frequency of apical lesions explained. The

low state of general vitality, that these patients are usually in, accounts for the absence of fever, as the body is not strong enough to put up a fight, and hence there is no reaction.

Such cases should be specially watched and frequently sent to the Preventorium where they could be given more attention. This is especially important, since this very type of cases has a better chance to recover from the psychosis, and, of course, we should try to save them from tuberculosis.

The proper management, however, of the tubercular department alone, no matter how efficiently conducted, will not solve the problem of pulmonary tuberculosis in a large institution. A great deal of attention must be paid to the general ward, and unless the coöperation of the various physicians-in-charge, of the other departments, is enlisted, very little will be accomplished. Like the family physician on the outside, the physicians of the various departments are the ones who come into contact with the patients at a stage when they can be helped most towards curing the disease, when their removal to the tubercular department is specially desirable, since, at that time, they are the greatest source of danger, so far as spreading the disease among the non-tubercular population is concerned; and so, from the standpoint of prevention alone, it becomes our duty to diagnose the cases of tuberculosis as early as possible. Any physician in charge of a patient for a period of four or five years, and who transfers that patient to the tubercular department three or four months before his death, has been neglecting his duties, and he lays the institution open to severe criticism. What would a psychiatrist say, if, in a general hospital, patients suffering from paresis were diagnosed three or four months before death?

The early diagnosis of pulmonary tuberculosis by the various physicians in a psychiatric hospital is, of course, not an easy matter. In most of the larger hospitals, each physician must look after such a number of patients that to demand of them careful individual attention to every patient would be unreasonable, and such a performance on their part would be impossible. When we consider that the majority of the patients in each department are usually quiet and are only in need of custodial care, it becomes quite evident that a patient can develop most any chronic disease that may escape the physician's attention. Again, the mental con-

dition of the patient is often such that even when observed, because no subjective symptoms nor a history can be obtained from him and because of his failure to coöperate in the performance of a physical examination of the chest, which is so essential in the case of pulmonary tuberculosis, a proper diagnosis becomes an impossibility.

But while there are many obstacles and difficulties to be met with in attacking this problem, by adopting certain routine measures many cases will be diagnosed which otherwise would have remained unobserved. The following rules should be observed:

1. More attention must be paid in performing the initial physical examination of every patient admitted to the hospital. It is so easy to say, "Respiratory system negative."

2. The weight of every patient upon admission should be carefully noted.

3. It should be the duty of every nurse or attendant to call the physician's attention to any patient who shows any definite loss of flesh. Such patients should be frequently weighed, and a persistent loss of weight should make one suspect pulmonary tuberculosis. This applies especially to the dementia præcox group of cases.

4. The presence of cough or expectoration, no matter how slight, if continued for a period longer than three or four weeks, should be brought to the special attention of the physician-in-charge.

5. Not all patients are inaccessible. Most of them, at some time or other, are able to give a good and dependable history. Special inquiry should be made as to attacks of pleurisy, dry or with effusion, and any patient giving a history of either should be considered tubercular, though, of course, not necessarily suffering from an active or open lesion, and not requiring any special treatment in the absence of any other special indications. A history of atypical attacks of typhoid fever, "touches" as they are called, is important, as they usually prove to be exacerbations of tubercular lesions. Blood-streaked sputum, or any hemorrhage from the lungs, no matter how slight, is always suggestive of pulmonary tuberculosis. A history of anal fistula is another suggestive sign of pulmonary tuberculosis.

6. By observing the points mentioned above, many patients will be brought to the attention of the physician who would otherwise have escaped his particular notice. However, the diagnosis of pulmonary tuberculosis to be definite will have to be made as a result of a physical examination of the patient's chest. While we cannot demand of a physician-in-charge, of mentally ill patients, to have the skill and experience necessary to make a diagnosis of incipient tuberculosis by means of physical signs alone, no well-defined case of moderately advanced tuberculosis should escape his attention, "moderately advanced" meaning a case showing an infiltration of one lobe or part of a lobe, or of both apices, with a moderate amount of moist râles. Most pulmonary tuberculous cases are not diagnosed, not because of "not knowing," but because of "not looking." No one, no matter how expert, can perform an intelligent chest examination in 10 or 15 minutes, unless the patient is in the far advanced stage, when no chest examination is necessary. Unbuttoning the patient's shirt while he has his coat on and placing the stethoscope here and there in front of the patient's chest, or percussing the chest in an unsystematic manner, is worse than useless. The following procedure in performing a physical examination of the chest will be found helpful:

Strip the patient to the waist and perform a complete physical examination, using the following methods: ⁴

Inspection.—Look for any retractions or depressions, especially above or below clavicles; note any bulging at the bases; watch the patient's breathing; note if one side is lagging. Is the breathing deep? Shallow? Rhythmical? or interrupted? Always compare any finding with the opposite side.

Palpation.—Elicit tactile fremitus all over the chest. A definite increase of tactile fremitus over a localized area is suggestive of tuberculosis. A diminution or absence of tactile fremitus would suggest fluid or a thickened pleura.

Percussion.—This is a very important method. Percuss the chest in a systematic way. Start on one side from above downward, or from below upward, as preferred by some. Then go over the other side. Then compare suspicious areas of one side with symmetrical areas on the other side, and with normal areas on the same side. Do this, first, anteriorly, then posteriorly, and,

in a similar way, percuss each axilla. Definite impairment of resonance, no matter how slight, over any localized area, where a normal note should be present, when elicited after comparing same with a symmetrical area on the other side of the chest, is quite suggestive of a tubercular process.

Auscultation.—The most important method. Go over the chest systematically, as outlined under "Percussion." First listen to spoken voice, while patient says "ninety-nine" or "one, two, three," then listen to the whispered voice. An increase or decrease of the vocal fremitus has the same significance as the tactile fremitus.

Listen to the breathing. Observe the following:

(a) Character of breathing, vesicular, vesiculo-bronchial, broncho-vesicular, bronchial, etc. Note whether the breathing is smooth, even, or interrupted and jerky, whether clear or distant.

(b) Pay special attention to the ratio of time between inspiration and expiration. Normally, expiration, as heard, is very short, and occupies one-third of the time of inspiration. When expiration equals inspiration, in point of time, it is pathological.

(c) Listen to the breathing while patient breathes quietly or what is normal to him. You may fail to hear any breathing at all at some areas, while at others it may be rough and loud as compared with the breathing over the rest of the chest. Continuing the auscultation in the same methodical manner, ask the patient to breathe deeply, first slowly and then faster. At times it is desirable to ask the patient to breathe with his mouth open. Some patients are naturally poor breathers, and their breathing must be varied in order to elicit signs present. Localized areas of abnormal breathing are strongly indicative of tuberculosis.

(d) Listen very carefully for râles, paying special attention to any area or areas where abnormal signs were elicited by any of the above-mentioned methods. Râles are quite often not elicited upon ordinary, and even deep, breathing, but that does not exclude their presence.

Ask the patient to give a light cough at the end of expiration, following it at once with a deep inspiration, when râles will quite often be elicited when otherwise absent.

Râles, be they dry, crackling, crepitant, sub-crepitant, etc., when present over localized areas in one or both lungs while the rest of

lung tissue is free from them, are almost, by themselves, pathognomonic of pulmonary tuberculosis. When elicited over an established tubercular area, they often indicate the degree of activity of the process.

(e) Pleural friction, elicited with or without cough, unaccompanied by pain, while, by itself, suggesting an old pleural condition, should not be disregarded for reasons mentioned above, and, also, because it often obscures other signs present, such as rough breathing, râles, etc. Such cases should be looked upon as actively tubercular, unless after a more or less prolonged observation of the patient, with repeated physical and laboratory examinations, no other lesions are found, and the patient is free from any suggestive or objective symptoms.

CONCLUSIONS.

The proper management of the tubercular department, as outlined above, together with the coöperation of the entire medical staff, would reduce the danger from the spread of this disease, and the occurrence of new cases, to a minimum, and would effect cures, or apparent cures, in many cases that otherwise progress to a hopeless stage entirely unobserved.

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THE PSYCHOLOGIC TREATMENT OF RETARDED DEPRESSIONS.*

By L. PIERCE CLARK, M. D., NEW YORK CITY.

It is unfortunate that practically during the last decade only has any consistent or methodical effort been made to treat the benign psychoses on the basis of their psychogenesis. Even now I fear these mental disorders are in the vast majority of instances treated by physiotherapy of baths, exercise and occupations, leaving the large domain of mental therapy *per se* to the chance attention of friends or sympathetic attendants and nurses. It is not that a somatic approach to these psychoses is to be deprecated, but no one will deny that the individual as a whole is not properly considered until a mental therapy in a more specific manner is also instituted. One may contend that in the last analysis the benign psychoses are organic; nevertheless another may retort that the mental symptoms themselves are as truly organic and treatment of them is as surely a somato-therapeutic approach to the problem as considering the infections and disturbances of metabolism that may be found therein. However this may be, as psychiatrists we should hold that nothing less than the most inclusive therapy for handling the benign psychoses should be our united aim in this special field. In view of the fact that our treatment of the retarded depressions, especially in private practice, has had such a *laissez-faire* attitude attached to it, for several years I have given special attention to some cases of this type, first, to see if we may not make the recovery from individual attacks sounder, and secondly, to discover a possible manner of preventing recurrences of such episodes in these cyclothymic individuals. Inasmuch as I have already reported fully upon a series of cases of retarded depressions treated by mental analysis, a brief summary digest of the results in some of these cases at this time may be given. A complete detailed report of the same will be published elsewhere. In addition to the usual approved physiotherapy of baths, diet, occupation, recreation and the like, I employed a modified psychoanalytic reconstruction therapy.

* Read at the seventy-fourth annual meeting of the American Medico-Psychological Association, Chicago, June 4-7, 1918.

CASE I. The first case handled by this method was that of a married woman who had passed the climacteric and who had two periodic depressive attacks yearly since her twenty-fourth year. The attacks were those of simple retarded depressions. Intensive treatment for several months was undertaken. In spite of the incompleteness of the analysis and the age of the patient, she has had no subsequent attacks for a period of over eight years. Furthermore she has been unusually free from any of the interval symptoms.

CASE II was that of a middle-aged widow who also had passed the climacteric. She had had several recurrent periodic retarded depressions. She had short periods of depression every five or six months for 15 years. Since a brief and incomplete course of treatment she has had no more depressions—a period of over five years' freedom from any attacks.

CASE III was that of an unmarried man in the middle thirties who had had several attacks of retarded depressions in a space of 13 years. He has been entirely well for over five years. In the usual order of his psychosis a subsequent attack might have been expected within two years.

CASE IV was that of a married woman who had passed the climacteric. She had her first attack of retarded depression at 22 years of age at the death of her first child. The attack lasted a year. Since that time she had had recurrent attacks nearly every year lasting several months each time. The analytic treatment was given for the greater part of a year. For the past three years she has had but slight vestigial symptoms but has had no actual retarded depressions.

CASE V, a married woman now in the late twenties, had her first attack at 17 years. There were but slight symptoms of depression without retardation for a few months at that time. It followed an unfortunate love affair. Her first pronounced manic attack followed her first childbirth. She has had several severe manic-depressive attacks with scarcely a stable or free interval between complete attacks. She often had to be restrained and twice attempted suicide. Following a short but intense manic attack she was removed from a sanatorium and given a six months' course of analytic treatment during the depressive phase of her disorder. The results in this case have been extremely satisfactory; she has remained entirely free from attacks or even the slight though unmistakable vestigial symptoms for two years. She has passed through her second childbirth naturally. After a most intensive scrutiny of her mental life, all agree that she has not been so normal as she is at present for 10 years or since she began her pronounced manic-depressive career.

CASE VI is that of an unmarried woman of late middle life who had had a circular type of disorder for 10 or 15 years. For a few years before she was given a six months' course of treatment, the regular alternation of excitement and depression had been sharp and of the classic type. The treatment was given at the end of a depression and through an entire excitement period. The patient was mildly hypomanic throughout the treatment. It is interesting to note in this case that a distinct paranoid trend was soon analyzed away and has not returned. The patient remains mildly hypomanic with clear insight and with excellent power and capacity

for work. She has now successfully passed two periods of depressions and is at this report practically without vestigial symptoms. There has been a long series of other and similar cases treated, but too short a period has passed to make one certain of the real or superadded advantages of analysis over older and more common methods in vogue for the care of such cases. For instance, a man of 43 years, in his second marriage finds he is "really married" for the first time, in that his present wife fulfills the longed-for attentions of his mother who died several years ago. He came with a history of many recurrent retarded depressions followed by mild elations since his first "marriage of convenience." It was really the death of his mother and his present wife's serious illness at the same time that brought on his last retarded depression. It was obvious from his symptoms and dreams at the beginning of the analytic treatment that the retarded depression was already lifting. This analysis made the rate of recovery about twice as rapid as that experienced in previous attacks. After several treatments he became quite free from his depression and was mildly elated, as is usual following his depressions. Unfortunately, as is common, he then saw no reason for further treatment. As soon as the depression disappeared, it was interesting to note the great improvement which the marked cardiorenal disease underwent. He had this latter physical disorder for years. Another case was that of a young unmarried man of 29, who had a depressive make-up. There were several in the family of the same type. An uncle of this young man in his seventh retarded depression was relieved in a few weeks following a short course of analysis, and he insisted that his nephew should follow the same treatment. It was obvious from clinical symptoms that the young man had nearly reached the end of his depression; however, after a preliminary analysis he was released almost immediately of his remaining symptoms. He promised faithfully to return for complete analysis but, again, as is usual under such circumstances, he never did.

From my experience in treating a score of cases by intensive mental analysis I would say that the ideal type of case for this method of therapy is an individual who is young and who has suffered from as few attacks as possible. Inasmuch as the analysis is often very painful to such retarded depressants, the strictly analytic treatment must be for short periods, often for half an hour only. The analysis of the conscious and foreconscious life had best be considered first, then should follow a complete dream analysis. If there has been an actual manic excitement in the cyclothymic, the spontaneous productions obtained during the elation furnish an almost ideal material for consideration, as these may be considered, at least for practical purposes, as direct emanations from the unconscious. The depressive ideas themselves may be analyzed, but these are often so confused and distorted that

dream analysis, as in the strict neuroses, is the best method to arrive at the real conflicts. By keeping sharp watch of the dream content one can usually judge whether or not the analysis is being pushed too rapidly; that is, if it is too fast, stress and suicidal symbols begin to present themselves as resistance to the treatment. Only one of my patients feebly attempted a suicidal act.

As might be expected, the transference is extreme in analyzing these depressants, but this need concern one but little, as the normal, or the hypomanic, state will quickly remove it. The retarded depressant rarely or never leans upon the physician as the neurotic may after incomplete analysis. It is perhaps unfortunate that severe depressants are not analyzable and that not many even in their mild hypomanic states can be treated in this manner. The beginning or the ending of a severe depressive period are the most accessible states for treatment. The latter part of the depressive episode is possibly preferable, as one then has the whole historical present to work upon. Sooner or later, however, the whole life of a case must be gone into minutely if the treatment is to be fully successful. In no case have I failed to find Hoch's general principles of the mechanisms for retarded depressions which he has laid down in his "Study of the Benign Psychoses." *

In conclusion I would reiterate that an intensive analysis should be made in every carefully selected case of retarded depressions encountered in intra- and extra-mural practice. I feel convinced that by so doing many such individuals will make a sounder recovery from the specific attack and recurrences in the after-life will often be avoided. Physicians in sanatoriums and in private practice are particularly urged to try this method in the milder types of the disorder, which often masquerades under such designations as benign depressions, neurasthenias, and the like. Finally, I hope state hospital physicians will undertake this analytic plan more extensively in their severer cases, especially so soon as convalescence is well established. I am sure the extra-mural life of these depressants after discharge will be the better for such treatment.

* Hoch, Johns Hopkins Hospital Bulletin, May, 1915. For those who may be unacquainted with his views, the original paper may be consulted, or a summary digest of it may be found in my second paper upon retarded depressions, "Some Therapeutic Considerations of Periodic Mental Depressions," Med. Record, Feb. 9, 1918.

A CRITICAL REVIEW OF THE PATHOGENESIS OF
DEMENTIA PRÆCOX, WITH A DISCUSSION
OF THE RELATION OF PSYCHO-
ANALYTIC PRINCIPLES.*

By MICHAEL OSNATO, M. D.,
Captain M. C., U. S. A.

The absence of any material advance in the elucidation of the problem of the pathogenesis of dementia præcox is discouraging. This statement does not hold good if one is satisfied with the psychological explanations advanced. Nevertheless, the psychologist, who is also a student of pathology, anatomy and physiology, will find it hard to be perfectly content with the various psychobiological explanations given for the precipitation and continuation of the psychosis which we know as dementia præcox. The importance of clearing up the problem of the cause of this disease cannot be too emphatically stressed. Centering about it are numerous related problems concerning difficult and abnormal mental states which will be solved by a satisfactory clearing up of the dementia præcox situation. I refer particularly to hysteria, various compulsion—and psycho-neuroses, some types of alcoholic psychoses and other toxic mental states in which manic-depressive insanity may be included. The difficulty of beginning an investigation into the pathogenesis of dementia præcox is readily realized when we stop to think that within this classification are usually placed a number of widely different mental and related physical reactions, which necessitate subdividing the great group into eight or nine subgroups, all more or less indefinite in their clinical manifestations. Few of these subgroups have definite pathological or clinical criteria which can serve as a basis for diagnosis. No specific serological, bacteriological or other laboratory tests can aid us in placing any given mental reaction in the group of dementia præcox or in any of its subgroups. Post-mortem examinations also fail to establish absolute diagnostic criteria, so that we are necessarily driven to the application of certain clinical standards for the diagnosis of dementia præcox. In order to

* Read by title at the seventy-fourth annual meeting of the American Medico-Psychological Association, Chicago, June 4-7, 1918.

begin from a definite premise, it is necessary for the purposes of this discussion to state what it is that we understand as dementia præcox. The definition offered by Meyer² is advanced. This includes "those types of defect and deterioration which show the existence or the development of fundamental discrepancies between thought and reaction, defects of interest and affectivity with oddities; dreamy, fantastic or hysteroid or psychasthenoid reactions, with a feeling of being forced, of peculiar unnatural interference with thought, frequently with paranoid, catatonic or scattered tantrums or episodes."

The main points, therefore, which require stressing in order to obtain a conception of what is meant by dementia præcox are three: First, the discrepancy which is so characteristic between the thought processes and the emotional and volitional reactions of the individual; second, the defects in the fields of interest and affect, and third, the feeling of being influenced in the performance of acts or thought processes. Any one of these symptoms or any combination of them are absolutely essential to the diagnosis of dementia præcox. The character of the mental or physical reactions will determine whether the case should be called one of the paranoid, catatonic, schizophrenic, hebephrenic or paraphrenic type. Some deterioration, particularly of the will, affect and interest, must be present in every case aside from the delusional trends and hallucinatory episodes. It can be readily seen that these considerations are a matter of personal observation, deduction and evaluation on the part of the individual psychiatrist. Therefore, they cannot serve as absolute criteria. Admitting this fact, nevertheless, it is not helpful in the elucidation of this problem to refuse to recognize dementia præcox as a clinical and pathological entity entirely. This the psychoanalysts of various schools have seemed to do. I have searched in vain through the writings of Freud, Jung, Brill, White, Wells and others for any attempt at clinical classification of their observations in the so-called functional psychoses. The terms dementia præcox, hysteria, psychoneurosis, psychosis, neurosis, etc., are used with no attempt at definite conceptions for any of them. It is not my intention to discredit the psychological investigation of these problems, but surely the teachings of medicine in other fields where progress has been made by empirical grouping of symptom complexes should not be disregarded in psychiatry. It is true

that many things have been placed in the classification with dementia præcox that should not be there but this is no reason to widen the breach any further by clouding our conceptions of this disease entirely.

Perhaps it has been because of this difficulty of finding a common ground upon which the clinician and anatomist on the one hand and the psychologist on the other can meet that so little has been done to bring about a real advance in an understanding of this psychosis. It is characteristic of this to find that in a discussion of the pathogenesis of dementia præcox, there are two groups, the views of whose members must be given unquestioned weight and authority but who take diametrically opposed stands in this matter, some of them allowing for the possibility of no middle ground. In order to arrive at an understanding as to what should be the attitude of psychiatrists towards the various schools of psycho-analytic endeavor in the treatment of this disease, it seems important that those who adhere to the theory that dementia præcox is primarily an organic disease and the adherents to the dogma that it is primarily a distortion and perversion of the personality of the individual, the organic changes being secondary, should be brought to the realization of the fact that neither one of them may be right. It seems important that all fair-minded men should be willing to start in the investigation of this problem without preconceived notions. Of late years, the anatomical work done in the pathology of this disease has certainly gained very little attention in this country. This matter was recently referred to by the writer in a discussion of this question which appeared in the *Neurological Bulletin* of Columbia University (Vol. I, No. 3, p. 106, March, 1918). I take the liberty of briefly quoting from the article mentioned so that we may be placed in the proper frame of mind towards this subject:

Meyer dismisses the neuro-pathological evidence in dementia præcox as being meager and refers particularly to the work of Kleist. He says, "The isolated facts of the frontocerebellar disorders, tremors, reflex alterations, dermatographia, seborrhœa, and the eye symptoms appear like elements in the general process but not like helps for an explanation." Referring to the histological data, chemical findings and the work of correlation of the clinical symptoms in dementia præcox with the organic changes found in the brain, the author dismisses these as being merely incidental or due to defective oxidation or possibly the consequence instead of the cause of the symptoms. Meyer emphasizes the psychobiological

viewpoint, ascribing the difficulty in this condition to habit deteriorations and tantrums which, he says, are pathologically unfavorable to the maintenance of a normal mental balance. He speaks of complexes, habit conflicts and all the other psycho-analytic mechanisms as the essential causative factors. The symptoms of the disease, he says, are due to peculiar attempts which have been made at balance and reconstruction. He admits, however, that undoubtedly a large number of cases are "beyond complete analysis and understanding."

Jelliffe' as an exponent of the view just presented by Meyer says:

I freely admit that we are still much at sea in this matter and am fully prepared to follow Meyer in part in a more functional interpretation of certain of the dementia præcox reactions.

In attempting to recognize a fundamental personality, he says:

I am directly opposed to a too dogmatic pathological interpretation. Our pathological findings may represent atrophies of unused association tracts which have resulted from the, so to speak, petrification of bad habits of mental adjustment.

Taken alone, this may appear as a definite statement of a mental attitude but in the same article from which this is quoted he also says:

So that to the more striking mental signs are added physical signs of almost as definite a character as those met with in paresis. The clinical pictures are bound to begin in a slightly different manner, according to the anatomical localization of the processes. The course will vary by reason of the same factors of variability in contact with the pathological alteration and the general end level will be reached largely as is paresis by the more or less general diffusion of the processes in the areas of special predilection.

From which we can see that this author is certainly not clear in his own mind as to the genesis of the symptomatology of dementia præcox, nor is he prepared to give the psychobiological interpretation the place of prime importance in the production of the symptoms of this disease.

Hoch' perhaps takes the most decided stand of any of these three exponents of the functional theory of dementia præcox. In the same monograph with Jelliffe and White, he says:

While these findings, upon which rests the claim that dementia præcox is an organic disorder in the same sense as is general paresis, cannot be neglected and represent a most important field for research, there is another set of data furnished by an analysis of the constitutional factors in these cases, of the development of the symptoms—data which would

seem to show that, granted all the findings of an anatomical and, perhaps, chemical nature, dementia præcox is after all not a condition which can be placed side by side with the plainly organic diseases, such as general paralysis.

The last-mentioned author is perhaps influenced in his opinion by his studies of the personality in dementia præcox, I do not wish to convey the impression that studies of this kind are not important for the understanding of the psychoses, but it may be possible that too much stress has been laid upon the presence of defects of personality as an actual causative factor of dementia præcox. The part which the individual's personality plays in this psychosis cannot be disregarded. Nevertheless, one must be cautious in assigning to this one factor the unquestioned responsibility for the production of the disease. The character of the mental reactions may be influenced by the person's make-up, which is nothing more than the sum total of the individual's experiences. Character anomalies may, therefore, determine the type of delusional trends and the content of the hallucinations. About this there can be very little question.

But it may be possible that the precipitation of these reactions, together with the entire thought content of the psychosis, is secondary and incidental to the organic changes which occur throughout the body and particularly in the brain. What is meant can probably be best brought out by reference to certain observations recently made in a personality study of 36 cases of paresis published in the *Journal of the American Medical Association* (February 16, 1918, Vol. 70, pp. 434-439), in which we were able to suggest the great part that the personality plays in the character of the psychotic reactions in paresis. The conclusion which we reached from this study was that any one of several peculiar abnormal or neurotic types of personality existing in the syphilitic individual was liable to determine the nature of the parietic psychotic reaction. Paresis seemed to be capable for our purposes of being divided into two great groups. In one, not a small group, can be placed those cases characterized by rapidly increasing organic dementia and dilapidation of person and intellect without a psychotic reaction of definite type; and a second, a larger group, in whom the actual evidences of brain destruction, as expressed by the profound mental deterioration, were not at all marked especially at first, but in whom there existed a definite

psychosis the nature of which might be either classed as paranoid, manic, depressive, euphoric or expansive. The first group was also characterized by the frequency with which physical signs of paresis were early encountered and were possessed of essentially normal, efficient personalities. Of the second group many went unrecognized until physical signs developed and disclosed the nature of the trouble. In this psychotic group the personalities were definitely abnormal. One of these cases which I reported is particularly instructive along these lines, for in one institution she was diagnosed as a case of dementia præcox, and in another she was considered to be manic-depressive insanity. It was only when physical signs in the pupils and changes in the reflexes made themselves so manifest that they could no longer be overlooked that any other diagnosis was considered. The diagnosis was confirmed by laboratory examinations of the blood and spinal fluid. Instances such as this are met, not only in paresis, but in the psychotic reactions of various types of neuro-syphilis and are highly instructive.

Schneider² has shown that in alcoholic hallucinosis definite "precipitating factors other than the alcohol are present and necessary in its production and are often reproduced in the psychosis." Kirby,³ referring also to alcoholic hallucinosis, states "in nearly every case . . . one can establish that a definite emotional stress has immediately preceded the development of the hallucinosis; for instance, a threat, a quarrel, a fight, an arrest, imprisonment or some other annoying occurrence or actual cause for worry or anxiety." And in these cases Kirby remarks, "that the trend and hallucinatory content nearly always contains reference to the particular event which has disturbed the patient just before the outbreak of the psychosis." That this discussion is germane to our problem of dementia præcox can be seen from the fact that both Kraepelin and Bleuler have drawn a fairly definite analogy between the alcoholic hallucinoses and dementia præcox, although recognizing important differences, particularly in the recoverability of the former. Just as in the alcoholic cases the affects and other mental characteristics of the patient are exhibited in the delusional trends and hallucinations, so it may be in dementia præcox. The disturbing factor, whatever it may be, may act in some such manner. Hoch, Kirby and others have definitely

shown the peculiarities of conduct and peculiar mental reactions which long precede the precipitation of the actual psychosis in dementia præcox. No one has, as yet, given us even a suspicion of the nature of the causative agent in the production of dementia præcox, but what occurs in the alcoholic hallucinosis might conceivably occur with some other toxic substance in dementia præcox, the resulting psychosis exhibiting in the delusional trends and hallucinatory content the peculiarities of personality of the individual. The analogy might be drawn even closer, for many cases of alcoholic hallucinosis when they clear up or have a recurrence show definite dementia præcox characteristics. Others, of course, simulate manic-depressive reactions. It is noteworthy that in individuals exhibiting either of these two types the personalities recognized as characteristic of these psychoses have been demonstrated as having been present long before the hallucinosis; but the alcohol and the emotional upset seems to be necessary for the production of the psychosis. The alcohol, therefore, apparently supplies the toxic material which causes quantitative and qualitative changes in the brain cells which are responsible for the symptoms of disordered mental function.

The influence of the personality of the individual in producing the type of psychotic reaction, whether it be in paresis, brain syphilis, chronic alcoholic hallucinosis or dementia præcox, cannot be questioned. That these peculiar personal characteristics are the primary cause of dementia præcox any more than they are the causative factor in these other conditions has not been proved definitely, despite the writings of the gentlemen quoted, or the insistence of other adherents of the psycho-analytic schools led by Freud, Jung and Adler.

It is necessary to call attention to the work of Southard,²¹ Nissl,²² Kleist,²³ Alzheimer,²⁴ Sioli,²⁵ Rosanoff,²⁶ Morse,²⁷ and others in order to bring the investigator into the question of the pathogenesis of dementia præcox to the realization that there is another than the psychological aspect to the problem. It may be useful to refer briefly to their findings. The clinical findings consist of tremors, changes in the reflexes, dermatographia, seborrhœa and certain eye symptoms. These last have recently been reviewed by Hoch²⁸ and Teal.²⁹

Hoch's review of the subject of the eye changes in dementia præcox shows, first, that they consist of the absence in a number of cases of the psycho-reflex; that is, dilatation of the pupils associated with mental activity, mental effort, affects, etc., and also in response to various sensory stimuli. Secondly change in the shape of the pupil and sluggishness to light reactions, especially in catatonic stupor. This symptom was called by Westphal catatonic stiffness of the pupil and is essentially a transient loss of light or accommodation reaction with changes in the shape of the pupils.

Abstracting the work of F. Reichmann, Hoch finds that her investigation showed 61 cases of dementia præcox with unusually large pupils and 31 with small pupils; 47 cases showed irregularities; eight cases demonstrated hippus and 30 cases presented anisocoria. She also found that in 215 cases of dementia præcox, ovarian pressure caused dilatation of the pupils 113 times, with some interference in the light reaction 29 times. The abstractor calls attention to the difference in these findings from that of hysteria. In hysteria, pupil dilatation occurs upon ovarian pressure without disturbance of the light reaction.

Teal found in 53 cases of dementia præcox dilated and tortuous veins and contracted arteries in the fundi. He also found various degrees of papilloedema. He examined the fields in 15 cases of recent development. The charts showed concentrically contracted fields for form and color with frequent interlacing of the color fields. This contraction ranged from slightly less than normal to 30 degrees.

A brief reference ought perhaps to be made in passing to the various interesting, though not conclusive, studies in metabolism and in changes of the vegetative nervous system and the glands of internal secretion in this condition.

Of the metabolism studies, that of Ellison L. Ross²⁸ in five cases of dementia præcox is picked as a type. Ross quotes Pighini and Statuti as claiming that the metabolism is not normal in dementia præcox. Finding that various authors dispute this statement, Ross undertook the study in these five cases of the total nitrogen, sulphur, phosphorus, calcium and magnesium metabolism with their partition. Without going into detail as to the methods pursued, we find that he concludes the chief changes were found in metabolism of sulphur. These changes consisted of a diminution

of the amount of total sulphate, including the inorganic sulphate both in acute and chronic cases of dementia præcox, the amount of neutral sulphur excreted being above the normal. He, therefore, confirmed the finding of Pighini. He concludes that in acute cases the patients lose their normal powers of oxidation and suggests that the same condition prevails in the chronic cases. Attention is called also to the fact that the nervous system is richer in sulphate compounds than any other of the tissues of the body and that it has a high rate of metabolism in normal conditions. Other observers, particularly W. Koch, have found that the neutral sulphate is decreased in the brains of dementia præcox patients. It may be possible to refer with some profit also to the studies of various authors of the injection of adrenalin and pilocarpin in cases of dementia præcox. For instance, Neuburger,²⁸ on the action of adrenalin injection upon the blood pressure, says that in 80 per cent of the cases experimented with the reaction to adrenalin injection is diminished or absent. This refers to the influence on blood pressure and pulse rate. The exceptions to this rule were the paranoid cases studied and the excited cases with remissions who show a more nearly normal reaction to adrenalin. The number of cases studied was 63. As controls, 39 cases of various psychoses, neuroses and psychoneuroses were used.

Walter and Krumbach²⁹ studied 18 cases of dementia præcox, four of which were chronic catatonic conditions, and three, chronic paranoid conditions, the others being more active types. They tested these cases with adrenalin, atropin and pilocarpin and found that only in the cases which showed chronic stuporous states were there any definite influences. In these cases adrenalin, atropin and pilocarpin had no influence on the blood pressure or pulse, and pilocarpin did not produce sweating. In the excited and paranoid conditions, the findings were inconclusive.

Brief reference might also be made (Dercum³⁰) to the fact that the thyroid gland has been found enlarged in many cases of dementia præcox by various authors and that the body weight is generally below normal in this condition.

Alzheimer³¹ definitely states that he is convinced that dementia præcox is an organic disease of the brain and he is inclined to regard the anatomical changes as definite. These changes consist of lesions in the second and third layers of the cortex characterized by sclerotic nerve cells, infiltration of cells with lymphoid sub-

stance, disappearance of nerve elements, gliosis and the appearance of amœboid glia cells. Alzheimer points out these findings were particularly marked in the small cell layers of the cortex. Upon these findings, Kraepelin²² explains the preservation of memory and acquired knowledge on the theory that these have their seat in the deeper layers of the cortex. To the second and third cortical layers which are affected in this disease, Kraepelin ascribes the function of the liberation or translation of perceptions into concepts, of sensations into feelings and of impulses into activity of the will. Such an interpretation, if found to be based on fact, would exactly explain the symptomatology of dementia præcox.

Southard's²³ work, calling attention to the satellitosis and macroscopic areas of palpable gliosis with microgyria and visible atrophy and the microscopic evidences of sclerotic changes in nerve cells in 89 per cent of the cases examined is too well known to be more than mentioned.

Sioli²⁴ found in every one of 20 cases of undoubted dementia præcox destruction of nerve tissue and disarrangement of the normal layer formation of cortex cells, degenerative products in the perivascular and lymph spaces and amœboid cells, together with gliosis in the white matter and in the deep cortex layers.

The findings of Rosanoff,²⁵ which led him to make the unequivocal statement that mental deterioration in dementia præcox goes hand in hand with brain atrophy, are also so well known that they need no more than be mentioned.

Because of the possibility that some organic basis may be found for the most striking, though usually late, symptom of dementia præcox, the work of Morse²⁶ is interesting. The dissociation between the retained intellectual functions and the emotional deterioration has a suggested explanation in her findings. Her cases died sufficiently young to make it possible to exclude the ordinary senile and arteriosclerotic changes found in brains at autopsy. The neuroglia in the optic thalami was especially investigated. Seven cases of other mental disorders were used as controls, including two cases of arteriosclerosis and senile dementia. She found increase of neuroglia, diffuse and focal, in one or more of the thalamic nuclei, cerebral cortex and in the white matter of the brain. The control cases showed none of these changes excepting the usual peripheral gliosis and perivascular increase in the

senile and arteriosclerosis cases. The writer makes the statement that "thalamic gliosis occurs more frequently in dementia præcox cases than in those with other psychoses who died at about the same age."

What bearing this finding has on the problem of dementia præcox is suggested by analogy with numerous clinical observations made in other conditions, particularly pseudo-bulbar palsy and progressive lenticular degeneration. In these conditions, the lack of emotional control is a prominent symptom and is generally ascribed to involvement of the thalamus and other basal ganglia. This observation has been frequently confirmed by various neurologists. It is not uncommon to see cases of pseudo-bulbar palsy with completely retained mental faculties who laugh immoderately or cry uncontrollably with very little or no stimulus. The similarity between this symptom and the same condition so often met with in dementia præcox makes a striking analogy. The perusal of a review of the subject of pseudo-bulbar palsy by Tilney² is, in this connection, extremely interesting. That the analogy should not be drawn too close, however, must be mentioned, because Tilney found that the lesions in cases of pseudo-bulbar palsy were in a majority of cases multiple and occurred in the projection systems as well as in the basal ganglia or the pons or medullary nuclei. A closer analogy can be drawn in the cases of progressive lenticular degeneration described by Wilson.³ Concerning the matter of the mental symptoms of this disease, Wilson says, "It is a noteworthy fact that some form of mental change or impairment is specifically referred to in at least eight of the twelve cases; its importance, therefore, must not be underestimated." Again on page 447 he says "If the term 'dementia' is to be employed to characterize them (the mental symptoms), it must not be forgotten that this dementia is decidedly limited. . . . It is just in the ordinary dementia of senility and to a less extent in dementia præcox that these symptoms are most common. . . . Hence, the term 'dementia' is really not appropriate." He refers to the absence of disorientation of time, place and person and points out that the dementia present in his cases cannot "be likened to the steady mental involution of senile dementia or of dementia paralytica," and further says that, "it can be readily distinguished from dementia præcox. The mental symptoms are a lowered

capacity for retaining impressions with a constriction of the mental horizon. The powers of perception and recognition are good. There are no delusions or hallucinations." He refers to these patients as being "easily tickled, pleased and amused without insight into their condition, for their cheerfulness is incompatible with knowledge of the seriousness of their illness. . . . The patient seems to be unable to deliberate or pass judgment on what is presented to him." Regarding the involuntary laughter or crying, Wilson says (page 472) that the association of these emotional states with the basal ganglia has long been recognized and he refers to their incidence in double hemiplegia and pseudo-bulbar palsy and even in simple hemiplegia. He further says, "On some occasions at least the patients did not appear to express the emotion which their musculature seemed to express." Despite the fact that Wilson says that these symptoms can readily be distinguished from dementia præcox, their striking similarity to the late symptoms of this disease can readily be appreciated. Reference to this subject may be concluded by drawing attention to the pathology of this condition which seems to be limited to a symmetrically bilateral lenticular degeneration, particularly of the putamen. The globus pallidus, caudate and some of the fibers of the thalamus which come from the corpora striata are often involved. The extent of the involvement of the thalamus appears to be more marked in some cases than in others but these striothalamic fibers regularly show a secondary degeneration.

No attempt is made here to draw an analogy between dementia præcox and affections of the basal ganglia. I simply desire to point out that the anatomical changes which seem to have been found in dementia præcox by Kleist, Nissl, Alzheimer, Southard and Morse are capable of explaining at least some of the characteristic symptoms of dementia præcox. In the presence of such evidence as these investigators present, it would be extremely unwise to take a decided stand for or against the organicity of this disease. Of late years some teachers of psychiatry and many writers on this subject have been too prone to overlook the possibility that psychobiological interpretations and purely psychological explanations of the pathogenesis of this condition may not be the only considerations possible. It seems to me that the writings of Freud, Jung, Adler and others who are responsible for

this state of affairs have retarded investigation of other phases of this important problem. What can be done to bring our attitude of this matter to a state where anatomopathological and physiological investigations will replace dogmatic, empirical, psychological explanations? It seems that the first desideratum is to demonstrate the falsity or the correctness of the stand that the psychoanalytic viewpoint has solved the problem. The best method to determine whether this disease is primarily a functional one and dependent on improper mental habits or perversions of the sex instinct with conflicts arising therefrom is to apply the therapeutic test. If this is true then the principles of psychoanalysis as laid down by the Teutonic writers, if applied to early cases of dementia præcox, should result in cures, or at least prolonged remissions, with more or less perfect adjustment of the individual affected. Just as unhelpful as is the attitude of those who refuse to concede the possibility of a causative influence of the organic findings in the development of this disease is the attitude of those who refuse to give any part in the production of the disease picture to psychobiological influences. Occupational, educational and custodial care have resulted in a discouragingly poor percentage of recovery in dementia præcox. Let us consider giving a free hand to competent persons so that they may practice the principles of psychoanalysis and apply them to sufferers from dementia præcox under supervision in our state hospitals and sanitariums. Before doing this, however, the psychoanalysts should be prepared to investigate these cases in the broadest way, taking into consideration all the available data. They should be prepared to give us information on the part that all the instincts play in the synthesis of dementia præcox, because the true psychoanalyst does not limit himself to a consideration of the sex instinct alone. The matters discussed by Trotter concerning the Herd Instinct and principles of masculinity-femininity and the masculine protest of Adler, together with the broader aspects of the libido and life interest of Jung, and finally the investigations of the sex instinct according to Freud should all play a part in these investigations. If early cases of dementia præcox are referred to psychoanalysts and they are given unlimited opportunity for investigation and attempts at bringing about adjustment, we must then be willing to abide by the results. No one has yet given statistical data of a large number of cases treated by such psychoanalytic methods. It is high time

that this should be done. The suggestion is made that psychoanalysts be given in various parts of the country a number of cases sufficiently large to permit of fruitful observations and that in three, four or five years they be required to publish their data in statistical form for consideration. The cases should be undoubted examples of dementia præcox, presented at staff meetings or after consultation, and standardized for diagnosis according to the conceptions of Meyer, Kraepelin and Tanzi. They should be, as Tanzi² says, "patients who present the fundamental symptom of dementia præcox; namely, stolidity of conduct." Concerning the diagnosis, Tanzi further says, "that whatever may be the clinical variety to which his malady belongs, the patient suffering from dementia præcox displays the disorder of his intelligence not so much by what he says and thinks as by what he does; even when he expresses and seemingly thinks something contradictory, absurd or foolish, as often occurs, the unprejudiced observer easily perceives that the patient is not faithfully conveying his own thoughts, but is to all appearances falsifying them purposely, either from ostentation, as a joke, or owing to an involuntary treachery on the part of the volitional function." These disorders of the will and the emotions are the *sine qua non* of dementia præcox.

The views of Kraepelin³ on this point may be worthy of attention because psychoanalysts have been too prone to a loose interpretation of what we mean by dementia præcox. Despite the fact that we must admit that dementia præcox has no absolute clinical, pathological or anatomical signs, it is just these mental characteristics which are definite. Kraepelin states that "this peculiar and fundamental want of any strong feeling of the impressions of life, with unimpaired ability to understand and to remember, is really the diagnostic symptom of the disease we have before us." Again on page 26 he says, "We have a state of dementia before us in which the faculty of comprehension and the recollection of knowledge previously acquired are much less affected than the judgment and especially than the emotional impulses and the acts of volition which stand in close relation to those impulses. . . . They are invariable and permanent fundamental features of dementia præcox, accompanying the whole evolution of the disease." These matters, which are clear to every one of us, seem to have es-

caped the psychoanalysts. I have carefully searched the literature and the looseness with which they couple the neuroses, the hysterias, the compulsions with this distinctly different mental state is something which should not be allowed to continue without criticism. If psychoanalysts will accept for experimentation cases showing these mental defects then in all fairness we should allow them a free hand to demonstrate their principles. If, after application of psychoanalytic methods in a considerable number of cases of very early dementia præcox, they fail to disclose their value, it may then be possible that psychiatrists in this country will throw off the shackles that have been impeding progress in the elucidation of this problem and that medical men will return to anatomical and physiological investigations as an aid to its solution. We must have definite scientific data and not beautifully descriptive systems of philosophy from our psychoanalytic friends, if they are to help us in this particular problem.

An instance of how far the pendulum has swung from a consideration of the medical aspects of dementia præcox to the purely psychological can be had by a scrutiny of what appears to be at present the most popular of these psychoanalytic viewpoints. I have reference more particularly to the work of Adler¹ as expressed in his book "The Neurotic Constitution." The number of unconfirmed views and unsupported statements presented by this author as facts cannot be allowed to go unquestioned. Some assertions made in this book are characteristic of a great deal of the psychoanalytic literature and this brief, critical review is undertaken as a check on what we regard as the baneful influence which this particular work has had on the minds of a great many of those interested in psychiatric subjects. Particular reference is made wherever possible to his discussions of dementia præcox.

Referring to the instinct that the child has of obtaining security by striving towards a fixed point where he sees himself greater and stronger, where he finds himself rid of the helplessness of infancy, Adler says (page 53), "The qualities of greatness, power, knowledge and ability are constructed in the image of father, mother, older brother or sister or some hero, etc. These stand like idols of clay and they receive from the imagination of mind the force which afterwards reacts on the psyche which has created them. In so far as the child is able at all times to free himself

from the bonds of his fiction, these artifices of thinking show the only difference from the manner of thinking in paranoid and dementia præcox conditions." The main difference is, therefore, according to this conception, that the normal is able to free himself from his fancies and return quickly to reality, whereas in the case of the psychoses mentioned, this is not possible. But, as Adler says, "there is this similarity of adherence to a fiction in normal persons, neurotics and the insane." On page 76, making reference to the "psychotic individual," Adler takes issue with Freud, whom he says stopped at the point "of discovering the actual or possible sexual formula in these symbols and has not pursued their further elucidation into the dynamic eventuality of the masculine protest of striving upward." His philosophy of the neurotic constitution is thus summarized and consists of what he designates as the guiding line or striving upward manifested by the "masculine protest" in individuals whom he calls somatically inferior. This, in a few words, is his conception.

On page 92, Adler makes the statement that the child (meaning probably the neurotic child) brings forward into consciousness an acute sense of inferiority which is permanent and depends on the presence in such individuals of inferior organs, and that as a result of this consciousness of inferiority, a formula is established by which the neurotic strives to become master of the situation. These attempts at compensation of physical inferiority lead to the symptomatology of the neuroses and psychoses. According to Adler, all the symptoms of these conditions can be explained on the grounds of a more or less conscious striving to hide and over-compensate this inferiority. He says that in the organs which fall below the normal standard are to be seen the more frequent referred somatic complaints. Therefore, it is said that these inferior, neurotic individuals, in order to hide their inferiority, set an unusually high goal which it is never possible for them to attain. On page 95, he says, "Nervousness, by preference, utilizes organic defectiveness, the infantile defects, the sense of ill-health in general on the one hand, for the purpose of securing the ego-consciousness against the requirements of parental authority, usually by means of a stubborn revolt. . . . Indeed, the neurotic individual often seeks minor defects, even brings them about artificially, or assumes dangerous outlooks in order thereby

to justify his neurotic acts and caution." To this fiction which Adler calls the masculine protest he ascribes everything in the neurotic constitution. In differing from the Freudians, he says (page 106), "That a further pursuance of the matter leads irrevocably to a realization of the untenableness of the libido-theory, to a doing away with the sexual etiology and to an understanding of the neurotic sexual conduct as a fiction."

In this way Adler throws a sop to those who object to the predominance of sex in the Freudian theories and explains the sexual conflicts of the neurotic on the theory that they are part of the means by which these individuals obtain the mastery over their environment. According to Adler, therefore, these sex matters are not the causative factor in the development of the neurosis, but are only one of the means used by the neurotic as an aid in making the masculine protest. This twist in the presentation of the sexual side of this question does not prevent the greater part of the pages of this book from being given over to a full discussion of the sex problems which have been much more conclusively and convincingly set forth by Freud and others. When one examines the evidence on which Adler bases his ideas that the neurotics are possessed of inferior organs, we find that he points as confirmation to ulcer of the stomach, appendicitis, cancer, diabetes, liver and gall-bladder disease, as evidences of such inferiority. Why he omitted typhoid fever from this classification it is hard to understand unless one considers that possibly Adler has met and been conquered by the bacillus typhosus. On the same page (122) one finds further evidence of the extravagant lengths to which Adler carries his unconvincing reasoning. He says that a number of neurotic symptoms such as obstipation, colic, asthma, vertigo, vomiting, headache and migraine are symbolic of "a voluntary but unconsciously co-operating activity of anus contraction and abdominal pressure," which are used as an aid by the neurotic for domination. In these individuals Adler says that greed for gold and power are in the foreground of their ideals, which is nothing more or less than a repetition of the ideas of Freud and Jung, who associate these traits with what they call the anal neurotic types.

It is on such flimsy and ephemeral data that Adler builds his conception and it is upon principles such as this that a great many

attempt to explain the development of dementia præcox, various other psychoses and neuroses. It is with an idea of presenting to these individuals and to certain medical psychologists the possibility that they are in error that this paper is primarily written. It is also hoped that we may give them a definite opportunity to prove to us the truth of their data in a scientific way.

Further reference to the work of Adler shows that he regards certain purely mechanical pathological conditions as evidences of inferiority. Particularly important in this regard does Adler place the inguinal hernia (page 145) which we have always understood to be a rather innocuous, mechanically produced condition. The idea that inguinal hernia is an evidence of organic inferiority will certainly be interesting. The idea, however, that individuals possessing this condition have a (fatal) determinant of neurotic manifestations will perhaps be startling. Even more startling than this will be the statement made on page 318, "I have in various instances learned to recognize this connection with epilepsy, sciatica, trigeminal neuralgia. I have proved that these latter conditions were psychogenic in nature and originated whenever strong securities were demanded." In this connection the author also mentions migraine. These conditions, which we have always felt had a pathological foundation, are ascribed by Adler as symbolical, more or less voluntary, aids in the struggle of neurotics against the feeling of being beneath or as a struggle against femininity—or as an expression of the masculine protest.

As against the correlations which Southard, Kleist, Kræpelin, Alzheimer and others have attempted to make between the symptomatology of dementia præcox and the pathological findings, we have Adler's views on the pathogenesis of the delusions, hallucinations, attitudes and other symptoms. On pages 234 and 237 we find this explanation of the origin of delusion and hallucination. Speaking about a patient whose analysis he presents, he says, "The essential part of a psychosis depends upon a dogmatic anticipatory representation of a fear or a wish, which the craving for security offers for the better testimony in a phase of great insecurity, in strong dependence on the fictitious guiding line for the conservation of the ego-consciousness." Explaining the symptom of tearing off the clothes which so many excited patients have, he says (page 237) that they "tear the clothes from the

body as though they would divest themselves of the modesty which they regard as feminine, as though they wished to make a parade of fictitious, large, masculine, genital organs and thus belittle others." On page 266, concerning hallucinations, he says, "Hallucinations as well as dreams are, like other tentatives of the psyche, fitted for finding the way which leads to the maximation or preservation of the ego-consciousness. In it are reflected the faiths, the hopes or the fears of the patient." On the bottom of page 267 he says, "In paranoia and dementia præcox, the emotions leading to the masculine protest disguise themselves in the form of hallucinations and assure the psychotic scheme through their acoustic or visual complement."

If these explanations of the production of delusions and hallucinations are true, it is of the utmost importance that this fact be demonstrated to the satisfaction of all psychiatrists. If they are found to be true upon investigation, then a good deal of the work which is being done in neuropathology may just as well be stopped. These matters must not be settled by acquiescence in unsupported statements such as these. Nowhere in this book does Adler give any idea of the results of his psychoanalytic treatment. It is essential that a sharp therapeutic test be made of these matters and that careful records be published, not only of the methods followed but also of the results obtained. The fallacy or the truth of statements like these must be settled soon if psychiatry is to make any progress in solving the problem of dementia præcox. Concerning the symptoms of stereotypy and the delusion of grandeur in a catatonic, Adler says (page 276), "Stereotypies were manifested, among other ways, by an occasional upright position of the body and by holding the head high, a motion which I was able to interpret as symbolic, as a phantasy of the erection of the male organ."

Not referring for the moment to the intensely boastful "I" of the author (we are sure many other psychoanalysts are capable of making the same deductions in like cases), I should like to inquire whether everyone is prepared to accept this explanation of stereotypy as against the possibility that it may depend upon changes in the cortex of the cerebellum, the dentate and other cerebellar nuclei and their connections with the basal ganglia, the cerebral cortex, the spinal cord and anterior horn cells.

Of the various psychoanalysts in this country who have been attempting to find a middle ground upon which views such as those expressed by Adler and the views of those who hold to the theory of organicity can meet, William A. White of Washington is probably the most prominent. Dr. White has written the introduction to Adler's book. He dilates in this introduction on the healthy tendency exhibited by Adler in approaching his subject from the organic rather than the functional side. I am afraid that Dr. White will not endorse at least one of Adler's views. In this paper I have deliberately drawn several analogies, particularly one between the characteristic dissociation of the mental with the emotional reactions as it exists in dementia præcox with the same sign exhibited in pseudo-bulbar palsy and other diseases of the basal ganglia. Concerning reasoning by analogy Adler * says that it is very important in the development of the neurotic constitution and is a characteristic of the general inferiority of the neurotic psyche. White * says that "reasoning by analogy is not only a legitimate form of reasoning but it is the best of all reasoning." Agreeing with Dr. White are Jung's * views on this subject. It is only an instance of the danger of accepting without question the views of some exponents of psychoanalysis, that even in the camps of the most prominent of them, such wide differences of opinion are found about so important a point. The entire subject of symbolism on which the whole fabric of psychoanalysis is built is admittedly done by analogic thinking. Yet we are told by Adler that thinking by analogy is a trait of the neurotic, therefore, an inferior psyche.

In conclusion, it is my opinion that a decision of the questions herein discussed must be soon attempted. The only method available is to apply the therapeutic test to the principles laid down by psychoanalysts. On the other hand, we must require carefully kept records and published scientific data with tabulated results. If, after ample opportunity for investigation, they fail to give us this data, we then must regard psychoanalytic principles as they relate to the study of dementia præcox as impossible of application and confine ourselves to anatomical, pathological and physiological investigations as a means of discovering the pathogenesis of dementia præcox.

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THE REHABILITATION IN THE COMMUNITY OF PATIENTS PAROLED FROM INSTITUTIONS FOR THE INSANE.*

By SAMUEL N. CLARK, M. D., CHICAGO, ILL.

The subject broached by the title of this paper is too vast to be discussed here except in very general terms, but a broad survey may serve to open the topic for further and more specific investigation.

The needs for the return of all recovered patients to life outside the institution are too well known to recount and yet a special word here may not be amiss. The community and the individual are best served by the fullest expression of activity of which the individual is capable. It must be remembered, however, that the ability of the individual to withstand stress is not always easy to estimate. Adequate reaction to a difficult situation for a few days, weeks or months may be followed by excessive oscillation of mood or by the substitution of a false trend of ideas or fantasies for stern reality. Once such disorientation is accomplished the services of the individual are lost to the community probably for considerable time. Obviously it would be better were such case required to meet only situations to which he is able to react repeatedly without mental capitulation. It is most important that this idea be comprehended and one must remember that it is diametrically opposed to the belief rather widely held that everything is possible if only the individual is willing to make the necessary effort.

The fact that a mental disorder has occurred strongly suggests that thereafter there must be a compromise between the efforts of the patient and those of the ordinary individual. The question of degree of compromise necessary in a given case is difficult, but upon it depends the future welfare of the patient and an attempt to solve it must precede the restoration of the patient to life outside the institution.

The ability to answer the question in the preceding paragraph is dependent upon knowledge of the factors which have in the past caused more or less marked mental upset. These are not only the

* Read at the seventy-fourth annual meeting of the American Medico-Psychological Association, Chicago, June 4-7, 1918.

unusual stresses to which the patient has been subject; acute or constitutional illness, psychic trauma, etc., but also and even of more importance those habitual tendencies on the part of the patient to react to certain situations in a harmful manner.

The way in which ordinary problems are met is portrayed in the usual behavior of the individual. At times the reaction to certain everyday situations is of a sort which fails to pass the censorship of the social code. In other cases no unusual manifestations are noted until an unusual situation arises, be it the death of a friend, financial upheaval or actual change in structure of the brain. Even in such case it is not the situation which constitutes the immediate need for social supervision, but the behavior under the existing conditions.

In speaking of etiological factors of mental disorders the writer refers to the conditions which cause any of the disturbances of behavior commonly spoken of as insanity. It is easy to refer to etiological factors in general terms but often difficult to say specifically what things should be avoided. Of course, carefully taken anamneses will aid greatly in pointing out probable pitfalls, but occasionally these are difficult to obtain. In such case one must look elsewhere for guidance. The fact that there is doubt as to the sort of problems or situations which may be considered probable factors does not excuse one from making an attempt to outline the activities of a recovered patient. If a patient is placed under the jurisdiction of a department there is no choice but to use the data available in an effort to safeguard him even if interpretation of the data is somewhat open to question. The experience one has had with other cases will be of aid. There is food for thought in the frequency with which cases improved following acute episodes of the dementia præcox type of disorder, show an apparent narrowing of interests and a disinclination for any but the more automatic sorts of industry. It may be presumed that this fact has a general application to all disorders based upon a difficulty in adjustment and that it points to the need of caution in returning individuals no longer manifesting acute evidences of mental disorder to active life. If one may surmise that the apparent inclinations of these patients are actually preservative, one may say that the characteristics which are conspicuously absent in the improved dementia præcox case, are ones which the patient cannot assume without risk. Among these characteristics are the assumption of

responsibility; a tendency to compete with others to the degree that ordinary individuals compete; and a willingness to submit new ideas, if indeed any are conceived, to public opinion. Obviously no attempt can be made here to define a "complex situation," but perhaps one is justified in saying that the characteristics mentioned in the preceding sentence are some of the earmarks and they may be in evidence not only in industrial activities but also in the family and social life of an individual.

If it may be assumed that the recovered patient should refrain from undertaking great responsibilities and from attempting to compete with the most active the question is presented: What then may he do? Idleness is certainly not advisable, as it would favor reactions not censored by reality. From consideration of the inclinations of the dementia præcox case one learns not only to refrain from placing him in the most complex situations but also that if not roused and stimulated to some extent, progressive disinterest in the environment is very apt to result.

It would be useless to try to specify the type of work all cases should do, hours of employment, home conditions, recreation, etc., which are most favorable for all paroled cases. Each case must be treated as a problem distinct from all others, but the general principles outlined should be kept in mind. The criterion to be used in the estimation of the suitability of a given situation is whether the accomplishments of the individual keep pace with his aims. In so far as can be done by the prescription of certain occupation and recreation and by regulation of stimuli in the matter of home conditions one should try to make the aims of the patient as broad as seems consistent with his continued welfare. This done, he should be watched closely to see if the aims are realized, and if not steps should be taken to simplify them. By "aim" is meant here not simply desire, but the actual assumption of responsibility for certain definite results. A homely illustration may make this somewhat abstract thought clear. If a man desires a fortune but feels no obligation in obtaining it, failure to gratify the desire is not apt to result in mental upset. If he feels obliged to gain a fortune and succeeds, the aim leads to no difficulties; but if instead of success he meets with failure the inability to react adequately to the aim necessitates a readjustment. In one given to subterfuge or in whom unusual oscillations of mood are apt to occur in ordinary

situations such readjustments as those just mentioned are likely to lead to mental disorder. They are the especial stresses of life.

The rehabilitation of patients who have passed through the more acute manifestations of mental disorder must begin in the hospital. From the time the case is received at the institution efforts should be made to obtain information in regard to the make-up of the individual, especially as to the character of the situations faced which led to disturbances of behavior. After the acute disturbance has subsided the work of re-education must be instituted. There is no justification for delay in rehabilitation until the patient is paroled from the institution. It is the duty of the hospital to fit the patient for life outside the institution so far as this is possible by advice, instruction and habit formation. When it has been decided that a patient may be released from the hospital there should be available some organization which properly may be termed an out-patient department to carry out supervision begun in the hospital. This department may quite well be a part of the state hospital, but its scope will differ widely in certain respects from the ordinary work of the institution. It may be said that while the patient himself constitutes the field of endeavor of the hospital, it is the environment of the patient in the world at large which the out-patient department attempts to control and shape. Instead of being the custodian the out-patient department becomes the mentor; and while compromise with the activities of the ordinary citizen still must be considered, the broadened outlook of the patient with consequent multiplications of the reactions changes greatly the aspect of the problem of his welfare. In place of stage-settings entirely subject to the desire of the hospital physician, the out-patient department must make use of the activities and interests of the world at large. The difficulty is not that the activities are too few, but that the capabilities of the patient most frequently precludes anything but the cautious assumption of the ordinary responsibilities of citizenship; and lest the patient attempt too much, the scope of the out-patient department must be such as makes it possible to reach out and keep pace with the patient's activities, even to anticipate them, to mold and to limit the situation to which he must react.

The number of workers which is necessary to carry out the work outlined depends altogether upon the number of paroled

patients in a given district and the size of the area to be covered by the visitors. An organization may be sketched, however, which will cover the necessary activities. There should be included a medical director, an examining division and a social service department, and if desired an occupation bureau may be added as a special branch of the last named.

The medical director shall coordinate and direct the work of the department. Under his guidance each subdivision shall carry on its particular task.

The workers in the examining division must be trained in medicine, especially in psychiatry. It is the business of this department to consult with the paroled patients when the latter make their regular visits to the department. The physician should make the necessary progress notes, advise the patient in regard to his activities and watch closely for evidences that he is finding difficulty in adjusting to the situation. Such evidences might be irritability, abstraction, depression, insomnia, the complaint of pain or distress not founded on organic change, etc. If unusual problems in the life of the patient arise special attention should be given him in an attempt to aid him to weather the storm. There is need for care that acute somatic illness shall not remain undetected and that the progress of chronic disorders, neurological or otherwise, be gauged.

The work of the social service department should include investigation of the home before the patient is paroled, to judge of its fitness as a habitation and of the probabilities of the patient being supplied with ordinary needs of life. The attitude of the others in the home should be learned, and where indicated an attempt should be made to educate the members of the family in regard to an understanding of the disorder through which the patient has passed and of the factors which might cause future attacks. Occasionally it may seem unwise to return the patient to his former home. The social life, recreations and avocations should be scrutinized; in a word, all the interests should be considered with the aim of directing so far as is possible the activities of the patient. This will necessitate talks with the patient and occasional consultation with relatives or friends.

If desired, a special bureau can be formed to obtain employment for the patients and whether this is done or not the occupations

followed need consideration. The experience and preference of the patient must be weighed in the choice of employment, but at times new fields will seem advisable and the preference of the patient may seem unwise. Here the problem is difficult and must be left to the discretion of the department.

Unfortunately the wages are frequently a necessary item and the actual needs for financial aid makes unavoidable occupation which is undesirable. Even in such case there is room for endeavor on the part of the out-patient department. In certain instances it may be advisable to take the employer into confidence and enlist his aid. If the latter knew the condition of the patient he would at least, in many cases, be more willing to transfer the patient to more desirable work when opportunity arose.

Of course the problem of prevention of future attacks is very closely allied to the one of rehabilitation, although it is not embraced by the title of this paper. Perhaps the statement may be made here that the data in regard to onset of past mental disorders and the out-patient department as an organization would be applicable to the problem of prevention as well as to rehabilitation.

Finally there is the question of control of the patient. The solution of this problem will be aided by an understanding between the staff members of the state hospital and the patient, that the parole of the latter will be granted with the understanding that he will visit the out-patient department and abide by the advice tendered there in regard to occupation, etc. This understanding will give the out-patient department a lever with which to gain access into the life of the patient. Such hold is a very poor substitute for real understanding which should be established as rapidly as may be. It is only when a sympathetic contact is accomplished that the stage is reached where advice may be given and accepted which actually results in alteration of viewpoint on the part of the patient. And this is the highest goal of therapy of most of our recoverable insane cases: to aid the patient in arriving at an understanding of his limitations so that he will attempt only the activities to which he may react safely and continuously.

Notes and Comment.

THE WAR AND PSYCHIATRY.—With an abruptness which astounded the careless observer, the world war has come to a pause, let us hope to an end.

From the outset psychiatrists recognized the fact that problems were involved to which in past conflicts too little attention had been given.

So little attention indeed had been paid to the mental examination of the prospective soldier, and so little notice taken of the effects of military drill, campaigning, and fighting upon the nervous system that in many instances the suggestions which were made for a more careful mental examination of men about to be inducted into service were received with marked disfavor.

This country had the advantage of the experience gained in nearly three years of actual warfare, by its allies, before it began to raise and equip an army, and in many things profited thereby. There were nevertheless many officers in the army, particularly in the line, and a few in the medical corps, who looked askance upon the introduction of specialists and special examination, particularly psychiatric, into the routine of army medical work.

The elimination of men from the ranks for mental disorders or defects unless they were so manifest that they were at once recognizable, was, particularly when the authorities were working at a feverish rate to rapidly raise, train and equip a large army, looked upon as a waste of material, and as the result of too great dependence upon the special viewpoint of the examiner.

In a short time, however, a change took place. Officers who complained that too large a percentage of men were rejected, became the advocates of still more rigid examinations when squads of men were returned from over seas, as unfit for even limited service, by reason of mental defect or disorder.

It took time necessarily to select the men to make and formulate methods of making mental examinations. The number of

physicians available for neuropsychiatric work in the army was limited, and if in some instances the wrong men were selected for the work, or men without sufficient force to withstand the demands which were occasionally made for a merely perfunctory examination, it must be remembered that the surgeon general's office and the War Department were confronted by tasks such as had never confronted this or any other country and that the few points for criticism are far outnumbered by those which deserve unstinted praise.

It has not been alone among those already inducted into service that the psychiatrist has been made available and has done work of great value. The authorities have been fortunate in being able to obtain for many of the local draft boards, and for a considerably larger proportion of the medical advisory boards, physicians with psychiatric training and experience to whom all cases whose mental status was questionable were referred. This has resulted in keeping out of the army many drafted men, who, had they been accepted, would have inevitably been found unfit for service.

There are boards, we are informed, who have been able, because of the assistance rendered them, often at great sacrifice by psychiatrists, to point with some pride to the fact that no soldier inducted into the service after having passed their examination has been rejected because of mental disorder.

The field which is still open for psychiatric war work is a large one. The so-called war neuroses, the mental disorders arising from disease and injury incident to service, the mental as well as physical reconstruction work, now actively in progress, all present problems of intense interest and importance.

When the medical history of the war is written it is to be hoped that a competent psychiatrist will, with ample assistance and free access to the records, be one of the many who will necessarily be engaged in the task.

The medical department of the army in pre-war days sent an occasional medical officer from the army medical corps to Washington and perhaps elsewhere for a brief course in practical psychiatry. Surely recent experience has taught that as far as possible every army and navy medical officer should have not only

one, but repeated periods, at intervals, of service in the wards of hospitals for mental disorders.

There are now numerous hospitals whose medical service and laboratory facilities are such that adequate post-graduate training in psychiatry can be furnished to the army medical men, and where such men would receive a hearty welcome.

THE INSTITUTIONAL CARE OF THE INSANE IN THE UNITED STATES AND CANADA.—This work, which was undertaken under the patronage and endorsement of the American Medico-Psychological Association, has been reviewed in the pages of this JOURNAL as the several volumes have appeared.

It comprises four volumes of 497, 997, 880 and 605 pages, respectively, with an index of 45 pages.

The work gives as complete a history as is possible at this time of the care of the insane in the United States and Canada, and of the organization and construction of institutions for the mentally disordered. The review of the proceedings of the Association of Superintendents of American Institutions for the Insane, known for the past 26 years as the American Medico-Psychological Association, presents in a brief compass the history of the progress of psychiatric medicine in America for three-quarters of a century nearly.

The steps taken by different states to care for the indigent insane, the conduct and government of institutions in different communities are all spread before the student of the history of medicine in a wealth of detail which is alluring.

Dr. Hurd and his collaborators have placed the medical profession, and particularly the Medico-Psychological Association, under a great debt to them. The work should be found in every public library and library of reference and especially in the library of every institution for mental disorders in the United States and Canada.

Every known institution at the time the work was written finds mention in these volumes. If in some instances the details are few, it is either owing to the fact that no accurate data were in existence or to the carelessness or indifference of those in charge, in furnishing historical and other material.

There are to our knowledge several hospitals from which no subscriptions for the volumes have been received and many physicians who have not taken the opportunity to subscribe. We urge upon all such the wisdom of at once writing to the Johns Hopkins Press, The Johns Hopkins University, Baltimore, and inclosing an order for the volumes. No institution can afford to be without this valuable historical work; no progressive psychiatrist will fail to have it in his library.

Book Reviews.

Problems of Subnormality. By J. E. WALLACE WALLIN, Yonkers-on-Hudson. (World Book Co., 1917.)

This book of some five hundred pages is a discussion of the problems of subnormality from the standpoints of differential diagnosis and differentiated educational and industrial treatment, beginning with school organization and carried on by the community, city or state according to systems of after-care and supervision outlined by the writer. The opening chapter on "Changing Attitudes Toward the Subnormal" gives an historical résumé, which makes a fitting background for the main thesis.

From the angle of differential diagnosis, or "Who is Feeble-minded," the writer believes that "the fundamental weakness in the organization of special classes in the public schools has been the lack of definiteness in the selection of the candidates for these classes." In support of this premise he brings a formidable amount of data not only from public school reports in various parts of the United States, but also reports from industrial schools, institutions for delinquents, psycho-educational clinics connected with universities, etc., to show that general confusion reigns in these circles as to who is "normal," "retarded," "backward," "border-line," "undetermined" and "feeble-minded." The causes of this deplorable state of affairs are: (1) A too arbitrary use of the Binet-Simon scale as a quantitative standard for determining the intelligence level; (2) The use of this psychological function test by "amateurs." "Large numbers of social and psychological workers are being appointed as 'experts' on feeble-mindedness in the schools, courts, and clinics throughout the country. Unfortunately many of these so-called 'psychologists' are young teachers just out of the normal school; some are grade teachers working with subnormal children, who have learned to give the B.-S. (Binet-Simon) or other tests; some have had a college course, but possess practically no training in scientific research, possess little or no clinical training or experience, and have no technical acquaintance with psychopathic anomalies, although they may have spent a few weeks in an institution and have read some of the texts; some are social workers who are not versed in the technical procedures of any of the psychological or medical sciences but who may have spent some time in an institution and who can work by rule-of-thumb with the B.-S. scale."

As therapeutics for the above, Dr. Wallin would have us always bear in mind that Binet and Simon merely offered "a tentative pedagogical basis

for the preliminary selection of candidates for special classes"; he would also have suspected individuals examined by two different specialists, by "a physician, with clinical experience, not only in the general field of medicine, but in neurology and psychiatry, and a psychologist, with not only a technical acquaintance with all aspects of elementary, industrial, and corrective pedagogy but with adequate clinical experience with the fundamental types and the different grades of mental deficiency, from a slight degree of retardation to profound idiocy."

With an adoption of saner attitudes towards the determination of sub-normal individuals the writer turns attention to organized efforts in the way of public school training and after-guidance. He has again taken great pains to collect data by means of questionnaires and statistical reports as to what is actually being done in different parts of the country in the way of special and ungraded classes in public and industrial schools. By way of criticism he feels that too little attention is paid by school systems to the needs of the individual child especially with reference to vocational guidance and control during the years that follow the child's school life. He recommends: "(1) The making of vocational surveys of employments available in the community which fit the vocational capacities of feeble-minded children but which, at the same time, are not surrounded by social conditions which impose too great a strain on the weak moral natures of the feeble-minded. (2) The placement of children in positions suited to their limitations, and rendering them such assistance and encouragement as will tend to keep them permanently employed. (3) Advising with employers for the purpose of explaining the child's limitations, so that work fitting his level of functioning may be assigned him, and that he may receive more lenient and sympathetic treatment. (4) Protecting the children so far as possible from moral and economic exploitation, and safeguarding them from criminalistic careers when the parents fail adequately so to do."

Although somewhat ponderous in the compass of material and tedious in the wealth of statistical detail, this book rings true in its plea for a more thorough study of the individual child as a whole; for less contention over the nomenclature of the "special child" and more attention to his peculiar needs; for a direction of the child's school years in better harmony with the place he is able to take in the community after leaving school. Those of us who have seen the Binet-Simon scale applied in all innocence and good faith to an outspokenly psychotic adult can forgive Dr. Wallin for the asperity with which he decries the "army of amateurs" who pass on the mental states of individuals merely by following "the rule-of-thumb procedure" involved in the use of this test. Such a frank recognition of the limitations of this and other tests for measuring the intellectual capacity of a human being is as gratifying as it is unique from the pen of a psychologist.

E. L. R.

The Unsound Mind and the Laws: A Presentation of Forensic Psychiatry.

By GEORGE W. JACOBY, M. D., author of *Child Training as an Exact Science*, etc. (New York and London: Funk and Wagnalls Co., 1918.)

The author complains that "most English or American books on forensic psychiatry have a distinct tendency to subordinate the medical viewpoints to the juristic ones, as the latter find their expression in our prevailing laws and judicial decisions," and contrasts the more recent advances in psychiatric medicine with the "conservatism, or rather let us say stagnation, that exists in English and American laws in the same field."

No one who has given any attention to the decisions of courts of law upon points involving the question of responsibility as measured by the mental state of the prisoner, has failed to be struck with the almost supreme importance of legal precedent.

If a court of last resort has a quarter of a century ago rendered a certain decision, that same court to-day, although completely changed in personnel and having the advantage of advanced and more accurate information, hesitates to set aside the previous ruling and establish a new precedent more in consonance with modern ideas.

In forensic psychiatry, the opinions of the judges delivered to the House of Lords in the *McNaughten* case (1843) has with occasional modifications governed the decisions of judges and their instructions to juries. We have to go back less than two hundred years (1723) to find a ruling by Mr. Justice Tracy in *Rex v. Arnold* which reads: "It must be a man that is totally deprived of his understanding and memory, and doth not know more than an infant, a brute, or a wild beast; such a one is never the object of punishment." "All others," the judge continues, "are responsible for their criminal actions whether sane or only partially insane."

In 1812 in the *Bellingham* case we have the first appearance of the ability to distinguish between right or wrong as a test of responsibility before the law.

From this ruling as modified by the opinion of the judges delivered to the House of Lords in the *McNaughten* case, it has been difficult to bring about any departure.

Alienists have recognized both in England and America where the decisions growing out of the *McNaughten* case have governed the courts, the injustice frequently wrought by this ruling, but have been practically powerless in their attempts to influence the courts or the law makers.

Before the case of *Bellingham*, in the trial of *Hadfield* for shooting at the King in *Drury Lane Theater* (1800), *Ersine* in his plea on behalf of the prisoner urged that delusions concerning the person assaulted or the reasons for such assault, notwithstanding the fact that the prisoner knew the nature and consequences of the act, and that it was contrary to law, was the real test of responsibility. In his argument this learned and eloquent attorney, referring to a case in which a woman who shot a man

who had betrayed and then deserted her, said that had he been on the jury he would have entertained grave doubts and difficulties, for though "she was in a most undoubted and deplorable state of insanity," "she acted upon *facts and circumstances*, which had an *existence*, and which were calculated, upon ordinary principles of human action, to produce the most violent resentment."

Grave and to some minds insurmountable difficulties arise when one attempts to harmonize the medical conceptions of mental alienation, and the legal and judicial definitions of responsibility.

Some years ago Chief Justice Perley, of Vermont, laid down this ruling: "Neither delusion nor knowledge of right and wrong, nor cunning in planning and executing the killing, and escaping or avoiding detection; nor ability to recognize acquaintances, or to labor, or to transact business, or to manage affairs, is, as a matter of law, a test of mental disease; but that all symptoms and all tests of mental disease are purely matters of fact to be determined by the jury."

Under this ruling the presence of medical witnesses in court is unnecessary and the expression of an opinion on the stand as to the sanity or insanity of the prisoner is an assumption of duties and powers which reside alone with the jury.

Dr. Jacoby's book has been written with the apparent hope of interesting judges and lawyers in the viewpoints of modern psychiatry and at the same time awakening in the minds of general practitioners a more intelligent conception of what mental disorder really involves, what the causes are which lead up to the conditions which we group under the general term insanity, and what are their responsibilities both to the patient and the community.

No one whose daily work brings him into contact with cases of mental disorder fails to recognize and deplore the fact that a better knowledge of the symptoms and probable course of even the more common psychoses by the family physician, would in many instances have prevented either a suicide or some infraction more or less serious of the law of the land.

After an introductory chapter there follows an historical retrospect which occupies over thirty pages. This retrospect is interesting, but so many things are of necessity crowded into a small space that several inaccuracies have crept in. For example, on page 41 it is stated that "as early as 1547 a former convent in Bedlam (Ireland) was transformed into an asylum for the insane." The Priory of the Star of Bethlehem was established in 1247 by a gift of Simon Fitz Mary of certain lands without Bishopsgate, London. Here it remained until 1676, when a new and much better hospital was built in Moorfields in London. The insane had been cared for at Bethlehem (Bedlam) from about 1377 and probably in individual cases long before that date. The predecessor of Richard II, Edward III, seized the Priory as an alien corporation, and from some time during the last ten years of his reign it became a hospital and to some extent under the control of the King.

Its charter from Henry VIII was obtained in 1547, the date mentioned by the author, but the hospital, as a place of confinement for the insane, had existed for at least two hundred years prior to that date. The present hospital, "The Bethlehem Royal Hospital," situated in Lambeth Road, London, is the third building in order from the ancient priory of 1247. It was opened in 1815, and the patients, 122 in number, removed from the old building of 1676 on August 24, 1815. It is difficult to understand why the author locates this well-known hospital in Ireland.

One wonders why in the enumeration of those who have contributed to the advance of psychiatry so little notice is found in this historical retrospect of the work of Kraepelin, who has done more probably than any one else in Germany to place forensic psychiatry upon a sound basis; nor is any reference found to Kraepelin's writings in the several pages devoted to the "literature" of forensic psychiatry at the end of the book. This list of the literature of the subject, which comprises five pages, is far from complete. But five American names are mentioned, one being the author. Ordronaux's work, "The Judicial Aspects of Insanity," is apparently unknown to the author, as is a very large amount of material bearing upon his subject, not only in text-books, but in the periodical literature of psychiatry.

Griesinger's name is mentioned, but while Esquirol is credited with the foundation of the first psychiatric clinic in Paris, Griesinger's work in Berlin, where he established the first real psychiatric clinic in Germany, receives no mention, nor the fact that in his well-known work he paid much attention to the medico-legal aspects of insanity. Among English writers, Conolly, the father of the non-restraint system and a forensic expert of no mean order, finds no place in either the historical retrospect nor in the list of those who have contributed to the literature of the subject. Ray's *Medical Jurisprudence* may be out of date, but certainly the learned author, both as a psychiatrist of distinction in his time and an author of note, deserves at least a passing mention in a work of this kind.

More attention is paid in this section, as well as elsewhere in the book, to sero-diagnosis in insanity than the value of this method as evidence in courts of law will justify. Abderhalden and Fauser have each no doubt contributed much of value to our diagnostic methods, but the results of the tests of the blood of patients after their methods are as yet too uncertain to permit sufficient dependence to be placed upon them to warrant their introduction into the field of forensic psychiatry. Of the Wassermann examination of blood and spinal fluid, much more can be said, and we doubt whether any expert at the present time would feel that he was prepared to give evidence in a case when any doubt existed and particularly in one involving the possibility of paresis who had not made or had made by a competent serologist a Wassermann of both blood and spinal fluid.

The author does not, we think, lay sufficient emphasis upon the necessity of spinal puncture and a chemical microscopic and serologic examination of the fluid in suspected paresis. Indeed we find no reference to any examination of the spinal fluid except the Wassermann test.

In the author's classification it is difficult to determine whether he recognizes manic-depressive insanity in its depressed manifestation as something essentially different from melancholia, but one is led to infer that he does when he says, on page 192, that "in men melancholia occurring before the fiftieth year is rare." The same doubt is true of mania.

The effort of the author to contribute something of value to the subject, "The Unsound Mind and the Law," is a commendable one, and the book will be read with interest by all into whose hands it falls. That very much has been accomplished in solving the very complicated questions involved, we doubt.

The addition to the machinery of our courts of law of trained psychiatrists, as has been done in Chicago and elsewhere, the increasing attention which is being paid to forensic problems at our few psychiatric clinics, and lastly the studies which are being systematically carried on at Sing Sing prison in the author's own state, all of which fail to find notice in the book before us, will, we believe, be of much greater value. As a guide to psychiatry, it is below the standard of many of the recent contributions to the literature of the subject, and as a text-book upon forensic medicine as applied to mental maladies it fails to meet the demand which really exists for such a work. Cavil as we may at the decisions of judges, the quibbles of counsel and uncertainties of juries, the fact remains that the medical profession has sadly neglected an obvious duty and a striking opportunity in its failure to instruct the law as represented by the courts and the law makers. Every law school has a course in medical jurisprudence, as do many medical schools, but the instruction is of a most perfunctory character in many cases. In cities where there are both law and medical schools, the instruction in these subjects might well be combined, and when combined should be intrusted only to specialists of well-established reputation.

Obituary.

WALTER KEMPSTER, M. D.

Dr. Walter Kempster was born in London, England, May 25, 1841. He was the youngest son of Christopher Kempster and Charlotte (Treble) Kempster. Christopher Kempster came to the United States and settled in Syracuse, New York, when Walter was seven years old. The father of Walter was an Abolitionist and an associate of Gerrit Smith and William Lloyd Garrison in the early days of anti-slavery agitation. Christopher Kempster was also active in the Y. M. C. A. in its years of inception. He took an active interest also in prison reform.

At the outbreak of the Civil War, when Walter Kempster was scarcely 20, he enlisted as a private in the 12th New York Volunteers and served from May to November, 1861. He was in camp on the White House grounds at Washington and remembered a visit of Lincoln to the camp, at which time Lincoln spoke to Walter, remarking upon his youthful appearance. After the first engagement, Private Kempster was detailed for hospital duty. He had already interested himself in the reading and study of medicine. After his three months' service, he re-enlisted in the 10th New York Cavalry. He was appointed hospital steward in April, 1862, and became assistant to Surgeon-Major R. W. Pease at Patterson Park Hospital, Baltimore. He assisted in organizing this hospital which at times had over 1200 soldiers in its care. In January, 1863, he rejoined his regiment and was in engagements near Fredericksburg, Virginia. After the battle of Brandy Station, he was commissioned first lieutenant and was present at Gettysburg and in engagements of General Lee's retreat. He was injured at Mine Run; then resigned and continued his medical studies, graduating at Long Island Medical College in June, 1864. After graduation, he entered the army as acting assistant surgeon, was made an executive officer, and was actively engaged in such service till the close of the war.

In 1866-67, Dr. Kempster was medical assistant in the State Asylum for the Feeble-Minded at Syracuse. In the latter year, he received an appointment as assistant physician at the State Hospital for Insane at Utica, New York, where he remained till 1873. The institution at Utica, one of the first and most famous state asylums, then under the direction of Dr. John P. Gray, possessed the first laboratory for the study of brain pathology established in any institution in this country. Dr. Kempster gave much study to the microscopic and macroscopic histo-pathology of the brain. He was also assigned duty as assistant editor of the *AMERICAN JOURNAL OF INSANITY* which was then published at the Utica State Hospital. Dr. Kempster, in the course of his laboratory work, developed a system for photographing and for projection of slides upon a screen and in collaboration with Dr. Gray was the first in this country to show in this manner gross and microscopic appearances of the brain.

In 1873, Dr. Kempster received the appointment of medical superintendent of the Northern State Hospital for the Insane, at Oshkosh, Wisconsin, where he served for 14 years and continued his study and research in minute anatomy of the brain, and conducted experimentation on animals. He also studied the effects of chloral, hyoscyamus and other drugs. In the course of his duty as assistant physician and superintendent, he directed the care of over 11,000 insane persons. He exhibited his microscopic preparations on the screen in 1875 before the Chicago Pathological Society, and at the International Congress, in 1876, showed photomicrographs which attracted much attention. Dr. Kempster administered the new State Hospital at Oshkosh with much success and in a progressive manner, also continuing laboratory research which was in that day a rarity. He records the fact that in 12 years no suicide or violent death occurred in the institution under his care.

In 1891, Dr. Kempster was appointed a member of a congressional commission to investigate conditions of emigration. He visited Europe under instructions to report the circumstances attending emigration to the United States, especially in Russia. The commission encountered opposition in Russia and were allowed but a limited opportunity to see what control and regulation the government exercised. The existence of famine was

another subject of inquiry. A report on the conditions found was published in due time, but was prohibited from circulation in Russia under the despotic rule of the Czar.

In 1892, Dr. Kempster, although offered appointment in charge of Kings County Hospital, New York, declined and was again a member of a congressional expedition to Europe, established for the purpose of investigating the cause of epidemics. He visited Turkey, Palestine and Persia, discovering that no quarantine regulations were observed. As a result to a considerable extent of this report, investigations were made in European ports of embarkation, suspected passengers were detained in Europe with a view of preventing epidemics in the United States. A clean bill of health was required and a marine hospital service placed in control.

In 1894, the mayor of Milwaukee appointed Dr. Kempster as health commissioner. In performing the duties of this office, establishing "civil service" rules and regulating small-pox, he incurred the enmity of one of the city aldermen who opposed the enforcement of quarantine rules in his ward. Resistance was offered by some of the population to the enforcement of quarantine regulations and was encouraged by the above-mentioned alderman. The agents of the health department were mobbed and driven away. A "packed" committee of aldermen investigated the doings of the health commission and after an unfair trial a report was made recommending removal of the commissioner from office. He refused voluntarily to resign and was forcibly ejected from office and another health commissioner put in his place. He brought suit to maintain his rights and was found by the court to have been unjustly and illegally removed. The case was carried to the supreme court of the state, which affirmed the decision of the lower court, and Dr. Kempster was again installed in charge of the health office. He was also awarded full compensation for the whole time during which he had been dispossessed. During Dr. Kempster's service in the city health office, extensive bacteriological studies were made, bakeries and candy factories inspected, water analyzed, smoke nuisance dealt with and the death rate of the city was lowered.

Dr. Kempster was appointed professor of mental diseases in Wisconsin Medical College. He engaged also in literary work,

publishing a study on the alleged insanity of Hamlet; and upon mental epidemics of the Middle Ages. He was frequently in demand because of his military services for Memorial Day addresses. He prepared a history of the cavalry in the Civil War. He was a member of the Loyal Legion, made commander in 1871; also president of the Medical Greek Letter Society, "Alpha Mu Pi Omega."

Dr. Kempster often served as expert witness in cases where insanity was the issue—both civil and criminal cases. With his former chief, Dr. John P. Gray, he was a leading witness for the prosecution in the historical case of Guiteau, slayer of President Garfield, in which Dr. E. C. Spitzka, Dr. W. W. Godding, of the Government Hospital for the Insane, and Dr. J. G. Kiernan took the other side.

During the last years of his life, Dr. Kempster was a severe sufferer from arthritis, but he held to his professional and literary labors even up to the time shortly before his death, which occurred at Milwaukee, August 21, 1918, in his 77th year.

Dr. Kempster's life was one of earnest endeavor after eminence in his profession and in the various positions which he held, and he attained more than ordinary distinction: as a brave soldier and capable medical officer in the Civil War, an able assistant at Utica and medical superintendent of the Northern Wisconsin State Hospital, in both of which latter positions he carried on valuable research work besides discharging the usual executive functions in an able manner. In the foreign congressional missions for which he was chosen, as health commissioner for Milwaukee, as a writer and speaker of ability, and a widely known exponent of the medical jurisprudence of insanity, he enjoyed a high degree of reputation and success. His memory will be cherished by a large circle of friends.

R. D.

DR. GEORGE W. GORRILL.

Dr. George W. Gorrill, superintendent of the Buffalo State Hospital, died of pneumonia following influenza on October 27, 1918.

Dr. Gorrill was born at Mitchell, Perth County, Ontario, Canada, March 13, 1877, and received his preliminary education in his native country, being graduated from the Harriston High

School in June, 1895, and from the Model Training School at Mount Forest, Ontario, in December of that year. The following year he taught in one of the public schools of Ontario.

In December, 1896, Dr. Gorrill came to the United States and took up his residence at Tonawanda, New York.

His medical education was obtained at the Medical Department of the University of Buffalo, from which institution he was graduated in May, 1900. After his graduation he served for one and one-half years as interne at the Hospital of the Sisters of Charity of Buffalo, and then entered the Buffalo State Hospital in a similar capacity.

Dr. Gorrill was a keen observer who possessed unusual ability to retain and to reproduce mental impressions. Whatever he read or heard he stored away in his mind and such information was always easily accessible to him. It is, therefore, not surprising that he made rapid advancement in the state service. After passing through the various grades in the hospital and after having obtained high rank in the civil service competitive examinations he was appointed on March 7, 1911, to the position of first assistant physician at the Buffalo State Hospital, succeeding Dr. Henry P. Frost. This position he held until July 29, 1918, when, following the resignation of Dr. Arthur W. Hurd, he was appointed superintendent of the Buffalo State Hospital. But as a superintendent Dr. Gorrill had little opportunity to show his capacity, for scarcely had two months passed following his appointment when he was stricken with the malady, which later proved to be fatal.

Knowing, therefore, his aims and ideals, one can but conjecture what he might have accomplished had he lived. As a member of the staff, probably no one ever attained, among patients and employees, a degree of popularity greater than that of Dr. Gorrill.

Dr. Gorrill identified himself with various national and local medical societies. He was a member of the American Medical Association, of the State and the County Medical Society, and of the Buffalo Academy of Medicine. He was also an associate member of the American Medico-Psychological Association.

On July 7, 1904, Dr. Gorrill married Miss Josephine Dick, who survives him.

W. W. W.

GEORGE BANEY WOLFF, A. B., M. D.

Dr. George Baney Wolff, assistant physician at the Sheppard and Enoch Pratt Hospital, was shot and almost instantly killed by Dr. Noboru Ishida, a Japanese physician and psychiatrist, who was temporarily doing some medical work at the hospital, on the morning of Saturday, December 21, 1918.

Dr. Wolff was the son of Rev. D. U. Wolff, of Myerstown, Penna. He was born in New Oxford, Penna., on December 10, 1885. He was educated at public and private schools in his preparatory course for college and received the degree of A. B. from Ursinus College, Penna., in 1908, and of M. D. from the medical school of The Johns Hopkins University in 1912.

He came to the Sheppard and Enoch Pratt Hospital as clinical assistant in June, 1912, but was shortly thereafter promoted to the position of assistant physician.

Dr. Wolff was a man of most quiet and unassuming manners, a gentleman by instinct and in action, of pure life and thought, a Christian by training and deliberate choice.

He was a good student, a clear-visioned observer. Approaching each problem with no preconceived ideas, he gave his patients the benefit of careful and conscientious study before announcing his opinion or proceeding upon any course of action.

He was never controversial, but having formed an opinion after deliberate study, it was difficult to move him. His associates soon learned to respect and value his opinions and to find his conclusions commonly correct.

He was most assiduous in his attentions to the sick and fought disease and death with unrelenting vigor.

He very soon became by choice the physician to the various employees of the hospital, and in the recent epidemic of influenza, in addition to increased duty in the hospital wards made necessary by illness among other members of the staff, worked most energetically among the sick employees about the farm and elsewhere. Notwithstanding the fact that several of the patients were seriously ill, some of them with pneumonia, none died.

Among the patients in the hospital he was a general favorite, and numerous letters have been received from former patients, deploring his untimely end and referring to him in terms of warmest affection.

His assailant, Dr. Ishida, when seized and disarmed said he had shot him because he called him a spy, a traitor to Japan and the United States.

There was absolutely no ground for this assertion, or for the statement which was made in some of the daily papers that there was a coolness between the two men and some jealousies.

As far as could be seen the two who had been in more or less intimate contact since January, 1918, and who had been closely associated since August when Dr. Ishida came to live at the hospital, were on terms of perfect amity.

They were seen conversing and laughing together in the evening before the tragedy. Dr. Ishida was arrested immediately following the tragedy and has been confined in jail ever since. At the request of the prosecuting attorney of Baltimore County the court has directed the State Commission in Lunacy to make an inquiry into Dr. Ishida's mental condition. This inquiry has not been concluded.

Dr. Wolff is survived by his father and mother and a sister and brother.

His memory will long be held with tender regard by all connected with the hospital which he so well served, as well as by the large number of patients who came under his kindly and skillful ministrations during the more than six years of his service at the hospital.

He was a member of the American Medico-Psychological Association, of the American Medical Association, The Medical and Chirurgical Faculty of Maryland (the state medical organization), the Maryland Psychiatric Association and the Baltimore County, Md., Medical Society.

AMERICAN JOURNAL OF INSANITY

THE WORK OF PSYCHIATRISTS IN MILITARY CAMPS.*

By E. STANLEY ABBOT, MAJOR, M. R. C., U. S. A.

INTRODUCTORY.

The primary work of the military camp is to make soldiers. To it are sent the young men of suitable age, after a more or less thorough sorting process. This first sieve is a rather coarse one, and many men get through who cannot be made into good soldiers, *i. e.*, men who cannot only fight, but endure the hardships, strains, and fatigue incident to modern warfare. The man who, barring wounds, cannot last through is a liability, not an asset, and must be eliminated.

Part of the medical work of the army is to eliminate these men while they are still in the training camps. This makes for a more efficient army, through its having fewer weaklings; it makes for economy for the government, through eliminating the cost of maintaining and training them in the first place, later the cost of taking care of them when they break down, and later still the cost of pensioning them; and, finally, it is more just to the men themselves by not subjecting them to strains which they cannot stand. Experts in various fields are called upon to make surveys of the men for this purpose—cardiovascular, tubercular, orthopedic, and neuropsychiatric.

Some men, though having defects—as flat feet, hernia, irritable heart, etc.—can be made into good soldiers. But the number of men with nervous or mental disease who can be made into serviceable soldiers is so small that in drawing a rough sketch of the work of psychiatrists these need not be considered.

* Read at the seventy-fourth annual meeting of the American Medico-Psychological Association, Chicago, June 4-7, 1918.

In gatherings of men of the size of our military camps—from 20,000 to 40,000—it is inevitable that illness should arise. For the care of those who become sick there are not only the regimental infirmaries, but also the base hospitals. It is at the latter that the nervous and mental cases can best be cared for, and where part of the work of the psychiatrist lies.

Because the military camps exist to train men for fighting they must eliminate as rapidly as possible those who cannot be so trained. The army must keep its decks clear of incumbrances, of the inefficient. Hence, just as soon as it is determined that a man cannot make a good or enduring soldier, he is discharged. The medical department in these camps does not yet undertake the prolonged care or reconstruction of those citizens who come to camp with conditions which may need more or less prolonged care, unless there is a good chance that the man will eventually be made efficient as a soldier. That is civilian work at present. The attitude will be different, however, towards the men who have seen service, have given health or limbs to the cause, and have become invalided. These men will be cared for in the reconstruction hospitals or camps, presumably, for as long a time as they may need such care. If reconstruction departments shall be added to the base hospitals of the military camps, it is possible that the men who, on coming from civil life and before they have seen service, have chronic conditions needing long care and treatment, will be taken care of in the reconstruction department. Many reconstruction hospitals will be established quite independently of the military camps, however, for they need the proximity of industrial and educational facilities. But because of the advisability of continuing in them the military discipline and atmosphere, some will probably be established in connection with the base hospitals of the military camps, where that atmosphere is so prevalent. But it is doubtful if even then wards will be established for more than emergency work for the strictly psychiatric cases, as it will probably be found that special hospitals for these cases or the civil hospitals for the insane already established can take care of them more adequately. In saying this I am expressing only my own personal opinion and not any official judgment or plans.

I.

In the military camps, as distinguished from the reconstruction camps that may be established, the work of the psychiatrists falls into four main types, of which two are in the line, and two at the base hospital.

1. *Educative*.—This war has brought about many innovations, and among them is a consideration of the individuality and of the mental and nervous condition of the prospective soldier. But the line officer does not always appreciate this nor know what things to be on the lookout for in order to detect the indications of such abnormal conditions in the men as may be detrimental to the service. So a part of the work of the psychiatrist is to give talks to the line officers, telling them how the various mental and nervous conditions interfere with the making or the dependability, or the endurance or the efficiency of the soldier, and what types of behavior he should be on the lookout for. Their co-operation in looking for these conditions and sending men for examination or observation is asked for. Some are very much interested and cooperate, others think it all nonsense, others are indifferent. Such talks have to be arranged for with the regimental commanders. If one wishes to talk to the medical officers only, the arrangements are made with the division surgeon. But it is advisable to talk to the non-medical officers as well, and even to the non-commissioned officers, for they see much more of the men than the medical officers do. Such educative propaganda will have its far-reaching effects in civil life after the war is over, and I regard it as a very valuable opportunity to spread such suggestions in the community as that there are great individual differences in men and that the law-breaker, for example, may be a mental defective who needs different treatment from that of a non-defective, and other more advanced ideas relating to the non-efficient class.

2. *Survey*.—An important work of the psychiatrist is to make a survey of the whole personnel of the camp. The ideal way to do this would be to have the recruits on arrival at camp come into special barracks where they could be held before being assigned to any organizations until the various special examiners could go over them at reasonable leisure. An approximation to this plan is made by having the recruits very hastily surveyed

by the examiners as fast as they come in. The men are stripped and run the gauntlet of the various specialists. The examinations must be very superficial when over 1500 men are looked over in a day. Many slip through with defects which are detected some time later who would have been eliminated in the first place if only half the number were examined in the same period of time. Four neuropsychiatrists have been able to make a superficial examination as fast as the other examiners were making theirs.

Before even this plan was adopted, and wherever it has not yet been put into practice, a survey of the personnel, regiment by regiment, is made when possible. It is necessary to secure the cooperation of the commanding officer of the regiment for this. It is sometimes easily secured, sometimes he resents it as an interference with his work of training soldiers because it takes the men away from their work. Whenever possible it is advisable to make the survey in cooperation with the tubercular or other examiners, for example, as it causes much less loss of the soldiers' time. After the commanding officer gives his cooperation, arrangements are made with the regimental surgeon and the adjutant to have the men of a given company remain in barracks or report at the regimental infirmary at a given time. There the psychiatric examiners go over each man, testing pupillary and tendon reflexes, coordination and station, looking for tremors and for scars suggestive of epilepsy, and asking a few questions as to heredity, environment, schooling, convulsions, or nervous break-downs, meanwhile noticing any peculiarities. Under the most favorable conditions, with a roster of the company, and a clerk to check off the names and put down findings, one examiner can make a fairly thorough preliminary survey of from 150 to 200 men a day, according to their quality. But in actual practice that number cannot be examined on an average, because of time lost in going from one organization to another, changes in daily orders in the organization, misunderstandings, etc. It was found at Camp Sherman that making allowances for Sundays, holidays and unexpected interruption, interferences, and delays, one examiner could be counted on to go over about 2800 to 3000 men a month. The time available and the size of the command will determine the number of examiners needed to complete a survey in a given time.

This type of survey is unsatisfactory for it can never be complete. Men are transferred out from a company that has been examined and men from unexamined units are often put in to fill up the organization, and it is difficult for the examiners to go back and pick up these men.

3. *Observation and Diagnosis.*—In such survey there is not time to make thorough examinations, and some cases need continuous observation. All cases that cannot be decided on at the preliminary survey are referred to the base hospital, either to be admitted as patients for observation or to be examined thoroughly at greater leisure. The psychiatrist at the base hospital sees these men, makes careful examinations, often spending an hour or two at a time on one patient, applying Binet or other tests where needed. He writes for information to relatives, employers, or attending physicians; or gets information as to the man's behavior from commissioned or non-commissioned officers or privates, with a view to getting such data as may help in the diagnosis of epilepsy, mental deficiency, peculiarities, malingering, etc. It has been found very helpful to have a non-commissioned officer go to the patient's company to make inquiries about his general adaptive reactions or about some special incidents.

Besides the cases thus referred by the surveying examiners, there are sent over to the base hospital by the line officers patients in whom they suspect evidences of nervous or mental disease. In the camps where psychological surveys have been made, the psychologists have also referred cases to the psychiatrists. These cases are examined in the same way as those sent by the psychiatric surveyors.

In addition to these many cases are seen in consultation in the other wards of the base hospital. Many of these are neurasthenics, in whom the question of malingering arises. Sometimes the advisability of operating on a given patient comes up, as, for example, in a case of hernia in a defective. If he is too deficient mentally to make a good soldier, operation is advised against.

Another group of cases that comes before the psychiatrist is that of the men who have been arrested for various offences—stealing, desertion, repeated absence without leave, etc.—in order to determine their responsibility for their acts, and whether or not they should be brought to trial by court martial. In one case

that recently occurred a man had already been convicted for refusal to be operated on for hernia. Before sentence was passed, however, the question of his mental ability was raised, and it was found that he was about nine years old developmentally. He was not sentenced, but discharged from the army.

4. *Treatment*.—The cases of mental disease arising among the men, such as manic or depressive states, dementia præcox, acute alcoholism, delirium tremens, etc., have to be taken care of and treated until some adequate disposition can be made of them. It falls, of course, to the psychiatrist to exercise the care of these, as well as of the cases sent for observation or special examination. The psychiatrist has to determine whether the patient should be allowed to go home, or should be sent to an institution for the care of the insane; also, whether he can be allowed to go home alone or must be accompanied by one or more persons. And if the patient goes to a hospital, the psychiatrist should prepare and send adequate records of the case.

5. *Discharge*.—Since the vast majority of the men who are found to have some nervous or mental disease or defect are incapable of making good soldiers or of enduring without breaking down the stresses of warfare, they have to be discharged. It is part of the work of the psychiatrist to make the recommendations for discharge, giving the diagnosis, and stating how the condition interferes with the man's performing general military service. In some camps the psychiatrist makes his recommendation to a general disability board, of which he may or may not be a member. At Camp Sherman three of the psychiatrists themselves constituted a disability board. This gave an opportunity to hold conferences over the cases, to which the other neuropsychiatric examiners and sometimes other physicians were invited.

The judgment as to whether a case should be discharged or retained in the service has often been a puzzling one to make. The decision would be easier if there were no border-line cases. Two recent policies have served to help greatly in this matter. On April 2, 1918, an order from the adjutant general directed that border-line cases (in any field) will not be discharged, but that their service records will be endorsed "fit for domestic service only." And the surgeon general wrote on May 11, 1918, that it was the opinion of that office that there were no border-

line cases in neuropsychiatry, with the exception of certain cases of mental deficiency and drug addicts. Thus many of the slighter degrees of neurasthenia and psychoneurosis, which were puzzling before, are now clearly dischargeable; and many mental defectives, capable of simple work under direction, but incapable of general military service, can be retained who before had to be discharged.

II.

Some of the kinds of cases and of difficulties that confront the psychiatrist can be illustrated by our experience at Camp Sherman.

The feeble-minded make up the largest single group of cases. Up to May 1, 134 out of 468 cases recommended for discharge were of this group. Before the order of April 2 was issued, it had been our custom to recommend the discharge of those who measured below ten years. Since then we have recommended the retention "for domestic service only" of two men who would have been wholly unfit for general military service. They measured between nine and ten years intellectual development, but were strong and healthy, industrious, willing, good-natured, orderly, with no asocial or antisocial tendencies, and had some sense of responsibility. They had been at work in the quartermaster's department for six months or more, one sweeping out warehouses, helping load trucks, etc., the other keeping latrines clean and looking after a small boiler for heating water. Their work was satisfactory, and they were only sent up for examination because the examiners in making their survey recognized their mental deficiency.

On the other hand, a man measuring about 13 was forgetful, had so little sense of responsibility that he could not be depended upon to carry out orders, went off without leave, and was not cleanly. He was unsuited even for stable work or general labor, so his discharge was recommended.

Those measuring 12 years old and over were regarded as suitable material for the army unless they were of unstable make-up, had shown economic or social inadaptabilities, or had some general physical disability, even though the latter were not sufficient in itself to be a cause for rejection.

At Camp Sherman the epileptics formed the next largest single diagnostic group. If the epileptics and organic nervous diseases are grouped together, this whole group is a trifle larger than that

of the feeble-minded. Most of the patients could give a characteristic description of the onset of attacks, but in two there seemed to be absolute amnesia for them, and for having had them. One had a typical grand mal seizure, seen and described by a young physician; the other made a suicidal attempt in barracks and later in the hospital; no recollection whatever of either attempt could be elicited either by ordinary questioning nor when hypnotism was attempted. No other cause for the suicidal attempt could be unearthed than a probable epileptic crepuscular condition.

Among the officers referred for examination, manic-depressive depressions predominated, and these were the most frequent of the actual psychoses seen at Camp Sherman. Of my own personal cases, 22 out of 30 psychoses were manic-depressive cases. There were only four cases of dementia præcox in this personal series.

There were many cases of neurasthenia following trauma or severe illness, and it was often a difficult matter to determine whether it was a real or an assumed disability. These cases were usually kept under observation several weeks, and information was sought from physicians who had attended them in civil life. Consultation with the orthopædists or other specialists was frequently held. X-ray examinations were usually negative, as were the results of spinal puncture and Wassermann tests. There were other types of neurasthenia, some with a number of vagotonic or hyperthyroid symptoms, without thyroid enlargement. These were recommended for discharge on the ground that they were not capable of standing the strain of general military service, nor even of domestic service. By searching inquiry one can elicit from almost all men an occasional neurasthenic or fatigue symptom. But of the 388 men whom I personally examined carefully only 29 showed enough symptoms to make it evident that they could not endure.

When a large number of drafted men are received there are always a few cases of alcoholism, delirium tremens, and drug addiction. The confirmed habitués could not be kept in the base hospital long enough to be reconstructed, and once they were in the ranks they could comparatively easily get the drug. One told me that previously, when in the base hospital, he had been able to get it, even there.

There were not many constitutional psychopaths (35 in all), but a few, sexual perverts, paranoid personalities, and inadequate personalities, were found and recommended for discharge.

The cases examined with reference to whether they should be brought to trial or not were principally for repeated absences without leave, or for desertion. One case was for forgery, another for stealing, and one, dementia præcox case, for refusing to obey orders. Some were clearly feeble-minded, and proceedings against them were stopped and the men were discharged. Two measured between 12 and 13 years, but had good understanding of what they were doing—desertion in the one case, stealing in the other—and were allowed to stand trial. Another, measuring 14 or 15 years, had a long insane hospital and penitentiary record, and was also regarded as being sufficiently developed to stand trial for forgery. The decision in these cases has to be made with different conditions in mind from those which obtain in civil life. There is no indeterminate sentence or probation. It is either full acquittal and return to the ranks, or sentence to the military prison at Fort Leavenworth.

A number of cases of persistent enuresis were under observation. Most of these were mental defectives, with rather small bladder capacity (280 to 350 c. c.). One was a very intelligent fellow whose father corroborated all the essentials in his claims of never having been able to control his bladder while asleep. He, like the others, was discharged,

The following summary of the work done at Camp Sherman up to May 1, 1918, may be of interest:

Examined in general survey	25,025
Drafted men	7,399

Total	32,424
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Cases with positive findings:

Nervous diseases including epilepsy	137
Psychoneuroses	91
Psychoses	91
Inebriety, including alcohol and drugs	17
Mental deficiency	134
Constitutional psychopathic states	35
Total	505
Recommended for discharge	468

THE NURSING PROBLEM AS RELATED TO PSYCHOPATHOLOGY.*

By RICHARD DEWEY, A. M., M. D., WAUWATOSA, WIS.

With a view of eliciting discussion of the conditions and prospects in the sphere occupied by the immediate caretaker, nurse or attendant upon psychopathic patients, I will endeavor to state some of the elements and factors concerned in this particular problem.

First, a few words regarding the available nursing forces. Considered as a whole, this situation may be briefly outlined as follows: There is in the United States a total of between 80,000 and 90,000 registered or graduate nurses—the head of public health nursing at Simmons College, Anne Hervey Strong, puts the entire number at 66,000—of these 7000 are already enlisted in Red Cross War service and Surgeon General Gorgas is now asking for 5000 more. No one can forecast as to what the future has in store; but if the enemy is not overcome during the present year and if the victory is not obtained which alone can end the intolerable attempt of Germany to dominate and terrorize the world, we may see one-half of our entire force of nurses drawn into the employment of the military hospitals. The proportion of 12,000 nurses for each million of soldiers is considered requisite by the authorities. Accordingly, the present force of 1,000,000 soldiers requires 12,000 nurses; 3,000,000 soldiers would require 36,000 nurses. It is understood we face the possibility that even 5,000,000 may be required, which would necessitate a force of 60,000 nurses. To meet this demand, a school has been established at Vassar to which the Red Cross gave \$75,000 and the government is planning an army school of nursing at cantonments. A 25 per cent increase of pupil nurses has taken place, but all that can be done will leave us short. Among our civil population, there are 3,000,000 persons sick and in need of nursing every day in the year, 90 per cent of these are in private homes. The loss to the nation in a year from this source is \$1,500,000,000, and half of it is preventable sickness.

* Read at the seventy-fourth annual meeting of the American Medico-Psychological Association, Chicago, June 4-7, 1918.

Now, turning to the nursing problem as it affects our especial field: the state hospitals and those of county and city. We have a situation which can but occasion grave concern. Not only is there a dearth of trained nurses for mental cases, but nurses of any kind are in demand far in excess of the supply. The care of more than 200,000 mentally incompetent charges of the state rests upon the shoulders of the members of this Association. We have heretofore carried on our work, under difficulties to be sure of various sorts, with some degree of success, but the difficulties are now intensified many fold and also greatly heightened by economic stress. It is the general experience that there is a constant diminution of numbers caused by resignations of attendants and nurses from the service, while far less than the requisite number apply or can be found to take the places that become vacant. Many of us have found that neither "love nor money" appears to be of any avail and the necessity for help becomes more and more imminent. It has been our ideal to develop a body of trained nurses for our hospital work, corresponding in efficiency to the nurses of the general hospital. Training-schools have been inaugurated and maintained increasingly from the historic epoch nearly 40 years ago, when Edward Cowles established the first training-school for mental nurses in McLean Hospital (in 1880). The example of the McLean Hospital was followed in chronological order by Buffalo, N. Y.; Flatbush, L. I., N. Y.; Poughkeepsie, N. Y.; Indianapolis, Ind.; Kankakee, Ill.; and a constantly increasing number of training-schools has been developed. An effort has been made under great difficulties to maintain these schools, but, in general, they have fallen off in numbers and some have been discontinued. It has not been possible to reach a point of development where the whole body of the nurses and attendants could be carried through the complete course, and fewer still remain in the service after graduating. My own experience in maintaining a training-school at Kankakee from 1887 to 1893 convinced me that a full course of training for the whole nurse or attendant body, corresponding to the course given in the general hospital, was not practicable. In working upon a curriculum, especially adapted for the state hospitals, I found that the entire technique of surgical nursing and sick nursing could not be applied to the entire body of nurses. The field of nursing embraces

within itself many specialities: surgical nursing, sick nursing in all its varieties, the nursing of mothers in confinement and children, the nursing of the tubercular, public health nursing, massage and hydrotherapeutics; and, in departments by themselves, public welfare and social service. Finally, the care of mental cases is in itself a specialty requiring as much of study and talent, though of a different sort, as any of the others mentioned.

In the recent reports of two of the state hospitals of New York—the Brooklyn and Manhattan hospitals—I notice particular mention is made of a special course of training covering a period of 13 weeks, which it has been sought with varying degrees of success to carry out with the general body of the nurses. A paper published in the *Journal of the American Medical Association*, by Dr. Philip King Brown, of San Francisco,¹ states that in 72 training-schools of California, mental nursing was only included in four. Dr. Brown's conclusion was that the present system of instruction is not well balanced. He recommends practical instruction in handling the sick, surgical cleanliness, administration of remedies and application of dressings, bath instruction and keeping of the chart. He is of the opinion that nurses should pay for their instruction and should not be boarded in the hospital.

In discussing training schools for state hospitals before the National Conference of Charities at Omaha, Neb., in 1887, the writer used the following language which may be regarded as still applicable to-day:

The training-school for attendants upon the insane, though in part an outgrowth of the training-schools for nurses, has an essentially different character—requires much that a sick-nurse does not need to know; while, on the other hand, much of the nurse's instruction would be thrown away on the asylum attendant. The persons who are willing to engage in the care of the insane as attendants do not possess the education and previous mental training which would be desirable, if attainable; and, therefore, their instruction must be of the most direct, plain and simple character.

Now, coming to the present day over a gap of 30 years, let us inquire: First, what are present conditions? Second, to what

¹Journal of the Am. Med. Assn., May 18, p. 1438: "Nurses and the War," Philip King Brown, San Francisco.

extent the courses of instruction of the general hospital training-schools is necessary to our especial purpose?³

We who have the field of mental nursing to occupy are all familiar with the embarrassment and lack of adaptation which the graduate of the general hospital training-school shows in mental cases, unless perchance she has gained experience in an institution for mental disease or had special training and instruction in such work. Indeed, the highly trained graduate nurse is often less fitted for oversight of the mentally deranged than many an untutored woman of common sense and kindly disposition. Who of us has not had nervous and psychotic patients or friends of patients who wished to avoid the trained nurse, who had such erroneous views that they objected to the very costume, and instead of being "healed" by the "seersucker stripes" were repelled? The well-starched cap and robe of white called up experiences in the past not of a pleasant sort.

Far be it from me to detract in the slightest degree from the conspicuous merit of the thoroughly accomplished and highly efficient presiding genius of the surgical ward, fever pavilion or operating room. I am only saying that the qualifications needed here are of another kind from those appropriate for dementia præcox or psychasthenia.

Here it is well to note the circumstances of a movement among the associations of trained nurses looking toward the formation of a class to be known as aides, assistants or attendants and to be auxiliary to the registered nurse.

In April, 1914, at a joint meeting of the American Nurses Association, the National Organization of Public Health Nursing and the National League of Nursing Education, these several bodies, representing about 50,000 nurses, passed resolutions requiring:

1st. The acknowledgement of the necessity for two groups of nurses and no more: the trained nurse and the trained attendant.

2d. A pledge of cooperation in any plan which would provide suitable training for attendants.

3d. A belief in standardization and protection of the attendant by law.

³ "Training-Schools for Attendants." Proceedings National Conference Charities, Omaha, Nebr., 1887, p. 221 *et seq.*

This we learn from the publication of the Proceedings for 1914 of the National League of Nursing Education. Agitation of these proposed changes has produced discussion in the General Medical Board of the Council of National Defense, and the attitude toward the question of creating a new class of nurses' aides or attendants is expressed by the following resolution :

"The committee believes that short-term courses are likely to result in positive harm. Their introduction into hospitals regularly maintaining training-schools would tend to break down the machinery of nursing education. Furthermore, the energies of women, who would otherwise take a thorough training which would make them more useful factors in the war, might be diverted to special short-term hospital courses."

They also state: "We place ourselves on record as of the opinion that the mentally as well as physically sick should have the advantages of the services of a fully trained nurse." I would not undervalue training, as we have seen in the present war the uselessness and inefficiency of the amateur. (Out of 1500 women volunteers in a recent case of need—so Professor Stevens tells us—only two came forward in the real emergency.) The claim of full all-round training, however, for all may be regarded as a "counsel of perfection" when we reflect that not only is the supply of trained nurses insufficient for the needs of those in the community who are so fortunate as to be able to command their services. On the other hand, in private homes of the moderately well-to-do and in general hospitals, public and private, thousands are in equal need: yet the supply of graduate nurses is so limited that the creation of a body of less expensive trained "attendants" or "aides" seems imperative.

Furthermore, the state hospitals for the insane have at the most only an inadequate sprinkling of graduate nurses, a wholly insufficient body of pupil nurses, and are obliged to utilize as best they can the wholly untrained for the care of the great majority of their inmates. In institutions where a training-school is maintained, the number who complete their training, as compared with the demands, is insignificant. Those employed as attendants are a shifting body of individuals, only a small minority of whom can be said to possess the qualifications and the willingness to give themselves permanently to the duties of nurse or attendant upon the insane.

These facts make it necessary to consider whether a class of nurses of a grade less completely trained than the registered nurse and yet qualified for ordinary service, educated and standardized, and registered, or licensed by the state for their special field of usefulness, would not be an improvement upon the present rather chaotic condition.

NOTE.—Since the above was written, agitation of this subject has gone on apace. At the present time (February, 1919) there is heated discussion over a bill that the organized nurses have introduced in the Legislation of Illinois to create a body of "junior" nurses who shall have a course of 18 months' training. This law further provides that "a junior registered nurse may nurse the sick or disabled, but may neither engage in public health nursing, act in a supervisory capacity in a hospital or similar institution, act as an instructor or in a supervisory capacity in a school of nursing, nor act as an instructor or in a supervisory capacity in public health service or any other like service." Moreover, she is not permitted to nurse in a hospital except "*when she is under the immediate personal supervision of registered nurses*" (italics mine).

This has the appearance of an attempt to develop an aristocracy or privileged class of nurses. The "junior" or "practical" nurses will form a "middle class," and it is to be feared the "proletarians" will come in and reduce the whole system to chaos!

THE COMMUNITY MENTAL HEALTH MOVEMENT AND ITS PROBABLE DEPENDENCE FOR SUCCESS ON A HIGHER STATE HOSPITAL STANDARD FOR WARD EMPLOYEES.*

By SIDNEY D. WILGUS, M. D., ROCKFORD, ILL.

STATE HOSPITAL SOCIAL SERVICE SUGGESTED.

The first statement that state hospitals might well broaden their field of activity or had come "To the parting of the ways" was delivered by Mr. Homer Folk, to whose foresight and constructive endeavor in many directions all state hospital people should be profoundly grateful. This warning fell from his lips nearly 15 years ago, when he stated as an opinion that the hospitals must broaden out and be powers for good outside their boundary lines else deteriorate with "dry rot." The suggestion met with favorable comment at the time and afterward, and yet one can survey the field to-day and see it has borne but little fruit. This is so because the visions of the idealist travel faster and farther than the material limitations of practical life allow. Ideals are like castles in the air, but they can be materialized if after dreaming them we get back to the brick and mortar of life and after removing obstructions build real castles patterned after the visions.

THE APPARENT ALTERNATIVE.

Assuming that the plan has virtue in it, come back from the dream of the mental health exponent to examine the nature of the obstacles preventing the full development of the plan and study how to remove them; the alternative, quite impossible, seems to be to allow progressive tendencies to pass into other hands, for progression there will be. Within a few years social service has become recognized by departmental establishment in nearly 200 general hospitals of this country, and if the state hospitals fail to profit by this example and precedent the initiative will simply pass into other hands, leaving them more custodial than ever.

* Read at the seventy-fourth annual meeting of the American Medico-Psychological Association, Chicago, June 4-7, 1918.

PRACTICAL REASON FOR DELAY.

Before a management can undertake to greatly enlarge its field of operations the feeling must be present that the base from which it operates is as safe and in as good order as the military base of an army commander. Very few hospital officers feel that way now, and while away from their institutions each man's head bears a crown of thorns. Under this condition of affairs can any such afflicted officer be expected to think seriously of the considerable expansion of his sphere of activity this plan entails? The answer, of course, is in the negative, so discussion of the cause of this disability, the ward service, is next in order.

THE UNSATISFACTORY WARD SERVICE.

All of us very well know that the attendant's calling should be considered a specialty of no mean importance. It is a trade or calling, the grasp of which demands several months' training. This has been fully recognized by superintendents these many years. Yet we know also that the ward employees are unstable as a class and in this fail to meet a fundamental requirement for good results. The training school for nurses was initiated 35 years ago to stabilize the service, but the result was achieved to minor (if not negligible) extent only. A questionnaire to show the figures concerning changes (and hence low efficiency) amongst ward employees was sent out just before the war and found the average number of changes in the attendant force in 60 hospitals in the United States and Canada was then no less than 75 per cent per year. Half of the attendant group changes several times per year. The replies therefore covered conditions very widespread, geographically and otherwise. Careful survey of the facts and figures makes the fact evident geographical location had little to do with the number of changes; neither did the size of the *customary* wages of \$20 to \$35; nor did the hours of labor have any bearing. The surmise that there existed some potent cause not yet fully recognized seemed well justified.

TEACHING SERVICE VERSUS CUSTODIAL SERVICE.

The secret was not deeply hidden, for some parts of the public service were more stable, and it simply became necessary to com-

pare the facts concerning the relative services. Within the past few years it had been my fortune to go quite intimately into all of the state institutions of three states of the union and particular effort was made to ask concerning difficulties with attendants on one hand and teachers and guards on the other. It was soon found that the number of changes amongst state institutions employing guards for prisoners and teachers for boys and girls were far fewer than occurred amongst the attendants in the state hospitals. A little inquiry served to show that with practically equal working conditions the guards and teachers were *better paid* individuals and, on the whole, came from a more stable class of society, or else they felt that their reward for service was in proportion to the difficulties of said service. For one or both of these reasons the service in these quarters was certainly more smooth and harmonious and the end far better achieved.

QUESTIONNAIRE TO MID-WEST TEACHING INSTITUTIONS.

The questionnaire recently returned from 18 institutions employing teachers and guards contained some interesting facts. Twelve concerned institutions employing practically all female help and six practically all male help. In the former group 420 employees showed 120 changes or 30 per cent per year as contrasted with 307 male employees with 114 changes or 37 per cent per year. This indicates a somewhat higher rate of change amongst male employees. This is of particular interest as the females averaged \$50 per month (and usually maintenance) and the males \$70 per month (and usually maintenance). Therefore it would seem that a male wage of \$70 is less satisfying than a female wage of \$50. This is not surprising when we consider the customary additional burdens that the male of the species is expected to carry. Now to contrast the above with state hospital conditions we find a total of 727 teachers and guards with a turnover of 32 per cent in a year involving war conditions, whereas in the state hospitals we found a pre-war turnover of 75 per cent as something just ordinary and to be expected. With the plain fact here of twice the turnover in the state hospitals as compared with the others we find the wage in the state hospitals averages between \$30 and \$35 per month with the average in the other group nearly double, or \$60 per month. Kindly

note that the state hospitals with half the wage contribute exactly double the turnover.

Yet notwithstanding the great advantage in favor of the teaching and guard class I want to quote a pertinent and patriotic remark of Major D. C. Peyton of the Indiana Reformatory which carries a recommendation of all the managing officers in definite form: "It seems to me that state institutions and all other organizations should make the necessary sacrifices in order to contribute toward winning the war; yet *in order to keep the minimum number of competent employees to handle the state's business I think the scale of wages should be such as to attract the correct type of employees* to successfully handle the state's business, but each institution should endeavor to get along with the lowest possible minimum of employees." The superintendent of the Illinois State Reformatory, Mr. Scouller, seems to voice the sentiment of this class of officers in the recommendation to make the entrance salary not less than \$65 and maintenance, with a regular scale of increases to \$100 and maintenance. I cannot close this particular discussion without quoting an illuminating statement from the warden of the Michigan Reformatory which is sarcastic, humorous or pathetic according to one's point of view. Warden Fuller says: "We pay a thousand dollars per year and average fewer than two vacancies per year. We have no difficulty in filling vacancies as fast as they occur and usually have more than 100 applicants on the waiting list. I understand the state hospitals for the insane in the state experience a great deal of difficulty in keeping a full force of attendants and if you will address the superintendents you can obtain a great deal of valuable data along this line." Thus we see plainly in the statement of fact followed by quotations from state officials the relation between wages on the one hand and stability (efficiency) on the other.

THE LESSON TO BE GATHERED FROM THE TWO QUESTIONNAIRES.

It seems clear that the inducements needed for the hospitals, as for the schools, are those which will allow the average man to live and enjoy a normal life; a wage sufficient to allow a man to live in his home and support a family and yet have something left for entertainment and some for investment.

The old state hospital class cannot be anchored, as it is inherently as instable as the quicksand of the sea. It is of this same class that Alder speaks in one of his papers on social conditions and in this connection remarks that in certain New England districts the mills were forced to employ six men per year for each position in order to keep the positions filled. So to do our broader work we must go to a new class, the latter class, the group more stable, and offer the one necessary inducement, the greater wage, to take up this most difficult and yet fascinating work of caring for and upbuilding wrecked human lives.

WHAT IS THE PROPER WAGE?

Difference of opinion may arise about the size of this living wage, but that matter may be settled through consultation with investigators in social fields; the second questionnaire (*i. e.*, concerning teachers and guards) brought forth some important facts and correlated suggestions concerning wages; these are worth a second glance and are referred to at this time. Our high-grade employees may be given rent and supplies to some extent in lieu of cash and the cash equivalent for service might thereby be lessened. When the United States desired to meet such a problem in the ship-building program Congress hesitated not to spend millions of dollars for housing accommodations for the workmen. How far this plan can go in hospitals is a question, for men like to handle money and to spend it and the larger cash wage may be considered the most important item to meet the situation surrounding present conditions.

WITH STABILITY WHAT RESULTS ARE TO BE EXPECTED.

The great bulk of the inmates need not the nurse nor the group caretaker called the attendant, but the *individual* caretaker or *teacher*, and this is one of the points I have been leading up to, namely, the development of a stable service made up largely of educable employees in the shape of corps of nurses and teachers, few of the former and the bulk of the service of the latter. I use the qualifying word "largely" in the last remark for the reason that some few attendants may still be needed in a certain capacity to do simple, unskilled labor.

Granted a capable and ambitious superintendent safe in office and the staff he will soon assemble, what cannot be done with the aid of these two higher groups of fellow workers? One sees accomplished *within* hospital walls that which has heretofore simply been dreamed of, a service full of courtesy and of personal care; of the prevention of vegetative dementia; of the re-education of those neglected in the past; of the development of the productive power in which economy is an end sought, but in a rôle minor to mental health; of economy in help and in clothing and supplies not now possible—all this means the widest personal care of each individual and of that individual's belongings and of the state's properties and effects supplied and maintained for his benefit.

THEN THE SUPERINTENDENT MAY BROADEN HIS FIELD.

With such a dependable and efficient organization at home he may feel as he never heretofore has felt, namely, that his efforts and skill may be extended and applied through practical means to the betterment of the mental health of his community. His new organization will supply him with efficient, trained mental nurses and with hospital-trained social workers who may be given such outside postgraduate advantages as seem necessary for best results. When that time comes *within* the hospital precincts why cannot each superintendent develop and organize *outside* the hospital in his district: prior care; proper care pending commitment; proper traveling custody of the committed; encouragement of voluntary and emergency commitments; boarding out; after care; public clinics; cooperation with the courts and with other public organizations—all these and perhaps more in every town and community in the district?

ADDED EXPENSE (IF ANY) FULLY NEUTRALIZED.

Expense may be alleged by some to be prohibitive. To my mind this is absolutely without foundation in fact. One good teacher with ambition, pride, interest and skill is worth many of the kind commonly attracted now to our state hospitals. *Locally* there will be that saving of man power patriotically recommended by Major Peyton; the conservation of clothing, ward furniture, fix-

tures, supplies and food by these intelligent men will amount to a considerable item; the conservation of the productive power of inmates for their health and for the benefit of the state will prove astonishingly great; the courtesy and personal care now largely lacking and the higher grade of nursing facilities cannot be measured in dollars and cents, but should be recognized on their merits. Lastly when it comes to the operation of the superintendent's *district* organization founded on his better ward organization then I say that problems involving an immense amount of human misery and crime and the expenditure of millions of dollars are directly attacked in their home environment. Criminology, for instance, shows us that more than one-half of all criminals, paupers, and prostitutes are feeble-minded or insane. And if these people can be handled psychiatrically by the superintendent and his organization before they have become involved with the law the financial and other advantages are so obvious that no discussion is required. There are so many of these problems that this field organization may assist in attacking from the economic as well as the humane point of view that it is rather difficult to mention them all, but a few of them are herewith given in addition to the above: The prevention of insanity through early advice and perhaps voluntary treatment in a hospital for the insane or elsewhere; the prevention of insanity through eradication of syphilis and other diseases directly or indirectly affecting mental health; cooperation and advice with the courts in mental cases; scientific examination of alleged criminals and especially those pleading insanity as a cause for crime; cooperation with other public agencies for mutual investigation, information and advice; the establishment of clinics in all the towns of the district; the establishment of psychopathic wards in general hospitals; control of the propagation of the insane and defective at large, whether prior to being taken into custody or after parole, discharge or escape from public institutions. These are some of the points of economic and human usefulness of such an organization, but the field is so broad that undoubtedly others will occur to the managing officer once that his organization is at work.

RÉSUMÉ.

So let it be repeated that the success of this plan for the hospital extension or community health work would appear to depend: (1) On stable constructive service at home; (2) the existence of this would seem to depend in turn on the employment of a class of ward workers as high in interest, ambition, pride and educability as the teaching class; correspondingly the reduction of the "group" attendant service to the very minimum; (3) to secure the higher class dependence simply lies on one factor—the living wage; (4) lastly the living wage, so called, spells economy in hospital management and the development of a hospital extension work with possibilities that charm the man with vision.

SYMBOLISM AND SYNÆSTHESIA.

By F. L. WELLS, PH. D.,
McLean Hospital, Waverley, Mass.

An idea becomes a symbol of another idea through some similarity and the association attendant on such similarity. "No form of association is too narrow a bridge to allow of the passage" (Ernest Jones).^{*} In such manner and to such extent as a symbol represents its primary idea, it is "identified" therewith. In so far as a certain symbol always represents the same primary idea and no other, it is "constant." In so far as a symbol is shared by many persons, it is "pervasive." Symbolisms also differ in their relations to consciousness. There may be full or no consciousness of connection between a symbol and its primary idea. Those with no such consciousness have been classified as "dissociative symbols." Some psychoanalytic writers consider that the term symbol should itself be restricted to such cases.

A high degree of constancy and pervasiveness is ascribed by psychoanalytic writers to symbolisms of this class. It has been questioned if these features should be wholly accounted for in terms of individual experience, or if some conception of inherited or otherwise extra-experiential associations should be considered to underlie these particularly constant and pervasive symbolisms. The latter view makes comparatively little headway so far as psychoanalytic symbolisms are concerned. There has been indicated, however, a mechanism of extra-experiential associations, occasionally having the character of symbolisms, not excluded by the more accepted experiential mechanism, which it may at times reinforce.

Pathological studies give evidence of definite associations between two ideas not associated in previous experience. This is indicated when, *e. g.*, the sound of a tuning fork elicits hallucinations of different words or phrases. The hallucinations are not confounded with the tone of the fork, but are strictly associations thereto. The content is often complex, consisting of many

^{*} "Why, gentlemen, who *does* trouble himself about a warming-pan? Why is Mrs. Bardell so earnestly entreated not to agitate herself about this warming-pan, unless (as is no doubt the case) it is a mere cover for hidden fire. . . ."

vocables, or words, and elaborate pictures. In these cases the stimulus does not regularly elicit the same hallucination, the latter being inconstant. Their status appears that of psychotic symptoms only. Goldstein¹ alludes to happy and melancholy misperceptions induced by the same stimulus according to the condition of a manic-depressive case. Such constant relations as do appear between the hallucinations and the inducing stimuli are, as Goldstein points out, of a formal character. The hallucination comes when the stimulus comes and does not, as a rule, persist longer than the stimulus lasts. Correspondence in the rhythm of stimulus and hallucination is noted by both Goldstein² and Sokolow.³ In the observations of Chvostek⁴ and of Goldstein,⁵ the quality of the hallucinated voice is also affected by the quality of the inducing stimulus. In Sokolow's⁶ case cold stimuli elicited sound hallucinations of higher pitch than warm ones, which he thinks may be because the cold differed more from the body temperature than the warm stimuli he used. Auditory hallucinations have also been induced through direct application of electric current, as observed by Moravcsik⁷ and Jolly. Here belong also the visual hallucinations (induced in alcoholic cases by pressure on the eyelids with fingers) to which Liepmann⁸ called attention. Bechterew⁹ reports similar observations with the interrupter of a coil.

These induced hallucinations have scarcely the status of symbolisms, not being identified in any way with the inducing stimulus. They appear to be kept separate, which also takes them out of the category of illusions. They simply show coercive association between two mental processes, independently of special connection experienced between them.

The synæsthesias proper are more relevant. Bleuler¹⁰ finds that like the induced hallucinations, the synæsthesias begin and end with the primary sensation. In the case reported by Downey,¹¹ the synæsthesia appears to last longer than the primary sensation. Synæsthesias differ from the above induced hallucinations in that while the induced hallucinations are very inconstant, the synæsthesias are very constant. This is indicated by Bleuler's¹² reinvestigation of his material, 13-15 years after the original observations. There was only some decrease in the facility and intensity with which the phenomena appeared, in which agreement with Flournoy is cited. The synæsthesias offer groups of associations which persist with hallucinatory coerciveness in those

subject to them. Bleuler³³ remarks that he can sometimes recall names from the visual synæsthesia (photism), when he has forgotten the auditory impression.

Bleuler generalizes from his material, 76 cases in all, to observe the continuity of the photism series, corresponding to the continuity of the inducing sounds. The musical scale gives such a series, for example, from black to white through red or gray. Transition forms of vowels give transition forms of colors. Over-tones, which certainly form no regular color associations through conscious experience, may appear in the photism even though not consciously perceived in the inducing stimulus. A scale from yellow through red and brown to black is especially frequent for musical tones. For noises, red is nearly absent, blue and green are very rare. In general, high notes induce sharply defined photisms with pointed forms. A whistle beginning low and rapidly becoming high may thus appear in the photism as a wedge whose base represents the low period of the tone. In the photisms not from sound, but from skin and general sensibility, violet is absent, brown and green are very rare.

The following examples of synæsthetic phenomena are noted by observers of individual cases: Among complex sensations of taste induced by vocal complexes of spoken words, Pierce³⁴ reports the word *parlor* to represent honey on bread; *loud*, a boiled new potato; *grin*, French toast, or fried bread. Among nonsense syllables, *saf* is a meat flavor, salty, hard, like corned beef. *Hes* is small particles, minced meat. *Dep* is roast beef well done. More elementary stimuli induce sensations as follows:

Tuning-fork of 256 vibrations, as if warm air were resting upon the tongue.

Tuning-fork of 512-1024 vibrations, warm and clear, sweet.

On the piano, A₂-E₁, like toast soaked in hot water.

E₁-F, sweet, rather strong, like licorice, a troche.

F-g, mild, gravy-like.

g-c[♯], banana, smooth, slippery.

c[♯]-c[♯], thin, insipid.

On the violin, lowest three notes, troche flavor.

From there up, grows sweeter, loses strength, becomes clear, delicate and sweet in flavor. The rubbing of a nail or file evoked a temperature experienced in the mouth, this being hot or cold according to the kind or degree of scraping.

In the case reported by Downey " the following may be noted :
Liminal bitter (.0003 quinin), dull orange red, becoming more pronounced as the solution increases in intensity.

Anise, brilliant black.

Sour solution, occasional flashes of green, which sometimes alternate with red.

Lemon-pineapple sherbet, very green, persistent.

Vanilla, tan or brown.

Lime-candy wafer, golden.

Myers " reports a case in which the synæsthesias are stated to be non-imaginal, though they must have had a clear perceptual character to have given rise to findings like these, with tuning-forks of different vibration rates :

256 brown.

300 brown to vermilion or pink.

400 brownish-pink.

500 rosy brown, brown or pink, becoming blue.

600 rich, dark blue.

700 mixed pink and blue, lilac.

800 light blue.

900 light blue.

1000 very light blue.

1100 very light blue.

1200 blue, shading off to gray.

1300 thinnish blue.

At 3000 vibrations with the Galton whistle, a greenish tinge appeared in the blue. It was definitely green between 4000 and 12,000, but above 12,000 passed into a colorless gray.

Different color tones appeared according to whether the instrument used was a tuning-fork, a tone-variator or a *Tonmesser*, due, as would be inferred from Bleuler, to differences in over-tones. As the fork "rings off" the induced colors become "higher," that is, shading towards gray.

A case reported by Myers " some years later gives the following colors to the tuning-fork :

256 Prussian blue, clear blue.

300 blue streaked with violet.

400 clear dark violet—clear purple.

500 deeper than red, very deep golden, transparent.

600 opaque, streaky, perhaps black and flame color.

700 perhaps light green.

800 blue.

900 rather like 800.

1200 might be yellow, very translucent.

2048 getting yellow.

A Galton whistle tone of 6000 vibrations appeared green, higher tones becoming increasingly colorless.

A "spectral octave" in the case of an accomplished musician is reported as follows: "

Red.	Orange.	Yellow.	Green.	Blue.	Violet.
C G	D	A	E	B	F*

A case in which pain sensations evoke color perceptions is noted by Coriat." Testing pain spots with a hair *æsthesiometer* showed an increase in the intensity of a red sensation as the stimuli were increased by shortening the hair. The subject reported different colors to be evoked by different types of pain. A "hollow" pain gives a blue color; a shooting neuralgic pain, a white color.

There is observed a tendency of the *synæsthesias* to run in scales, which are proportional to the scales of the primary stimulation. This argues against their originating in associations of adult or infantile experience. Other evidence of the same probable import is that they may have different affective quality from the primary, inducing sensation, as noted by both Bleuler and Downey. To the former, words with *io* are unpleasant in sound, but agreeable in their induced photisms. Bleuler observes that the photisms are generally localized not in the visual, but in the auditory field. Downey's case of colored gustation localizes the photisms in the mouth.

Bleuler " regards the *synæsthesias* as originating endogenously, but not in associations. He considers them rather as cases in which the specific energy of the sensory nerves is not wholly "specific." He rejects the supposition that activities of one sensory center are transmitted to another sensory center. The regularity of the *synæsthesias* speaks rather for a general property of the cerebral substance to respond with all its various specific qualities to the stimuli through different end-organs. As a rule,

only one of these (the primary sensation) is in the foreground ; the others come to awareness not at all or as synæsthesias.

Under these conditions, association would be promptly established between a sound and a color always perceived with it, as well as separately. Such association, while not innate, is governed by innate factors, and not by external experience.

Downey²¹ comments in another paper on expressions in language that counterfeit synæsthesia, but differ therefrom in being inconstant, unsystematic, and having rational associations near the surface. It is not synæsthesia to speak of red war, black looks, weather clear as a bell, clear blue optimism. Sometimes these counterfeit synæsthesias, *synopsies secondaires, provoquées* of Flournoy, acquire relative constancy. Bleuler mentions how a black and yellow pattern symbolizes Wednesday to him, through the pattern of the travelling bag of an aunt who visited his home on Wednesdays. On the other hand, the English use of *blue* to denote melancholy is contrary to the commoner associations of the color in life. A synæsthetic origin might be ascribed thereto, as Bleuler seems to think. Bleuler's²² observation that the photism of bitter is almost always "dark brown to black" may be the essential determinant of the figure "dark brown taste."

A tendency has been variously observed for numbers to arrange themselves in a definite pattern of visual imagery. Sometimes learned associations, as of the clock-face, appear to govern these. Again, these so-called "number forms" appear to resemble synæsthesias, in that a connection between the ideas is established independently of the will, extending as far back as memory, and constant. Bleuler²³ speaks of them as "instinctive." Heredity for number forms is postulated by Galton²⁴ and for synæsthesia by Calkins.²⁵ This is good evidence of innateness if the same secondary sensations are inherited. Myers²⁶ brings out that this is not always evident with synæsthesia, members of a family disagreeing in the color attaching to a given sound.

Lowie²⁷ has connected this general class of phenomena with the facts of pervasiveness in the symbols of myths and legends. He is impressed with the hereditary character of the number forms. Since primitive communities are made up largely of blood-relatives, symbolic meanings could grow upon numbers in this way. The same naturally applies to the more strictly synæsthetic phenomena.

Both synæsthesias and mechanisms of autistic thinking form associations foreign to the waking consciousness of ordinary life. The associations of synæsthesia, however, are restricted to the more elementary patterns of sensory qualities. They are not adequate to account for the types of symbolism common to mythology, dreams and psychoses. Brown may represent bitter, vanilla may represent green, but the gulf between these associations and such complex symbolisms as snake for phallus, air for male principle, water for female principle, is greater than most imaginations are prepared to leap. And it is only for the synæsthetic type of association that even slight evidence for hereditary transmission is adduced. If such transmission operated on higher levels, evolution would be expected to transmit, in consciousness, useful ideas, such as of mathematical relations, rather than an unconscious full of ideas generally harmful if acted upon. Autistic mechanisms are capable of accounting for the entire body of "archeopathic" symbols on an experiential basis, and there is evidence for but little of it being accounted for in other ways.

It is a growing conception that a great deal of "higher mental process" goes on in the mind of which the main personality is as little aware as it is of many normal organic processes. This thought, below the level of awareness, consists, like the thought of which we are aware, in the association and elaboration of experiences. But, whereas the thought of awareness is, in the normal mind, mainly governed by the logic of experience, that below the level of awareness is quite free from these restrictions and is "autistic" in Bleuler's sense of the term. In this way, associations and symbolisms are formed which are not present to the conscious level of the mind. In the psychoses, these ideas do come to consciousness, dominate it, and give rise to delusions. They also come to the surface in the dream, where they give rise to symbolism that has been amply recorded. The two levels of thought are less distinct in the savage and in childhood than in more developed life. Whatever community exists between psychotic and primitive ideas (how much one sees depends a good deal on the selection of material) is due to regression in *modes* of thought. There is a regression to modes of thought which more characterize primitive man, but not to special topics of thought. If the topics of thought, the precise ideas associated, do happen

to correspond, this is because the primitive kinds of association (similarity, contiguity) lead in like directions for everyone. The ideas which are associations by similarity for the savage or child are associations by similarity for all. The community appears, not from a transmission of definite ideas through the ages, but because the same associative laws are operating upon the same general class of experiences."

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PSYCHOSES IN MENTAL DEFECTS.*

By ALFRED GORDON, M. D., PHILADELPHIA.

The present series of cases embraces all degrees of mental deficiency except idiocy. There were three imbeciles and 34 individuals with a mental status inferior to normal. Morons constituted the largest majority (24). The psychic disorders as they were manifest in the (37) cases presented themselves under two chief categories. In one, there was a greater or lesser intensification of the pre-existing mental characteristics which formed the basis of the constitutional make-up of the defects. In the other category, there were present psychoses common to all persons.

Group I.—Fifteen individuals presented during a period of five years at various times marked accentuation of their fundamental defective features in intellectual and moral spheres. *A propos* of various emotional factors, such as fright and minor accidents, there was present a decided intensification in the deficient mode of feeling and acting, also in the reaction to external stimuli. First of all, there was a definite arrest in intellectual acquisitions. One of the individuals during a process of mental training, which, as is well known, progresses in such cases only by small degrees and in an imperceptible manner, became listless and commenced to forget the slight amount of knowledge of arithmetic which he had acquired after laborious effort during a long period of time. It was also noticed that at times he would exhibit outbursts of violent anger with impulsive acts, by far more intense and more prolonged than prior to the accident. The former timidity became more pronounced; while he used to be very shy and hesitated greatly to face strangers and speak to them, now he isolated himself almost completely and absolutely refused to converse with anyone outside of his immediate relatives. Formerly he showed a certain degree of brutality towards his sisters and brothers. Once, for example, he attacked his older sister with scissors because she refused to hand him quickly a

* Read by title at the Seventy-fourth Annual Meeting of the American Medico-Psychological Association, Chicago, June 4-7, 1918.

part of her apple. He inflicted an injury to her arm and while the latter bled he stood immovable and laughed. Since the accident, during a period of three months he was unusually violent in his attacks on his relatives, including the parents. Upon the least refusal of gratifying his absurd wishes he attacked mercilessly anyone who happened to be near him; he would pick up heavy objects, such as vases and irons, and throw them, irrespective of consequences. Once he inserted his teeth into his mother's arm with such force that for several minutes it was impossible to remove him, in spite of the fact that the victim kept on screaming from pain. He became so unmanageable during these outbreaks that he had to be kept in bed, under restraint. The condition lasted three months, during which period of time it was impossible to make any progress in the mental training which he had been undergoing prior to the accident. Gradually the condition became ameliorated, the violent impulses became less and less pronounced and the boy returned to his former mental state, which only then made the resumption of his training possible.

In three boys of the same group after slight accidents and in four boys after a fright in addition to an arrest of progress in mental training, there was also an increase in pre-existing tendencies of various character of a serious nature. Sexual perversion, such as fetichism, Sadism, exhibitionism and homosexuality, was quite marked and very frequent police arrests followed. In five cases, in which the mental status of the defective individuals was not wholly understood by the parents, bodily punishment was not infrequently inflicted by the latter when the children have been unable by reason of their deficiency to carry out orders. The result was that an accentuation of the fundamental abnormal characteristics became very conspicuous. Great irritability was the most striking symptom; impulses of the most unusual kind followed. Moreover, in three cases there was a mild, delirious state accompanying each outburst of passion, of anger, or following a violent masturbating act. They soon recovered from the delirium. Very brief periods of confusion were also observed in some of this small group of individuals during their morbid impulses. One girl of 13 was severely punished by her older brother for a trifling offense. Immediately afterwards she was

thrown into such a state of depression that for hours she remained in her bed refusing food. Then suddenly she jumped off the bed, picked up a poker and attacked her mother, taking her for the wrong offender. While striking her she talked quite incoherently so that she could not be understood. About 20 minutes later the condition disappeared. During a period of four weeks she had frequent outbursts of fury with a desire of attacking far more violent than formerly, although she was always subjected to abnormal impulses.

The following deductions may be drawn from the observations concerning the 15 cases composing the first group: Following some emotional factor the defective mode of thinking, feeling and acting becomes intensified. The usual want of parallelism between the emotional and intellectual elements of the personality becomes accentuated; the inhibiting power of intelligence over the moral personality is reduced to a minimum; impulsive acts may reach their maximum in intensity and frequency; there may be either an increased emotivity with exaltation, during which extreme anger, violence and brutality are conspicuous, or else emotivity with greater depression, during which timidity and shyness are extreme and a tendency to solitude is striking. In all cases, morbid tendencies become more conspicuous. It seems that the cerebral centers, which are the source of ideas and of their association, are further reduced and withdrawn from the chain of mental activities; they now present not merely a deficiency, but utter collapse. The activities which otherwise in defective individuals are the result of a feeble struggle between feeble conscious reasoning and claims of passion are now entirely out of the field of this struggle.

Group II.—Twenty-two individuals constitute this group of defectives. Either following some special etiological factor or without an apparent cause, symptoms characteristic of classical psychoses developed. In the majority (17) the onset of the psychotic manifestations was preceded by some somatic or emotional disorder. Influenza, profuse diarrhœa, measles, mumps, bronchitis, on one hand, sudden fright and slight accidents, on the other, were all present.

The psychoses observed were: Maniacal and depressive states (12), paranoiac states (3) and delirious or confusional states

(7). There were more depressive than maniacal cases (9 to 3). This category included all adult cases. In the depressive subgroup the depression was not as profound as is observed in individuals with a former normal mentality. The sad appearance, pale faces with drawn features, expression of humility and deep suffering, complete immobility—this was the habitual picture characteristic of cases with mental depression. At no time were all these symptoms combined in the defectives. Those that were present showed a shallowness, a superficiality. On the other hand, none of the patients presented during the entire period a depression or a state of anxiety, such as are found in painful emotional states; there was no lamentation, no moaning, no exclamation—all of which are observed in cases of agitated depression. Indifference, apathy and indolence were all present, but at no time were there delusions. The latter were absent even in the most pronounced cases of depression, when the patients isolated themselves for days and even refused food. There was no case of true melancholia with unsystematized delusions of self-blame or of unpardonable sin. There was no tendency to suicide in any of the cases. The absence of delusions is to be expected in depressed defectives, if we take into consideration the elements and the underlying psychology of ideas and special interpretation of conceptions which require mental elaboration of complete character.

The maniacal cases presented special features worth mentioning. In one of them was an early violent outburst. A man of 27, who up to that age presented the usual characteristics of mental deficiency, developed suddenly, after a slight accident, a most pronounced maniacal state which lasted six weeks. Restlessness, talkativeness, increased rapidity of thought and verbal expressions, and increased motor activity, were all present, but they all bore the stamp of the previous mental state. Owing to the limited association of ideas there was no characteristic coloring, but there was one feature in my patients which deserves special mention; it was so constant that it may perhaps be considered of some diagnostic significance.

In individuals previously normal during a maniacal period, opposing ideas may be easily brought out because of the easy association of ideas, or else because of the restraint in which

such individuals are held. In these cases any opposition to the patients' wishes brings forward an intense feeling of self-esteem, followed by a strenuous protest against the opposition. Moreover, owing to the fact that the thoughts flow in great rapidity, the states of opposition and protest are not lasting and they are quickly substituted by other emotions, pleasurable ones among them. In the defectives, on the contrary, opposing ideas were not readily called up and when they made their appearance they were feeble. On the other hand, if an opposing idea happened to be conspicuous it persisted with great tenacity for some time. It was also observed that the above-mentioned feeling of exaggerated self-esteem as a consequence of enforced opposition was not at all as intense as we find it in non-defectives. Neither did I find the rapidity of transformation of psychic energy into multiplicity of associated ideas such as we observe in non-defectives. Again, owing to the underlying limitation of intelligence in general there was absent the quickness of comprehension, of wit or humor or sarcasm, which is so characteristic of maniacal exaltation. Accordingly, I failed to find here the manner of expressing in especially choice language, or hasty acts ill considered, or especially strong impulses, or special desire or longing for pleasurable emotions, which are all so typical of maniacal individuals. Briefly speaking, the psychomotor side of exalted mental activity was expressed here in a lesser degree than in cases of mania occurring in individuals with a previous moral mentality.

Another interesting symptom is found in the hallucinations. Contrary to the usual absence of hallucinations or to their fleeting character when they are present in maniacal attacks, here in the defectives hallucinations occurred more frequently and were more persistent. Moreover, in two cases the patients acted upon. A girl of 12 in one of the maniacal attacks of an unusual intensity saw "ugly faces" and was so frightened that she picked up a cup of very hot milk standing on the table and threw it at her sister standing in front of her. The other patient, a girl of 16, saw "the devil" and was in such a state of fright that she ran out of the house and while running kept on looking back and screamed as she saw the devil pursuing her. Illusions were constantly present in all the cases.

The depressive and maniacal outbreaks in various individuals did not run a parallel course as to their frequency and the mode of repetition. It was observed, generally speaking, that there were more individual phases of depression than exaltation. Two of the maniacal patients had but one attack of exaltation during a period of several years and only one patient had three attacks during two years. The depressive attacks, on the contrary, were frequent and in some cases very frequent. No patient of the series, however, had alternating attacks of one and of the other form of the manic-depressive psychoses. In the depressive cases there were only periods of depression; in the maniacal ones I observed solely periods of exaltation.

Paranoid states were present in three cases. Here disturbances are no more expected in the emotional and psychomotor spheres, but in the ideational realm. As the latter is originally of an inferior character in defectives any pathological modification of it incidentally occurring must per force be of an unusual composition. The disturbance of critical power, which plays so great a rôle in the formation of the systematized delusions, shows itself naturally in slight reflection and in superficial elaboration of ideas and deductions. For the same reason, the formation of delusions is not so easy or imperative, while in the normal type of paranoia the latter are formed with the greatest facility and readiness. The elements of the delusions which ordinarily develop out of imagination and defective judgment, assisted by errors of logic, are all here fundamentally defective and lead not only to abnormal creations, but are also defective in their abnormality; and accordingly the depression and apprehension which are constantly found in paranoiacs are not and cannot be as profound and as disturbing to the patient as in the habitual cases of paranoia. The characteristic abandonment of the patient without control to the delusional conceptions is not so striking here as in typical paranoia, because the ideational associations are here fundamentally defective. The reactions produced by external impressions are not as profound as in ordinary paranoiacs, as their relation to the originally defective individuals are not only perverted, but are defective in their perversion. The same peculiarity was also observed with regard to hallucinations. When the latter were present they were feebly used by the patients for the elaboration of their

delusions, contrary to what we observe in the majority of cases of typical paranoia in which the hallucinatory sphere is greatly implicated and is used for the development of delusions.

The character of delusions and hallucinations in paranoia makes the patient live in a world of errors and deception which are so characteristic of the disease; but by reason of defective ideational associations in mental defectives the errors and self-deception to which their delusions and hallucinations lead cannot be striking and conspicuous. Herein lies the substantial difference of the morbid states of non-defective and defective paranoiacs. When one considers the evolutionary period of life in a future paranoiac, one assists at a gradual change of the personality which later becomes a disease. One observes how all perceptions of the external world in early life have a special relation to the individual, inasmuch as he very early commences to consider them as facts which fundamentally concern his own personality. This is intensified by his inherently vivid imagination. As is well known, the paranoiacs belong to the dreamy, romantic and eccentric category of individuals, who with great facility elaborate ideas which at first remain in a latent state, but later develop into delusions. Such characteristic features underlie the real foundation of a future paranoiac. They show a constitutional abnormality of the character. On such a morbid basis, with the gradual growth of the individual, multiple impressions arising with age and accidental occurrences are all apt to create erroneous conceptions of the external world. At first there are only presumptions and suppositions, but later delusions and hallucinations.

When we consider the development of the personality and character in defectives, the observation changes. We fail to find here the special personality with eccentric tendencies; there is no intensity of imagination with regard to external impressions; there is no special tendency to refer the latter to himself or to herself; there is no rapid formation of imperative ideas; suspicions to create rapidly erroneous conceptions; hence, delusional ideas are not easily developed and when they do arise they lack in depth and in elaboration. Continuing the analysis of the comparative picture in both classes of paranoiacs we find a further difference. The phase of transformation of personality which is

usually present in the advanced stage of the fully developed disease is totally absent in the defective cases of paranoia if one has the opportunity to observe the individual during a sufficiently long period of time. The absence of this phase finds its explanation in its very nature. As is well known, it is characterized by excessive development of exalted ideas concerning the patient's own personality. As for the development of this manifestation, which becomes in fact predominant over other ideas, an extraordinary elaboration of ideational processes is essential. As indicated above, the latter cannot be expected in defectives, hence the phase of transformation of personality must correspondingly be totally wanting.

In pursuing further the development of the subject, the final stage of paranoia must be considered. The terminal period of the disease is characterized by a gradual development of mental weakness with gradual fading of the delusions and hallucinations. In the three defective individuals of my series such a phase was not observed. When the hallucinations and delusions began to disappear there was no gradual diminution in the intensity of the faulty beliefs or any change in the interpretation of the ideas or images, but a sudden disappearance of both for a brief period of time and later a reappearance of the same, then again a disappearance and a return. This occurred several times in succession, and then finally a total abolition of both took place. Moreover, there was no genuine diminution of power of reasoning; otherwise speaking, there was no real dementia such as we observe in paranoia. It was therefore no terminal stage, so to speak. The patients merely exhibited the same mental attitude as prior to the outbreaks of the paranoiac state.

If we recall all the characteristic features of the various phases of paranoia, and consider the incompleteness of the most important manifestations with the lack of depth in each of them by virtue of the fundamental defect of ideational processes in defective individuals, we are bound to admit that there is no paranoia in the latter. The disease as an entity cannot develop in them for the above reasons. Delusions and hallucinations of a paranoiac character may occur in defectives, but their development and their relation to the defective personality, the entire attitude of the individual to the external world, the course of the condi-

tion and the termination of the latter, are all not of the kind which we observe in the classical psychosis. Not paranoia as a clinical entity, but paranoid states are met with in individuals with mental deficiency.

The last sub-group of my series comprises seven cases with delirious or confusional states. Three individuals were convalescing from influenza, one from typhoid fever, and in three of them a fright had preceded the onset of the mental disorder. Five patients had delirium with confusion, two only confusion.

In confusional states the mental operations are disintegrated. The ego no longer presents a union of individual elements of the mental mechanism. The ideas are consequently vague and ideational association is abnormal, so that a confusional individual uses words without special meaning to him; of his former ideas and conceptions only glimpses are left. He expresses his fragmentary ideas and notions in a demented manner and therefore without all associations, so that purposeful acts are not possible.

When we attempt to find these diagnostic elements in mental defectives we observe that not only they are present, but they are in the most intense and conspicuous form. Irrespective of any superimposed psychosis the mentality of these individuals is characterized essentially by a quantitative and qualitative deviation from normal. Appreciation and meditation are not only superficial, but abnormal. There is a fundamental defect in association of ideas, so that the acts are of a reflex nature. The whole life of defectives, generally speaking, is composed of incidents of an instinctive nature, as judgment and will power are wanting. When a confusional element is added it stands to reason that defective ideas will be still more vague and ideational associations more abnormal. A confused defective's words will have still less meaning to him than in a formerly normal individual. If in ordinary cases remnants of former ideas and conceptions are left, in a defective who is under the influence of a confusional outbreak the sentences uttered and actions executed show an absolute lack of such remnants and give the impression as if the individual were devoid of all thinking power. If in an ordinary case of confusion, the individual acts in a demented manner; a defective individual in such cases behaves like an imbecile or idiot.

In some of my cases to the confusion was added a delirious element. As is well known, in the latter there is a deep involvement of the sensorium, especially in the form of hallucinations and the suppression of the faculties of attention and reflection. The disturbed sensorium creates delusions. In the five defective individuals of the series there was confusion with a delirious state. The attitude of these individuals, such as appearance, motions with the hands, sudden and repeated turning of the head, suggested the existence of auditory and visual hallucinations. As to the delirium itself it was throughout in all the cases of a muttering character and at no time in the form of anxious excitement. Since the faculty of reflection based on association of ideas is rudimentary in defectives, and an involvement of the sensorium cannot be deep in these individuals, the elaboration of delusions and hallucinations cannot, fundamentally, be strong and conspicuous. Thus the muttering and not the excitement with anxiety of the delirium in ordinary cases was to be expected. The muttering was unintelligible, fragments of words could be heard occasionally; the patient preserved a uniformly quiet and undisturbed attitude throughout the delirious states, which in some cases occurred several times.

One of the most interesting phenomena in the last group of cases was that the mental state of each individual suffered considerably following each attack of confusion or delirium. The individuals' intellectual *niveau* became greatly lowered and all the faculties and functions depending on it were correspondingly affected. The inhibiting power was reduced to a minimum, and for this reason the defectives who possessed an emotivity with exaltation exhibited unusual impulsiveness, extreme anger, violence and conspicuous brutality; while those who possessed an emotivity with depression exhibited extreme timidity. Those who prior to the psychoses showed various perversions, now exhibited a deeper development of the latter.

Conclusions.—The present study reveals the fact that the intellectual and emotional peculiarities and abnormalities of defective individuals become more conspicuous when additional psychotic disturbances are superimposed. Each individual characteristic in the various faculties, which being combined constitute the mental personality, becomes mobile and is given a greater oppor-

tunity for displaying its influence upon the defective's attitude, behavior and general mode of acting and feeling. To the observer is given an opportunity to measure and estimate the degree and intensity of deficiency in the various characteristic features of the defective individual, because of its modifying effect on the habitual manifestations of a psychosis. The impress that mental deficiency leaves on psychoses, viz., depressive, maniacal, paranoid, delirious and confusional, is that they are modified in their typical manifestations because of the fundamental defect in the formation and association of ideas. On the other hand, the psychoses have reciprocally their modifying effect upon the basal mental deficiency; they produce such a profound disturbance in the latter that the recovery from the superadded incidental psychoses is always followed by a deeper diminution of mental power in the original mental status. The reason of it probably lies in the fact that the psychoses disappear invariably more slowly than in non-defective individuals. For the same reason probably it is more difficult to obtain favorable results from therapeutic efforts. The prognosis is therefore more serious in psychoses of defectives than of non-defectives. When the psychoses disappear instead of recovery we witness a greater reduction in the intellectual horizon than before the psychoses had developed.

THE CORRELATION BETWEEN MENTAL DEFECT AND ANOMALIES OF THE HARD PALATE.¹

BY IRENE CASE, UNIVERSITY OF CHICAGO.

In order to determine whether a correlation exists between mental defect and defects of the hard palate, it is necessary to make casts of the palates of a great many normal and abnormal individuals in order to compare them in a definite and specific way. The only published work along this line is that of Channing and Wissler (1), 1905.

But ever since 1600 it has been recognized that a deformed palate is very frequently present in the feeble-minded. The frequency of the pathological palate has been testified to by many investigators. Church and Peterson (2) say: "The frequency of the pathological palate among marked degenerates, such as the insane, idiots and epileptics has been stated by many investigators. Talbot reported 43% of abnormal palates in 1605 inmates in institutions for the feeble-minded. Ireland makes it nearer 50%. Charon found abnormal palates in 10% of apparently normal persons, in 82% of idiots and feeble-minded, in 76% of epileptics, 80% in cases of insanity in general, 70% in the hysterical insane, and 35% in cases of dementia paralytica."

Ireland (4) says: "As an accompaniment of genetous idiocy the palate is narrow, the space between the bicuspid and the molars of the opposite sides being diminished. The height of the palatal arch is at the same time increased at the expense of the cavity of the nares. In most cases of vaulted palate the symmetry of the normal curve of the dental arch is much impaired." However, he decidedly says that "the vaulted palate does not occur in all genetous idiots. In some cases the palate is normal, but undoubtedly the deformity is very common." Ireland quotes T. S. Clouston as saying in his "Neuroses of Development" that

¹ This research was undertaken at the Psychopathic Laboratory of the University of Chicago, under the direction of Dr. H. C. Stevens, to whom the writer offers grateful acknowledgment for advice and assistance in the preparation of this report.

"there are over three times more deformed palates among idiots and congenital imbeciles than amongst the sane. Only one-tenth of the idiot palates are typical, while over two-thirds of them are deformed. Less than one-fifth of the palates of the average population are deformed. A deformed palate is also found to be more frequent with the insane and epileptic than with normal persons." (Edinburgh, 1891.)

Peterson (5) says, "Show me your palate and I will probably be able to tell you whether you belong to the great class tainted by heredity, comprising many insane, imbecile, feeble-minded, epileptic, hysterical, etc., individuals." No doubt this would be considered a highly exaggerated statement at the present time. But that is just our problem: to see if we can truthfully say that all defective palates mean a defective mentality. Or should we take into consideration the growth of the head, *i. e.*, its length, breadth, circumference, etc., as determining to some extent, at least, the size and shape of the palate? Further, in a condition of feeble-mindedness, will not other stigma coexist besides the defective palate, such as cranial anomalies, defects of the heart and lungs, changes in the reflexes of the body, etc.? Is it fair to say that if only a defective palate is present, that feeble-mindedness exists?

No doubt it would be of great diagnostic value to be able to make such a statement, to know that there was this definite, outward, visible sign of inward disturbance.

Peterson examined 1000 insane, 100 criminals, 600 idiots, and 500 neuropaths (casts were not made) and found asymmetry of the palate very common, and occasionally the only noteworthy peculiarity. This latter fact is to be questioned. Is it not usual to find asymmetry of the face and skull in cases of asymmetry of the palate? May it not be that such asymmetry (or any departure from the normal structure of the palate) is in many cases simply a concomitant of other deviations of the size and shape of the head, etc.

Tredgold (9) says, "The association of abnormalities of the palate with mental deficiency has long been recognized, and there is no doubt that it is one of the commonest malformations occurring in this condition." He quotes Clouston "Neuroses of Development," 1891, who has recorded a large number of observa-

tions which show conclusively that although deformed palates occur in the normal, they are far more frequent in neuropaths and the mentally defective. He states that deformed palates are present in 19% of the ordinary population, 33% of the insane, 55% of criminals, but in no less than 61% of idiots.

Talbot (7) says, "Langdon Down called the attention of the medical profession to the fact that high vaults, as well as irregularly shaped jaws, were very common among idiots and congenital imbeciles." He says: "My studies prior to 1887 not only show high and contracted arches among sane individuals as well as idiots, but that they also frequently occur among the deaf, dumb, blind, insane, criminal, drunkards, neurotics and degenerates generally. It will be noticed, therefore, that no particular class of individuals is exempt from these deformities. So a high vault is not due to mental weakness." (But it might be said that all forms of degeneracy mentioned here are manifestations of mental weakness of some sort.)

Talbot (7) quotes Dr. Claye Shaw as saying that "there is no necessary connection between a high palate and the degree of mental capacity of the individual."

Thus we see that there have been advanced arguments both for and against the idea that a defective palate indicates a defective mentality.

In the work of Channing and Wissler, they have concluded from a study of about 1500 casts, 1000 abnormal and 500 normal, that the absolute size of the palate for the three following measurements seems to be the same for feeble-minded as for normal: Width at the canines; width at the molars; and length from the alveolar point to a line connecting the first molars. But they do find a relatively small difference in the variability of these dimensions, the feeble-minded showing greater variation. However, as to the height of the palate, they find that while there is no real difference for adult males, that for children has the character of a real difference. The female children show no such difference, for while the average height for the abnormal is absolutely greater than for the normal, the difference is within the range of accidental deviation from the type.

The present report is upon the measurements of casts obtained from children appearing before the Psychopathic Laboratory of

the University of Chicago for examination. The number of casts is as follows:^a

	Male.	Female.	Total.
Normal	5	3	8
Abnormal	28	10	38
	—	—	—
Total	33	13	46

The specific measurements to be reported on are the same as those reported by Channing and Wissler, namely:

A. The minimum distance between the first molars, measured horizontally from the bases of the molars.

B. The maximum height of the palate, measured from the plane of the gum line.

C. The distance from the line connecting the two first molars to the alveolar point.

D. The distance between the canines, measured horizontally from their bases.

In addition to these four measurements, any asymmetry of the palate was noted, and also the length, breadth and circumference of the head, and mental age, as determined by the Yerkes-Bridges Point Scale Test.

The casts were made by first taking an impression of the upper teeth and hard palate upon dentists' modelling compound, a hard substance which when placed in hot water softens into a gum. The softened compound was carefully smoothed out onto a small tray which fitted into the mouth so as to include all of the teeth. An impression of the teeth and palate was made upon the modelling compound when the tray was pressed firmly against the roof of the mouth. The tray was then removed from the mouth, and a thin paste of dental plaster was poured into the impression and allowed to harden, after which the plaster cast was easily separated from the modelling compound when placed in hot water.

^a Although the number of normal subjects examined is quite small, the results are identical with those of Channing and Wissler, in that the palate in abnormal individuals tends to be higher than in the normal. The writer feels justified, therefore, in the attempt to show that this increased height in abnormal individuals is not diagnostic of mental defect, but depends, rather, upon the shape and size of the head.

The instrument used to measure the casts was especially made by the mechanician at the University of Chicago, and consisted of a hard rubber horizontal bar, calibrated at one end, in which was set a screw which turned at each end. Attached to the horizontal bar was a calibrated vertical shaft, to which an adjustable rod was fixed in such a way that the measures of the length and

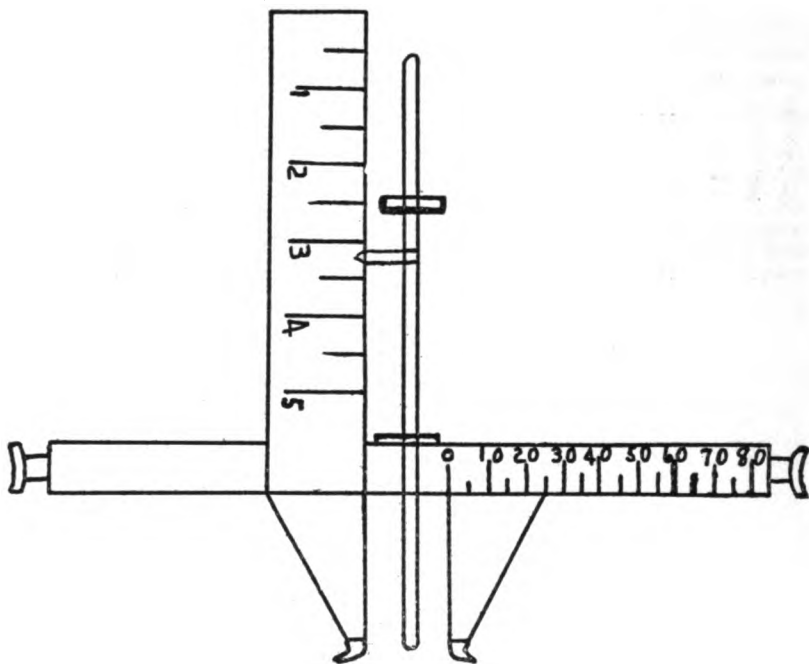


FIG. 1.

height of the palate were easily read off from the scale attached to the shaft. By means of inside calipers, the width of the cast at the two places desired (distance between the canines and between the first molars) was easily measured along the horizontal shaft. (See Fig. 1.)

TABLE 1.—DISTANCE BETWEEN THE FIRST MOLARS. (A.)

Normal Individuals.		Abnormal Individuals.	
Male.	Female.	Male.	Female.
<i>Subj. Age.</i>	<i>Subj. Age.</i>	<i>Subj. Age.</i>	<i>Subj. Age.</i>
R. S. 4	E. R. 5	E. S. 6	I. V. 9 31.50
J. V. 5	R. R. 8 34.00	F. S. 7 31.00	J. T. 9 34.50
F. F. 6 31.25 mm.	M. S. 9 30.50	L. C. 7 34.50	E. L. 10 33.00
B. B. 12 34.50		A. S. 7½ 34.25	B. B. 11 37.00
A. S. 14 38.00		F. O. 8 32.00	C. V. 11 31.50
Average 34.58	32.25	J. H. 8 31.00	M. V. 12 28.50
S. D. 2.75	1.75	P. F. 9 31.25	T. B. 12 35.25
P. E. 1.07	.833	T. W. 10 38.50	S. S. 12 35.00
		J. V. 10 35.00	M. L. 15 36.00
		M. Z. 11 37.00	E. B. 17 30.00
		J. P. 11 33.00	
		J. L. 12 38.00	
		H. A. 12 33.50	
		G. L. 12 32.00	
		S. R. 12 31.00	
		J. H. 12 31.00	
		L. H. 13 29.00	
		L. R. 14 31.00	
		M. K. 14 36.00	
		M. B. 14 42.25	
		L. R. 15 39.00	
		F. S. 16 35.00	
		F. R. 16 35.00	
		J. L. 16 35.50	
		I. B. 17 35.00	
		A. E. 17 29.00	
		F. B. 17 29.75	
		O. K. 18 38.00	
		Average 33.98	33.23
		S. D. 3.29	2.63
		P. E. .... .427	.563

TABLE 2.—HEIGHT. (B.)

Normal Individuals.			Abnormal Individuals.		
Male.		Female.	Male.		Female.
Subj. Age.		Subj. Age.	Subj. Age.		Subj. Age.
R. S. 4	6.0 mm.	E. R. 5	9.0	E. S. 6	9.50
J. V. 5	6.5	R. R. 8	9.25	F. S. 7	7.00
F. F. 6	12.0	M. S. 9	10.00	L. C. 7	5.00
B. P. 12	7.0			A. S. 7½	13.00
A. S. 14	12.0			F. O. 8	7.00
				J. H. 8	11.50
Average 8.7		9.42		P. F. 9	12.00
S. D.... 2.71		.42		T. W. 10	6.50
P. E.... .817		.164		J. V. 10	11.75
				M. Z. 11	17.00
				J. P. 11	14.25
				J. L. 12	6.75
				H. A. 12	12.50
				G. L. 12	8.25
				S. R. 12	11.50
				J. H. 12	14.00
				L. H. 13	9.25
				L. R. 14	15.50
				M. K. 14	5.50
				M. B. 14	13.00
				L. R. 15	7.00
				F. S. 16	14.75
				F. R. 16	19.00
				J. L. 16	17.50
				I. B. 17	17.25
				A. E. 17	19.00
				F. B. 17	10.00
				O. K. 18	15.00
				Average 11.79	12.281
				S. D.... 4.12	2.84
				P. E.... .545	.608

TABLE 3.—LENGTH FROM ALVEOLAR POINT TO A LINE CONNECTING THE FIRST MOLARS. (C.)

Normal Individuals.		Abnormal Individuals.	
Male.	Female.	Male.	Female.
<i>Subj. Age.</i>	<i>Subj. Age.</i>	<i>Subj. Age.</i>	<i>Subj. Age.</i>
R. S. 4	E. R. 5	E. S. 6	I. V. 9 26.00
J. V. 5	R. R. 8 29.50	F. S. 7 29.00	J. T. 9 28.00
F. F. 6 28.00 mm.	M. S. 9 24.00	L. C. 7 31.00	E. L. 10 33.50
B. B. 12 29.00		A. S. 7½ 32.00	B. B. 11 30.50
A. S. 14 28.75		F. O. 8 27.75	C. V. 11 28.00
Average 28.58	26.75	J. H. 8 28.50	M. V. 12 14.00
S. D.... .42	2.75	P. F. 9 29.75	T. B. 12 33.00
P. E.... .164	1.308	T. W. 10 34.00	S. S. 12 29.50
		J. V. 10 30.00	M. L. 15 23.00
		M. Z. 11 29.50	E. B. 17 30.00
		J. P. 11 27.50	
		J. L. 12 27.75	
		H. A. 12 24.00	
		G. L. 12 25.50	
		S. R. 12 31.00	
		J. H. 12 29.00	
		L. H. 13 30.00	
		L. R. 14 28.00	
		M. K. 14 29.90	
		M. B. 14 29.25	
		L. R. 15 31.50	
		F. S. 16 25.50	
		F. R. 16 34.50	
		J. L. 16 24.50	
		I. B. 17 26.00	
		A. E. 17 31.00	
		F. B. 17 25.25	
		O. K. 18 31.00	
		Average 28.99	27.55
		S. D.... 3.21	5.39
		P. E.... .418	1.050

TABLE 4.—DISTANCE BETWEEN THE CANINES. (D.)

Normal Individuals.		Abnormal Individuals.	
Male.	Female.	Male.	Female.
<i>Subj. Age.</i>	<i>Subj. Age.</i>	<i>Subj. Age.</i>	<i>Subj. Age.</i>
R. S. 4 22.75 mm.	E. R. 5 22.00	E. S. 6 22.75	L. V. 9 23.00
J. V. 5 26.00	R. R. 8 25.00	F. S. 7 22.00	J. T. 9 24.00
F. F. 6 24.00	M. S. 9 26.00	L. C. 7 17.75	E. L. 10 20.00
B. B. 12 23.00		A. S. 7½	B. B. 11 25.00
A. S. 14 24.50		F. O. 8 24.00	C. V. 11 23.00
Average 24.05	24.33	J. H. 8 22.00	M. V. 12 23.00
S. D.... 1.16	1.69	P. F. 9 24.75	T. B. 12 23.75
P. E.... .352	.661	T. W. 10 29.75	S. S. 12 24.00
		J. V. 10 21.25	M. L. 15
		M. Z. 11 27.50	E. B. 17 21.00
		J. P. 11	
		J. L. 12 27.00	
		H. A. 12 32.00	
		G. L. 12	
		S. R. 12 27.00	
		J. H. 12 31.50	
		L. H. 13 25.00	
		L. R. 14 24.00	
		M. K. 14 25.00	
		M. B. 14 26.75	
		L. R. 15 29.00	
		F. S. 16	
		F. R. 16 21.00	
		J. L. 16 24.50	
		I. B. 17 23.00	
		A. E. 17 21.00	
		F. B. 17 21.00	
		O. K. 18 21.00	
		Average 24.60	22.97
		S. D.... 3.55	1.47
		P. E.... .489	.331

TABLE 5.—STANDARD DEVIATIONS.³

	NORMAL		ABNORMAL	
	Male.	Female.	Male.	Female.
A. Width, molars	2.75	1.75	3.29	2.63
B. Height	2.71	.42	4.12	2.84
C. Length .....	.42	2.75	3.21	5.39
D. Width, canines	1.16	1.69	3.55	1.47

The standard deviation is significant of the amount of variability, and it can be seen from the above table that this variability is considerably higher in the abnormal palate than in the normal. This is to be expected if our contention is true—that the size of the palate (as will be brought out later) correlates with the shape and size of the head. The abnormal palate varies more than the normal because the shape and size of the head vary more in abnormal than in normal individuals.

When the averages of the abnormal and the normal palate are compared for the various measurements, it becomes evident that a true difference exists only in the case of the height of the palate. (See Table 6.)

TABLE 6.—TABLE OF DIFFERENCES.

DIFFERENCES BETWEEN THE AVERAGES OF THE ABNORMAL AND NORMAL, FOR THE FOUR MEASUREMENTS TAKEN.⁴

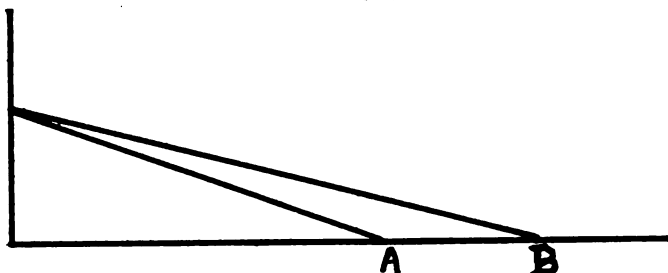
Measurement.	Ages.	Male Differences.	Female Differences.
A. Width, molars	4-18	— .60 ± 1.15 (P. D.) ⁵	+ .98 ± 1.02
B. Height	4-18	+ 3.09 ± .98	+ 2.86 ± .63
C. Length	4-18	+ .41 ± .45	+ .80 ± 1.68
D. Width, canines	4-18	+ .55 ± .60	— 1.36 ± .74

³ From Tables 1-4.

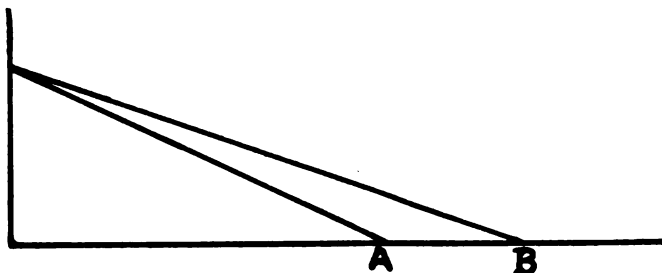
⁴ From Tables 1-4.

⁵ P. D. = Probable Difference. If the difference between the two averages to be compared is greater than the P. D., then the probabilities are high that the difference is a real one. It is evident from the table that the probabilities of a real difference are greatest in the case of the height of the palate (measurement B).

CURVE I NORMAL MALE AVERAGE.



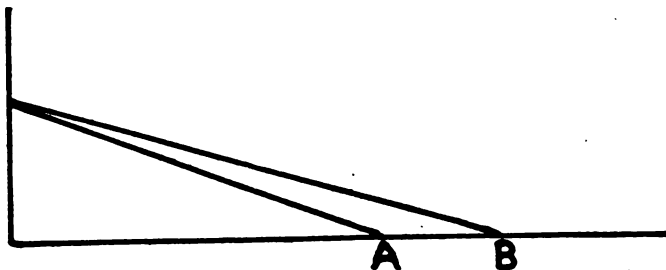
CURVE II ABNORMAL MALE AVERAGE



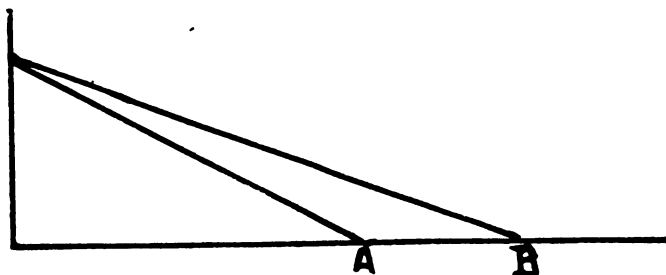
NORMAL MALE AVERAGE LENGTH.

ABNORMAL MALE AVERAGE LENGTH.

CURVE III NORMAL FEMALE AVERAGE.



CURVE IV ABNORMAL FEMALE AVERAGE.



NORMAL FEMALE AVERAGE LENGTH.

ABNORMAL FEMALE AVERAGE LENGTH.

The height of the palate is represented along the vertical, and the width along the horizontal.

Point A represents the width at the canines and Point B the width at the molars. Each of these points is connected with the point on the vertical representing the height.

The length of the palate is designated by straight lines.

As to measures A, C and D, the differences between the normal and abnormal range from .41 mm. to 1.36 mm., the greatest difference here being in C (female difference) :

— 1.36 \pm .74, which may reach 2.48 mm.

But this difference is small compared to that of B (height of palate) :

Male + 3.09 \pm .98, which may reach 4.07 mm.

or

Female + 2.86 \pm .63, which may reach 3.49 mm.

We might conclude from this that the probabilities are high that there is a real difference between normal and abnormal individuals only in the case of the height of the palate, and that there is no significant difference in the case of the remaining three measurements.

Now, the question arises as to whether this increased height of the palate in abnormal individuals is a diagnostic symptom of mental defect, *i. e.*, is there a correlation between the height of the palate and mental ability, or is the increased height of the palate in abnormal individuals due to other causes? For example, the shape and size of the head may materially influence the height of the palate. If a correlation can be shown to exist between the measurements of the head and of the palate, it becomes evident that the increased height of the abnormal palate may be due to conditions other than mental ones.

The following tables (7-14) show the various measurements of the palate, together with the length, breadth and circumference of the head of each individual studied, and the norm for each such measurement, as given in the Stoelting Table of Norms.

TABLE 7.—MEASUREMENTS OF THE PALATE OF NORMAL MALE INDIVIDUALS.

Subject.	Age.	Mental Age.	Height.	Length.	Width at Canines.	Width at Molars.	Asymmetry.
R. S.....	4	4	6.0mm.	.....	22.75mm.	.....	+
J. V.....	5	5	6.5	.....	26.00	.....	++
F. F.....	6	6	12.0	28.00mm.	24.00	31.25	++
B. P.....	12	12	7.0	29.00	23.00	24.50	+
A. S.....	14	14	12.0	28.75	24.50	38.00	++
Average. ....	.....	.....	8.7	28.58	24.05	34.58	

TABLE 8.—MEASUREMENTS OF THE HEAD OF NORMAL MALE INDIVIDUALS.

Subject.	Age.	Mental Age.	Circumference.	Norm.	Length.	Norm.	Breadth.	Norm.
R. S.....	4	4	.....	.....	.....	.....	.....	.....
J. V.....	5	5	20.12in.	20.45	16.7cm.	17.6	13.0cm.	14.1
F. F.....	6	6	20.75	20.45	17.5	17.7	13.7	14.2
B. P.....	12	12	21.25	20.94	16.7	18.3	14.7	14.5
A. S.....	14	14	21.19	21.21	17.1	18.7	14.2	14.7
Average. ....	.....	.....	20.83	20.76	17.0	18.1	13.9	14.4

TABLE 9.—MEASUREMENTS OF THE PALATE OF NORMAL FEMALE INDIVIDUALS.

Subject.	Age.	Mental Age.	Height.	Length.	Width at Canines.	Width at Molars.	Asymmetry.
E. R.....	5	5.6	9.00	.....	22.00	.....	+
R. R.....	8	8.6	9.25	29.50	25.00	34.00	+
M. S.....	9	9.6	10.00	24.00	26.00	30.50	+
Average. ....	.....	.....	9.42	26.75	24.33	32.25	

TABLE 10.—MEASUREMENTS OF THE HEAD OF NORMAL FEMALE INDIVIDUALS.

Subject.	Age.	Mental Age.	Circumference.	Norm.	Length.	Norm.	Breadth.	Norm.
E. R.....	5	5.6	19.75	20.00	16.5	17.4	12.3	13.8
R. R.....	8	8.6	20.75	20.26	16.9	17.5	13.0	14.0
M. S.....	9	9.6	20.13	20.29	16.8	17.6	13.1	14.1
Average. ....	.....	.....	20.21	20.18	16.7	17.5	12.8	14.0

TABLE II.—MEASUREMENTS OF THE PALATE OF ABNORMAL MALE INDIVIDUALS.

Subject.	Age.	Mental Age.	Height.	Length.	Width at Canines.	Width at Molars.	Asymmetry.
E. S.....	6	6	9.50	.....	22.75	.....	++
F. S.....	7	7	7.00	29.00	22.00	31.00	++
L. C.....	7	.....	5.00	31.00	17.75	34.50	Keel.
A. S.....	7.5	6	13.00	32.00	.....	34.25	—
F. O.....	8	8	7.00	27.75	24.00	32.00	+
J. H.....	8	5+	11.50	28.50	22.00	31.00	++
P. F.....	9	6	12.00	29.75	24.75	31.25	+
T. W.....	10	10	6.50	34.00	29.75	38.50	++
J. V.....	10	.....	11.75	30.00	21.25	35.00	++
M. Z.....	11	8	17.00	29.50	27.50	37.00	++
J. P.....	11	5	14.25	27.50	.....	33.00	++
J. L.....	12	4—	6.75	27.75	27.00	38.00	++
H. A.....	12	9.7	12.50	24.00	32.00	33.50	++
G. L.....	12	8.5	8.25	25.50	.....	32.00	++
S. R.....	12	9.5	11.50	31.00	27.00	31.00	++
J. H.....	12	12	14.00	29.00	31.50	31.00	+++
L. H.....	13	10	9.25	30.00	25.00	29.00	++
L. R.....	14	14	15.50	28.00	24.00	31.00	—
M. K.....	14	11.5	5.50	29.90	25.00	36.00	++
M. B.....	14	8.5	13.00	29.25	26.75	42.25	++
L. R.....	15	10—	7.00	31.50	29.00	39.00	+
F. S.....	16	16	14.75	25.50	.....	35.00	++
F. R.....	16	14	19.00	34.50	21.00	35.00	++
J. L.....	16	12.5	17.50	24.50	24.50	35.50	++
I. B.....	17	15+	17.25	26.00	23.00	35.00	++
A. E.....	17	17	19.00	31.00	21.00	29.00	++
F. B.....	17	7.2	10.00	25.25	21.00	29.75	+
O. K.....	18	18	15.00	31.00	21.00	38.00	++
Average.....	.....	.....	11.79	28.99	24.60	33.98	

TABLE 12.—MEASUREMENTS OF THE HEAD OF ABNORMAL MALE INDIVIDUALS.

Subject.	Age.	Mental Age.	Circumference.	Norm.	Length.	Norm.	Breadth.	Norm.
E. S.....	6	6	20.40	20.45	17.7	17.7	14.2	14.2
F. S.....	7	7	20.81	20.48	17.6	17.9	13.2	14.2
L. C.....	7	.....	21.50	20.48	17.2	17.9	13.1	14.2
A. S.....	7.5	6	19.00	20.48	17.5	17.9	14.5	14.2
F. O.....	8	8	19.69	20.51	16.7	18.0	14.8	14.3
J. H.....	8	5+	19.75	20.51	15.9	18.0	13.1	14.3
P. F.....	9	6	21.00	20.61	16.4	18.1	14.7	14.4
T. W.....	10	10	21.50	20.73	17.9	18.2	13.5	14.4
J. V.....	10	.....	16.56	20.73	15.1	18.2	13.1	14.4
M. Z.....	11	8	20.50	20.82	15.4	18.3	15.3	14.5
J. P.....	11	5	20.50	20.82	15.9	18.3	14.2	14.5
J. L.....	12	4—	19.50	20.94	16.4	18.3	14.8	14.6
H. A.....	12	9.7	.....	.....	.....	.....	.....	.....
G. L.....	12	8.5	20.25	20.94	16.6	18.3	13.5	14.6
S. R.....	12	9.5	21.00	20.94	16.9	18.3	13.7	14.6
J. H.....	12	12	.....	.....	.....	.....	.....	.....
L. H.....	13	10	.....	.....	.....	.....	.....	.....
L. R.....	14	14	21.50	21.21	18.0	18.7	14.5	14.7
M. K.....	14	11.5	.....	.....	.....	.....	.....	.....
M. B.....	14	8.5	20.63	21.21	15.7	18.7	15.2	14.7
L. R.....	15	10—	.....	.....	.....	.....	.....	.....
F. S.....	16	16	21.50	21.67	18.5	19.1	15.5	14.9
F. R.....	16	14	20.50	21.67	17.1	19.1	13.3	14.9
J. L.....	16	12.5	21.25	21.67	17.1	19.1	13.9	14.9
I. B.....	17	15+	22.25	21.87	19.4	19.2	15.4	15.0
A. E.....	17	17	22.00	21.87	19.5	19.2	15.0	15.0
F. B.....	17	7.2	19.44	21.87	15.7	19.2	13.8	15.0
O. K.....	18	18	.....	.....	.....	.....	.....	.....
Average. ....	.....	.....	20.50	21.02	17.0	18.4	14.2	14.6

TABLE 13.—MEASUREMENTS OF THE PALATE OF ABNORMAL FEMALE INDIVIDUALS.

Subject.	Age.	Mental Age.	Height.	Length.	Width at Canines.	Width at Molars.	Asymmetry.
I. V.....	9	8	11.00mm.	26.00mm.	23.00mm.	31.50mm.	+
J. T.....	9	2—	12.25	28.00	24.00	34.50	++
E. L.....	10	7	13.00	33.50	20.00	33.00	++
B. B.....	11	7.5	9.25	30.50	25.00	37.00	++
C. V.....	11	10	12.00	28.00	23.00	31.50	+
M. V.....	12	8	11.75	14.00	23.00	28.50	++
T. B.....	12	8	15.00	33.00	23.75	35.25	+
S. S.....	12	11	13.50	29.50	24.00	35.00	+
M. L.....	15	11	7.00	23.00	.....	36.00	++
E. B.....	17	7.7	18.00	30.00	21.00	30.00	++
Average. ....	.....	.....	12.28	27.55	22.97	33.23	

TABLE 14.—MEASUREMENTS OF THE HEAD OF ABNORMAL FEMALE INDIVIDUALS.

Subject.	Age.	Mental Age.	Circumference.	Norm.	Length.	Norm.	Breadth.	Norm.
I. V.....	9	8	19.75in.	20.29	16.3cm.	17.6	12.0cm.	14.0
J. T.....	9	2—	20.00	20.29	17.5	17.6	14.1	14.0
E. L.....	10	7	19.50	20.43	18.5	17.7	14.0	14.2
B. B.....	11	7.5	22.00	20.54	16.5	18.0	13.9	14.2
C. V.....	11	10	18.75	20.54	15.5	18.0	12.3	14.2
M. V.....	12	8	19.50	20.78	16.0	18.0	12.2	14.3
T. B.....	12	8	20.25	20.78	17.8	18.0	13.1	14.3
S. S.....	12	11	21.25	20.78	16.9	18.0	14.0	14.3
M. L.....	15	11	.....	.....	.....	.....	.....	.....
E. B.....	17	7.7	.....	.....	18.0	18.5	15.0	14.6
Average. ....	.....	.....	20.13	20.55	17.0	17.9	13.4	14.2

On the basis of the preceding tables (7-14) the following coefficients of correlation have been worked out to show the relation between the various measurements of the palate and the length, breadth and circumference of the head:

TABLE 15.—COEFFICIENTS OF CORRELATION BETWEEN MEASUREMENTS OF THE PALATE AND MEASUREMENTS OF THE HEAD.

HEIGHT OF PALATE.	NORMAL		ABNORMAL	
	Male.	Female.	Male.	Female.
With length of head .....	.91	.82	.70	.64
With breadth of head .....	.88	.83	.87	.79
With circumference of head .....	.89	.64	.55	.78
LENGTH OF PALATE.				
With length of head .....	.98	1.00	.59	.67
With breadth of head .....	.99	1.00	.75	.62
With circumference of head .....	.86	1.00	.57	.47
PALATE, WIDTH AT CANINES.				
With length of head .....	.77	.89	.78	.70
With breadth of head .....	.70	.93	.91	.59
With circumference of head .....	.93	.75	.59	.71
PALATE, WIDTH AT MOLARS.				
With length of head .....	.50	.71	.75	.73
With breadth of head .....	.50	.71	.76	.85
With circumference of head .....	.82	1.00	.51	.87

It may be seen from these tables that, of the normal coefficients, 21 of the 24 (or 88%) reach a coefficient of correlation of 70% or more, 70% being accepted as a coefficient sufficiently high to represent a true correlation. Of the coefficients for the abnormal cases, 14 of the 24 (or 58%) reach a coefficient of 70% or more. Though this percentage is considerably lower than that of the normal, yet it is evident that a correlation exists even in the abnormal cases. Though a correlation is not found in all abnormal cases, neither is it always found in normal cases. In fact, not a few of the coefficients of the abnormal are actually higher than those of the normal.

On the basis of these facts it appears that the greater average height of the abnormal palate may be due to variations in the size of the head.

In general, two types of palate were noted:

(1) The high and narrow, associated in general with the narrow head (dolichocephalic); (2) the low and broad, associated with a broad head (brachycephalic). By referring to the general tables, this statement is verified when one notes that in practically all cases in which the height of the palate is greater than that of the average height, the length, breadth and circumference of the head are found to be smaller than the corresponding norms.

The high and narrow palate, then, may occur in the normal individual as well as in the abnormal, so that we cannot agree with Church and Peterson (2) that "a large, wide, moderately high vault is what may be called a normal standard." Rather, the shape and size of the head will determine the dimensions of the palate in both normal and abnormal individuals, and the palate will tend to be high when the head is shorter, narrower and of lesser circumference than the norm for the corresponding age. Either of the two types may be normal, depending upon the head measurements, the shape of the palate taking the general contour of the head.

Therefore, because the palate is imperfect, it does not necessarily follow that mentality is imperfect, *i. e.*, there is no necessary connection between the degree of mental capacity and a high palate.

The male and female palate may be compared by means of the following table of averages:

TABLE 16.—COMPARISON OF THE MALE AND FEMALE PALATE

	NORMAL		ABNORMAL	
	Male.	Female.	Male.	Female.
A. Width, molars	34.58	32.25	33.98	33.23
B. Height	8.70	9.42	11.79	12.28
C. Length	28.58	26.75	28.99	27.55
D. Width, canines	24.05	24.33	24.60	22.97

It is seen from this table that the male palate tends to be larger than the female, excepting in the case of the height of the palate

(and in the normal, measurement D, where the difference is small), where the female exceeds that of the male.

This fact corroborates our previous conclusion, that the height of the palate depends upon the size of the head, the female head being smaller than the male and therefore producing a higher palate. By referring to Tables 7-14 it is evident that in both

TABLE 17.—VOLUME OF CASTS (IN MM.). MEASURED WITH MERCURY.

Abnormal Male.		Normal Male.		Abnormal Female.		Normal Female.	
<i>Age. Volume.</i>		<i>Age. Volume.</i>		<i>Age. Volume.</i>		<i>Age. Volume.</i>	
L. C.... 7	2.5	R. S.. 5	4.5	H. G.... 8	6.5	E. R... 5	4.5
F. S.... 7	6.0	J. V... 5	5.0	I. V.... 9	6.2	R. R... 8	7.0
A. S.... 7½	4.5	F. F.. 6	7.0	J. T.... 9	6.5	M. S... 9	6.0
F. O.... 8	5.0	B. P.. 12	8.5	E. L.... 10	5.5	Average 5.8	
H. J.... 8	5.5	A. S.. 14	7.2	C. V.... 11	4.5	P. E....	.400
P. F.... 9	4.7	R. C.. 21	10.5	B. B.... 11	6.0	P. D....	.514
J. V.... 10	5.2	Average 7.1		M. V.... 12	3.5		
T. W.... 10	9.2	P. E....	.560	T. B.... 12	9.0		
M. Z.... 11	10.0	P. D....	.615	S. S.... 12	9.0		
J. P.... 11	8.0			M. L.... 15	6.0		
J. L.... 12	7.5			E. B.... 17	7.5		
H. A.... 12	6.0			Average 6.3			
G. L.... 12	6.0			P. E....	.324		
S. R.... 12	8.0						
J. H.... 12	8.0						
L. H.... 13	11.0						
L. R.... 14	6.0						
M. K.... 14	7.0						
M. B.... 14	9.0						
L. R.... 15	11.0						
F. S.... 16	8.0						
F. R.... 16	10.0						
J. L.... 16	7.0						
J. B.... 17	8.0						
A. E.... 17	7.0						
F. B.... 17	6.0						
O. K.... 18	6.5						
Average 7.1							
P. E.... .255							

abnormal and normal individuals, the averages of the length, breadth and circumference of the female head are in all cases less than those of the male for the corresponding measurements. The palate then tends to be high in either normal or abnormal individuals when the head is narrower, shorter and of lesser circumference than the norm for the corresponding age.

As for asymmetry, indicated by plus signs in Tables 7, 9, 11, and 13, the casts of the normal individuals tend to show asymmetry as generally as do the abnormal. In many cases the asymmetry is as great in the normal as in the abnormal palate. Asymmetry, then, is not a distinguishing characteristic of the palate in abnormal individuals.

The volume of the casts, as measured with mercury, is shown in the following table (17). It is evident that the volume of the abnormal cast differs, on the average, practically not at all from the normal. The volume of the female cast is smaller in both the averages for the normal and for the abnormal individuals.

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THE CORRELATION OF NEUROLOGY, PSYCHIATRY, PSYCHOLOGY AND GENERAL MEDICINE AS SCIENTIFIC AIDS TO INDUSTRIAL EFFICIENCY.

BY JAU DON BALL, M. D., OAKLAND, CALIFORNIA,
Captain, Medical Corps, U. S. A.

I. INTRODUCTION.

It is less than a hundred years since organized labor was born. During this time, it has borne the brunt of adjustments to meet ever-changing conditions. Not the lightest of its burden has been the assimilation of the enormous influx of immigrants of *many nationalities, races, and languages*.

It is unnecessary to go into detail regarding the present signs of industrial unrest; they are only too patent to the thinking individual. The turmoil produced by the I. W. W.'s and Bolshevistic teachings, as exemplified in needless strikes, internal strife, excessive and unnecessary turnover, in lowered productivity, and plant inefficiency, is but a handwriting on the wall.

The leaders of industry have kept aloof and the breach between capital and labor has gradually widened until present conditions have awakened the true American to the seriousness of the situation. There should be stimulated a closer relationship between employer and employee and the stabilization of industries by the application of scientific and practical selection of the human material at hand; and the stabilization of the individual by being interested in him, thus creating trust, confidence and cooperation, as well as driving home the principles of good fellowship. To do this, it is absolutely necessary to study the individual as regards his *physical, nervous, and mental* fitness for a particular job, and to ascertain his special abilities and disabilities.

Undoubtedly a new epoch in the history of labor is at hand, unfolded by the present great necessity, associated with abnormal conditions, and surrounded by unusual circumstances.

Instead of throwing the entire burden of the *Americanization* of labor upon labor as a class, would it not be more laudable for

the *normal* and *unselfish leaders of industry* to assume at least a portion of the burden?

We read of this or that leader of industry developing wonderful efficiency in his establishment, but close scrutiny of the industries of this country will reveal conditions absolutely deplorable, unbusinesslike, and certainly unscientific. The turnover in many of our industries is astonishing and *absolutely unnecessary*.

The prognosis is good, providing proper treatment be applied and continued unhesitatingly, and with deliberate and rational vision.

It is my opinion that the proper treatment consists in the utilization of properly coordinated scientific aids under competent directing heads, and with the sympathetic and untiring *cooperation of labor and industrial leaders*. Prophylactic measures started now will prevent the disease of inefficiency from making further inroads upon the constitution of capital and labor and will stabilize and unify both.

The plan hereinafter to be discussed is *practical, broad, comprehensive, humane, economic*, as well as *scientific*. It must be understood, however, that this article is only preliminary and represents a beginning of industrial research work which the author believes is the first of its kind to be undertaken.

II. SOURCES OF INFORMATION.¹

Information and groundwork for this research was gained by visits to large industrial plants, including one of the large shipbuilding plants on the Pacific coast. Personal interviews were had with managers, superintendents, foremen, and men, and opportunity offered for study of individuals. Careful study was made of the method of employing labor, not only the methods used at the individual plants, but also methods observed at United States employment offices. What particularly impressed the author was the fact that the efficiency of every plant was entirely

¹ The courtesies extended by the Messrs. Marchant, of Marchant Calculating Machine Co., Oakland, California, made possible a great portion of this work. Also my gratitude is very great for courtesies of Mr. D. M. Rupert, Employment Manager of Union Plant, Bethlehem Shipbuilding Corporation, Ltd., San Francisco, and to Mr. T. H. Jacobs, Manager of Service Department of the same corporation.

dependent upon the methods used in its employment bureau. It is the keystone to the entire arch of industry. True, at the present time, this keystone is a little unstable, but by the proper cooperation of capital and labor and the realization by both of the great necessity for the *proper selection and distribution of labor*, it will be possible to imbed it the more firmly in the cement of good fellowship and loyalty.

The loss to many industries through the *termination* of individuals unsuited for a particular job, but having unascertained special abilities, is enormous. The *salvage* of this human material should be undertaken by a scientifically equipped employment bureau. Such a salvage bureau as a part of the general employment scheme would react not only favorably to the employee, but to the employer as well.

III. METHODS OF PROCEDURE.¹

Under this head will be given methods used in examinations.

These include: (a) General medical; (b) neurological; (c) psychiatric; (d) psychological; (e) social.

All the methods are subject to revision and criticism, but it must be fully appreciated that the foundation for the whole scheme is the *proper coordination of all scientific aids* in industrial examinations. Without such coordination and a rational interpretation of results, confusion is possible, and erroneous conclusions are liable to be drawn. For example, an individual might have a so-called normal intelligence, and by psychologists be classed as a capable individual, yet a neurological or psychiatric examination might reveal a serious pathological nervous or

¹ Many valuable suggestions and much encouragement were given by Mr. Virgil E. Dickson, Chief of Psychological Research Department, Oakland, California, Public Schools.

Mr. A. Vollmer, Chief of Police, Berkeley, California, gave much of his valuable time and experience in assisting at examinations and in freely offering valuable suggestions.

Dr. Paul J. Anderson, psychiatrist, Oakland, California, and Mrs. Grace Hawkins, assistant clinical psychologist, Leland Stanford University Medical School, San Francisco, rendered invaluable assistance in the examinations.

My appreciation is keen for the kind encouragement of Prof. Robt. Leonard, Professor of Vocational Education, University of California, Berkeley, California.

mental condition, making such a person a potentially dangerous individual for any industry; or the medical examination might reveal incipient or advanced pulmonary tuberculosis, active syphilis, or some abnormal physical condition or defect, making the individual a menace to his co-workers and a danger to himself. All this, notwithstanding that he possesses normal or above average intelligence, and by psychological tests alone would be passed, demonstrates the great necessity for proper coordination of all scientific aids in industrial examinations.

A scheme involving such a coordination as above explained, could be put into operation in the employment bureaus of industrial organizations, or a general clearing-house could be established for a number of industries. Also such a scheme could be utilized to ascertain the *physical*, *nervous*, and *mental* equipment of individuals already employed, with the end in view of bettering their condition, and possibly ascertaining their special abilities.

Much talent is hidden in modern industry, and many individuals become anti-social because of unfair bosses and foremen (unfair because of some abnormal nervous or mental condition).

As many as 100 at a time could be given the psychiatric and psychological examinations, but it is preferable to examine in groups of 25, as it gives the examiner greater opportunity to study the individual reactions.

Men and women should be examined separately.

The physical examination should be first, at which time should also be made the neurological examination, and also it is possible during this time to make psychiatric observations.

The following outline for examination is suggested for the reason that it is simple and covers the necessary points:

A. GENERAL MEDICAL EXAMINATION.

1. General appearance.
2. Vision.
3. Hearing.
4. Heart.
5. Lungs.
6. Skin.
7. Teeth.
8. Venereal diseases.

9. Surgical diseases (especially hernia, flat-feet, deformities).
10. Condition of blood and urine (laboratory examinations, if individual desires it. Consent can usually be obtained).

NOTE.—Author realizes the difficulty involved in obtaining the above, and it might be necessary to confine physical examination to general inspection until labor organizations have been educated as to the value of such examinations to the individual.

B. NEUROLOGICAL EXAMINATION.

NOTE.—Can be made at time of general physical examination, and usually presents no difficulties.

1. Principal deep and superficial reflexes:
 - (a) Knee-kicks.
 - (b) Tendo Achillis.
 - (c) Superior tendons.
 - (d) Abdominal.
 - (e) Cremasteric.
 - (f) Pupillary reflexes.
2. Station.
3. Tremors.
4. Neuro-circulatory syndrome (endocrinopathies).
5. Speech disturbances.

C. PSYCHIATRICAL EXAMINATION.

1. Direct observation.
2. Questionnaire. (Most individuals will answer truthfully simple questions if permitted to write the answers. If questions are carefully selected, and are not too numerous, much can be gleaned as to family and personal history, at least enough to justify a special interview if the answers warrant it.)

The following list of questions, most of them answered by either "Yes" or "No," could be used. This list could be made much shorter and less specific, and still would answer the purpose for "spotting" types:

Form Suggested for Questionnaire.

KINDLY ANSWER THE FOLLOWING QUESTIONS TO THE BEST OF YOUR ABILITY. ALL ANSWERS ARE TREATED ABSOLUTELY CONFIDENTIAL AND THE INFORMATION OBTAINED IS TO BE USED FOR SCIENTIFIC PURPOSES ONLY, AND HAS NO REFERENCE WHATSOEVER TO YOUR PRESENT POSITION OR FUTURE ASSOCIATION WITH THIS OR ANY OTHER COMPANY.

THE INFORMATION GIVEN SHOULD BE AS ACCURATE AS POSSIBLE. YOUR GENEROUS COOPERATION AND ASSISTANCE IS ASKED IN THIS INVESTIGATION.

NOTE.—Heading for questionnaire could be changed to suit conditions, whether or not it was to be used for research work only, as above, or in course of regular examination of applicants.

Name Address No.
 Age M. S. W. D. Ht. Wt.
 Sex Color hair Color eyes

I. Give age and cause of death of:

1. Mother's mother
2. Mother's father
3. Father's mother
4. Father's father
5. Father
6. Mother
7. Brothers
8. Sisters

II. State any peculiarities or abnormal nervous or mental conditions in family or ancestors, such as the following: (Answer "Yes" or "No.")

1. Stammering or stuttering
2. Headaches
3. Dizzy spells
4. Fainting spells
5. Despondency or "blues"
6. Fiery temper
7. St. Vitus's dance
8. Fits
9. Epilepsy
10. Paresis
11. Nervous breakdowns
12. Mental diseases (insane)
13. Feeble-minded (imbeciles)
14. Remarks

III. Name diseases in family, including three generations, if possible: (Answer "Yes" or "No.")

1. Consumption
2. Tuberculosis
3. Bright's disease
4. Diabetes
5. Cancer
6. Scrofula
7. Syphilis
8. Malaria
9. Remarks

IV. State any special talents or abilities in your family or ancestors: (Answer "Yes" or "No.")

1. Music
2. Art

3. Mechanical
4. Executive
5. Professional
6. Remarks

V. Give occupations of:

1. Father
2. Mother
3. Brothers
4. Sisters
5. Grandparents
6. Remarks

VI. Did you have any of the following diseases or conditions? (Kindly answer by "Yes" or "No.")

1. Measles
2. Mumps
3. Scarlet fever
4. Whooping-cough
5. Chicken-pox
6. Diphtheria
7. Stammering or stuttering
8. Sleeplessness
9. Pneumonia
10. Influenza
11. Typhoid fever
12. Operations
13. Headaches
14. Dizzy spells
15. Fainting spells
16. Coughing spells
17. Fits, convulsions, or spasms
18. St. Vitus's dance
19. Despondency or "blues"
20. Fiery temper
21. Fits of anger
22. Nervous breakdown
23. Frequent dreams
24. Nightmare
25. Blushing (frequent)
26. Blind or half-blind for a short time
27. Deaf or dumb for a time
28. Loss of memory
29. Biting of finger-nails
30. Ever see a vision?
31. Ever hear imaginary voices?
32. Asthma

33. Hay fever
34. Twitching of face muscles
35. Walk in sleep
36. Does your nose more or less constantly itch?
37. Paralyzed
38. Wet bed (how old when stopped)
39. Stumble in the dark
40. Fear of going insane

VII. Kindly answer the following questions by "Yes" or "No" when possible:

1. Does your hand tremble when you attempt to use it?
2. Are you usually well?
3. Do you feel tired and achy in the morning?
4. Does your head ever ache on one side?
5. When your head aches do you see colored lights?
6. Were you happy as a child?
7. Did you often become blue or discouraged between the ages of 12 to 20 years?
8. Do you like to be alone?
9. Do you like to make new acquaintances?
10. Does the sight of blood make you feel faint or wish to run away?
11. Do you get tired easily?
12. Do you seem to think people are watching you on the street or in public places?
13. Are you afraid to cross open spaces?
14. Are you afraid of crowds or closed places?
15. Do you belong to a lodge or club?
16. Have you held any offices in a lodge, club, or other organization?
17. Has any one "got it in" for you?
18. Anybody persecuting you?
19. Were you always treated right by your family and employers?
20. Are you satisfied with life?
21. Do you think that you are getting a square deal in life?
22. Were your parents
 - (a) Poor?
 - (b) Moderate means?
 - (c) Well-to-do?
 - (d) Wealthy?
23. Do you
 - (a) Own your own home?
 - (b) Rent home?
 - (c) Rent flat?
 - (d) Rent apartment?
 - (e) Rent room?
 - (f) Live with parents?

24. Were you raised in
 - (a) City?
 - (b) Country?
25. What school did you attend?
26. How much schooling have you had?
27. What grade did you reach?
28. Did you ever fail in school?
29. What grades did you fail in, and how many times in each?

(Please answer in full.)

30. Name the occupations you have had and length of time worked at each?
31. Were your comrades during childhood and adult life good, bad, or indifferent?
32. What kind of amusements do you like?
33. Have you any special talents?
34. How long at your present or last occupation, and what are or were your wages?
35. Are you anxious for advancement?
36. Do you like responsibility?
37. What special abilities have you?
38. What would you like to do?
39. How long have you been in the state?
40. Are you a citizen of the United States?
41. Have you children?
42. Have you ever been arrested?
43. Do you laugh or cry easily?

It will be noted that the preceding questions include:

- I. Family history.
- II. Health history.
- III. Personal history.
- IV. Social history.
- V. Education.
- VI. Industrial history.
- VII. Reaction toward present environment.
- VIII. Special abilities.
- IX. Nervous and mental phenomena which would indicate further examination.

D. PSYCHOLOGICAL EXAMINATION.

I am indebted to Lieutenant A. Warren Stearns^{*} of the neuro-psychiatric division of the United States Navy for a compilation of tests which I have found to answer my purpose very well up to the present time. Inasmuch as "Stearns'" test has been standardized for a number of occupations in the United States Navy, it would be well to utilize it until a more practical one is compiled. However, as the work in industrial examinations proceeds the need for other tests, special trade tests, and tests for special abilities, becomes manifest. These are being developed at present and will be presented at a later date.

The following is Lieutenant A. Warren Stearns' test, which should be known as the "Stearns'" test:

The score is upon the basis of 100—20 points for each test—five tests in all.

1. Trabue test.
2. Disarranged sentences test.
3. Cancellation test.
4. Auditory memory test.
5. Visual memory test.

In industrial examinations it has been found that the No. 2 test is especially valuable in testing ability to quickly recognize relationship of well-defined and easily recognized parts to a given whole (assembling). More difficult tests have been suggested. No. 3 test is good for speed and accuracy and attention.

INSTRUCTIONS FOR GIVING STEARNS' TEST.

(Quoted from Dr. Stearns.)

In giving the directions for these tests, it is essential that every point be clearly understood by every one who is capable of understanding. This can be assured in no other way than by giving the directions slowly and distinctly, with proper expression and emphasis. Before being given, it should be seen that the test is clearly understood. In order that the meaning of each sentence may be fully grasped, it should be followed by a pause. A good rule is to allow a pause of *two seconds after each sentence*. The

^{*} Lieutenant A. Warren Stearns kindly gave permission to use his compilation of tests and to publish it. His test, with full instructions and results of his work, will shortly appear in book form. In it he gives credit to all originators of his test.

STEARNS' TEST.

No..... Date..... Age..... Sex.....

1	<ol style="list-style-type: none"> 1. The sky.....blue. 2. Men.....older than boys. 3. Good boys.....kind.....their sisters. 4. The girl fell and.....her head. 5. The.....rises.....the morning and.....at night. 6. The boy who.....hard.....do well. 7. Men.....more.....to do heavy work.....women. 8. The sun is so.....that one cannot..... directly.....causing great discomfort to the eyes. 9. The knowledge of.... use of fire is.....of..... important things known by...but unknown...animals. 10. One ought to.....great care to.....the right.....of, for one who.....bad habits.....it..... to get away from them. 	
2	<ol style="list-style-type: none"> 1. Hour—for—we—early—at—park—an—started—the. 2. To—asked—exercise—my—teacher—correct—my—I. 3. A—defends—dog—good—his—courageously—master. 	
3	<p>One hears very different judgments in the value of life. Some say it is good; others say it is bad. It would be more correct to say that it is mediocre; because on the one hand it brings us less happiness than we want, while on the other hand the misfortunes it brings are less than others wish for us. It is the mediocrity of life that makes it endurable; or still more, that keeps it from being positively unjust.</p>	
4	<ol style="list-style-type: none"> 1. 2. 3. 4. 	
5	<p>Healy's Code test.</p>	

procedure may only be considered as standardized on the condition that the examiner adheres to this rule uniformly throughout the testing.

Introductory.—This examination is given as an aid in finding for what special work you are best qualified. These papers (indicating) will be passed to you, printed side down. *Do not turn them over* until you are told to do so.

Has every man a paper? Has every man a pencil? Now at the top of the blank side of the paper: (1) Your full name, (2) your number, (3) the highest grade you completed in school. Every one should now have the name, number, and amount of schooling recorded on this sheet.

This examination consists of five different tests. You will do one test at a time. At the order "Begin writing," you will turn your paper over and begin work. You will be allowed a reasonable time to complete each test, so do not hurry through them, but keep your mind on the tests and work steadily. As soon as you have completed the test or when the command "Papers over" is given, you will turn your paper over, printed side down.

TEST 1.

This test is to see how quickly and how well you can complete 10 sentences, which have certain words omitted. Put one word only in each blank space.

"Ready to begin."

"Begin writing."

"Paper over" (after seven minutes).

TEST 2.

The next test consists of seeing how quickly and how well you can rearrange three groups of words into sentences. The words in each sentence are mixed up so they do not make sense. To make a sentence of these words they should be put in order. Use every word which you find under each group.

"Ready to begin."

"Begin writing."

"Paper over" (after three minutes).

TEST 3.

The next test consists in seeing how quickly and how accurately you can cross out all of the "e's" in a paragraph of reading matter taken from a newspaper. Draw a line through each letter "e."

"Ready to begin."

"Begin writing."

"Paper over" (after one minute).

TEST 4.

The first order for these tests will be for you to hold your pencils up, resting your elbow on the table. Now turn your papers over, keeping your pencils up.

This test consists in seeing how many numbers you can write. First, I will read five numbers. When I have finished, at the command "*Write*" you will write the figures on the first line. Then you will hold your pencils up, and I will give you five more, which you will write on the middle line opposite the number "1." Then five more, which you will write on the last line opposite the number "1," etc.

"Ready to begin."

47395—"Write."

"Ready."

58379—"Write."

"Ready."

85264—"Write."

Now I will give you six numbers, which you will write on the second line.

"Ready to begin."

854726—"Write."

"Ready."

274681—"Write."

"Ready."

941738—"Write."

Now I will give you seven numbers, which you will write on the third line.

"Ready."

2946375—"Write."

"Ready."

1695847—"Write."

"Ready."

9285164—"Write."

Now I will give you eight numbers, which you will write on the fourth line.

"Ready."

38574692—"Write."

"Ready."

27869513—"Write."

"Ready."

83962754—"Write."

"Paper over" (no time limit).

TEST 5.

Sometimes in war it is necessary to send secret messages. For this purpose codes or ciphers are used. I am going to give you a code used by the Southern Army in the Civil War, and later ask you to write words in it.

(Put code on blackboard.)

Each letter is represented by the lines which inclose it, *i. e.*,

A, B, C, etc.,

S, T, U, V.

Now these figures for the second groups are the same, except that a dot is placed in each angle to distinguish them from the others, *i. e.*,

J, K, L, etc.,

W, X, Y, Z.

Now we write the word "War," thus:

(Indicating.)

Remember the order of the letters in each figure (*i. e.*, top to bottom, and counter-clockwise).

I am going to ask you to write a phrase on the bottom line of your paper, opposite the number "5," using the code as you remember it.

"Ready to begin."

"Write"—"Caught a Spy."

"Paper over" (after three minutes).

The time required for complete examination is very short in the hands of properly equipped individuals. It is often difficult to find in one person all the qualifications necessary, so a competent physician, trained in making the neurological examinations could rapidly make the physical and neurological examinations. The psychiatric and psychological examinations could be done by one individual properly trained.

It is my firm belief that all psychologists should have a good working knowledge of neurology and psychiatry; and that all psychiatrists should be able to give mental intelligence tests, and be well grounded in psychology. Their trails cross too often for them to ignore each other or to enter into petty fights.

Only a few representative cases will be presented in this article, but in a subsequent paper tables and correlations will be given.

The following method of conducting the examination should be used:

Examination rooms should be well lighted and comfortable. Employees should have explained to them the value of the examinations and the scientific reason; for, by properly explaining in the beginning, a great deal of the apparent mystery is eliminated and a feeling of interest and cooperation aroused. Such a pre-

liminary talk often brings out abnormal mental characteristics in the audience, which an intelligent assistant can record.

The physical and neurological examinations then follow and can be recorded on a blank similar to the one at the end of this article. Very rapid and accurate work can be done after a little practice.

The questionnaire noted above can be given to the employees either before the physical examination or after the psychological test has been given, preferably the latter.

No....	Sex....	Age....	Wage....	M. S. W. D....	Occupation....
Organization					
Plant					
Department					
Examiner					

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P				
																1	2	3	4	5
I	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
II	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
III	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
IV	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
V	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
VI	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
VII	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*

Personality	Recommendations:
Character	
Habits	
Traits { Desirable.	
{ Undesirable.	
References	
Labor { Especially Skilled.	Employed as.....
{ Skilled.	
{ Experienced.	
{ Unskilled.	

The chart has been devised by the author as a graphic method of presenting an individual to the superintendent or foreman. Following the chart the symbols used are explained.

At this time it might be well to mention that in collaboration with Mr. A. Vollmer, Chief of Police of Berkeley, California, and associate editor *The American Journal of Criminal Law and Criminology*, a code system is being worked out for all known

occupations, diseases, and accidents. This will be valuable because it will help to standardize industrial examinations. The detailed explanation of such a code and the description of the system for filing records is too lengthy to be printed herewith, and must be reserved for the future.

EXPLANATION OF INDIVIDUAL VOCATIONAL CHART.

The headings are no doubt clear.

At bottom of chart is noted:

(a) *Personality*.—At present this is recorded in descriptive terms only, such as “pleasing”; “disagreeable”; “undesirable.” It has not been lost sight of that *intelligence* and *character* go to make up a *personality*, and that the traits of character are but external manifestations of the workings of the mind. Accordingly, for the present, traits are recorded as desirable or undesirable from an industrial standpoint.

The Roman numerals are explained as follows:

- I. Very superior.
- II. Superior.
- III. Above average.
- IV. Average.
- V. Below average.
- VI. Inferior.
- VII. Very inferior.

The top row of letters is explained as follows:

- A. Education.
- B. Intelligence.
- C. Physical.
- D. Nervous.
- E. Mental.
- F. Vision.
- G. Attention.
- H. Continuity of effort.
- I. Follow directions.
- J. Speed.
- K. Accuracy.
- L. Trustworthy.
- M. Social.
- N. Apperception.
- O. Opinion of foreman.

P. Special abilities.

1. Learning.
2. Planning.
3. Assembling and discrimination.
4. Analytical with manipulating.
5. Reporting (inspection).

These may be altered or added to according to the needs of the industry.

At end of article will also be found a form arranged for The Marchant Calculating Machine Co.,* of Oakland, California, to enable foremen to describe a particular job. Such a form is more or less general and would apply to many industries. It is of great assistance in this work.

The special cases with their respective charts are to be found at the end of this paper.

IV. CONCLUSIONS.

The result of the study of industrial problems from a medico-psychological viewpoint leads one to the following *conclusions*:

- A. The establishment of medico-psychological laboratories as the principal department of employment bureaus of every large industrial organization would be an economic asset and desirable.
- B. The establishment of a central employment clearing-house with medico-psychological laboratory which would act for groups of industrial organizations too small to economically conduct their own bureaus is suggested.
- C. A representative of labor organizations should be in all employment bureaus or employment-clearing-house *bureaus*.
- D. The value of scientific selection and distribution of labor would react to the benefit of:

I. *The individual.*

- (a) By lessening his liability to contact with individuals suffering from communicable diseases.

* A complete report on examinations made at plant of Marchant Calculating Co., Oakland, California, will be published later.

- (b) By lessening his liability to accident by properly placing his co-worker, according to his *physical, nervous* and *mental* capacity.
- (c) By increasing his efficiency, and consequently his earning power, by pointing out his special abilities and by encouraging him to utilize his capacities to his best advantage.
- (d) By increasing his interest in labor organizations, and encourage him to cooperate with his fellow man.

II. *Industrial organizations.*

- (a) By lessening liability to strikes.
- (b) By increased efficiency in the plant and consequent better and increased output.
- (c) By elimination, or proper placing, of the physical, nervous, and mentally unfit, who not alone are often a menace to the safety of their co-workers, but a detriment to normal industrial progress.
- (d) By greater cooperation and loyalty from employees due to better understanding and opportunities presented for advancement.
- (e) By *enormous reduction of labor turnover*.
- (f) Lowered cost of output due to low turnover.

III. *Labor organizations.*

- (a) By stabilizing their personnel.
- (b) By increasing their power for the good of their members, and thus reacting a benefit to the community.
- (c) By bringing them into closer contact with employers, and thus leading to a clearer understanding of general and special problems affecting the interests of both.
- (d) By having a more intimate knowledge of the capabilities of its members, and consequently the better enabled to advise them and to offer suggestions to industrial organizations.

IV. *The community.*

- (a) By lessening the number of undesirable floating population.
- (b) By increasing the number of persons owning homes.
- (c) By lessening the number of strikes.
- (d) By decreasing the number of accidents and loss of life (this especially applies to public service corporations). Instances are numerous where the lives of the public have been endangered by the *irresponsible acts* of morons, epileptics, and mentally and physically ill individuals, in the employ of public service corporations.

E. Further suggestions.

I. The gradual working out and adoption of some system for the proper selection and distribution of labor which will ultimately become *standardized for all occupations*. This would not work a hardship on any one person or organization, but would react for the ultimate good of all.

It simply means a more careful study of the *individual* and the avoidance of placing "square pegs in round holes."

II. The avoidance of the confusion of the work of efficiency experts with medico-psychological work. It will always be necessary for efficiency experts to exercise their function, but they will work to greater advantage if they are able to explain their suggestions to properly placed individuals.

III. Such a scheme as suggested in this paper applies to all industrial organizations, public and private, including banks, department stores, and public service corporations.

IV. The establishment of medico-psychological laboratories in conjunction with public schools would:

- (a) Be of untold value to the vocational guidance bureaus of municipalities.

- (b) Save many a life from being wrecked on the rocks of industrial inefficiency, and would prevent many a parental heartache by properly advising the youth as to his capacity.
- (c) Be of service from the standpoint of *prophylactic criminology*.
- (d) Be of value to industrial organizations, labor organizations, and adult, and juvenile probation courts.

F. The following form is suggested for making a report to industrial organizations upon a survey of plants from a medico-psychological standpoint:

To: (Name of organization or individual to whom report is being made.)

Subject: (To include title of report and name of organization.)

Sources of information: (Enumerate all sources of information.)

Diagnosis: (Briefly, the end-result of the investigation.)

Causative factors:

Prognosis:

Summary: (Briefly summarize results of investigation.)

Treatment:

Conclusions:

Recommendations:

The following extracts^{*} from a report made by the author to service department manager of a corporation employing more than 17,000 in the plant surveyed, will serve to emphasize the above outline:

To: Mr., Mgr. Service Department of Corporation.

Subject: Preliminary report on observations made during a two-day survey of the plant of the Corporation.

Sources of information: Direct observation, interviews with heads of departments, and with employees.

Diagnosis: Output lowered and produced at excessive cost. (i. e., greater and better output could be attained at cost of present output if present abnormal conditions are corrected.)

^{*} This report appeared in the *American Journal of Criminal Law and Criminology*, February, 1919.

*Causative Factors:***A. LABOR INEFFICIENCY due to:**

1. Physical defects.
2. Nervous defects.
3. Mental defects.
 - Pathological.
 - Psychological.
4. Character defects.
5. Peculiar traits.
6. Vocational misfits.
7. Racial peculiarities.
8. Unhygienic working conditions.

B. TIME Loss due to:

1. Loafing on the job.
2. Visiting.
3. Making material for own use.
4. Improper communication facilities.
5. Present method of issuing supplies.
6. Present method of distributing labor.

C. SOCIAL FACTORS.

1. Defective employment methods.
 - (a) Improper facilities for receiving applicants.
 - (b) Unsatisfactory application blank.
 - (c) No provision for human salvage.
 - (d) NO PROVISION FOR MEDICO-PSYCHOLOGICAL EXAMINATIONS.
2. Mismanagement.
 - (a) Lack of foremanship.
 - Unskilled.
 - Temperamentally unfit.
 - Psychologically unfit.
 - Brutal, selfish.
 - Favoritism.
 - (b) Lack of harmony and cooperation between departments.
 - (c) Too wide breach between employer and employee.
3. Insufficient social service.
 - (a) No provision for eating.
 - (b) Improper recreation facilities.
 - (c) No education.
 - Department schools.
 - Motion pictures, educational.
 - Special lectures.
 - (d) Inadequate medical supervision.
 - (e) Inadequate accident prevention.
 - (f) Inadequate provision for physical culture, rest, and baths.
 - (g) No woman supervisor.

Prognosis: Good, providing proper treatment be applied and continued unhesitatingly, and with deliberate and rational vision.

Summary: Under this heading are enumerated briefly the observations made during the two-day survey of your plant from a sociological, medico-psychological, and economic standpoint.

It is manifestly impossible in such a brief time to make an analysis of individual departments, but it is possible to get a good perspective from such a "spotting" survey. At once one is impressed by the poor, inadequate, and unhygienic method of receiving the labor. Instead of creating and stimulating good fellowship, interest, and loyalty, as well as *esprit de corps*, the present method is conducive to antagonism, disgruntledness, disloyalty, lack of interest, and at the same time is a potential factor in lowering the vital resistance of the individual, and consequently his worth to the employer.

Unnecessary crowding, unnecessary unhygienic conditions, few protective devices, no accommodations for eating, little or no recreation stimuli, absence of educational lectures and motion pictures, utter disregard of welfare of women employees, UNSCIENTIFIC SELECTION AND WASTEFUL DISTRIBUTION of labor; mismanagement, as exemplified in poor or inefficient foremanship, inharmony, little or no cooperation between departments, favoritism, no systematic or organized attempt at salvage of terminating efficiency; time loss, as demonstrated by men loafing on the jobs, visiting, smoking, too many men for the job, absence of system of communication, the employment of men and women unsuited for the various tasks assigned to them on account of various physical, nervous, and mental defects, the placing of "square pegs in round holes," no study of racial peculiarities, character defects, or peculiar traits, as regards an individual's fitness for his job, no encouragement of special abilities, and utter ignoring of disabilities, ARE THE IMPORTANT POINTS NOTED.

In fact, the spirit of production has become the obsession without making proper selection of the individual who does the producing.

The most encouraging observation was the fact that a number of men in charge of various departments, especially the gentlemen in the SERVICE and EMPLOYMENT departments, are alive to the situation and the demands of the present age, and are keenly interested in the INDIVIDUAL, and realize the potentialities for good within the grasp of the present generation. Their vision is clear, and not befogged by hazy, ethereal theories, but enhanced by definite cold-blooded facts, open to all who can see.

Treatment: Prophylactic measures started now will prevent the disease of inefficiency from making further inroads on the constitution of capital and labor, and will stabilize and unify both.

The above must be done through the employment bureau, which must be an efficiency bureau in every sense of the word.

It is absolutely necessary to study the INDIVIDUAL as regards his physical, nervous, and mental fitness for a particular job, and to ascertain his special abilities and disabilities.

Conclusions: The coordination of all scientific aids under one competent directing head, and the sympathetic and untiring cooperation of the heads of all departments and especially the management, is essential for the success of this plan.

It Is PRACTICAL, BROAD, COMPREHENSIVE, HUMANE, ECONOMIC.

Recommendations: The establishment of such a bureau with sufficient power to operate unhampered.

REPORT OF CASES.

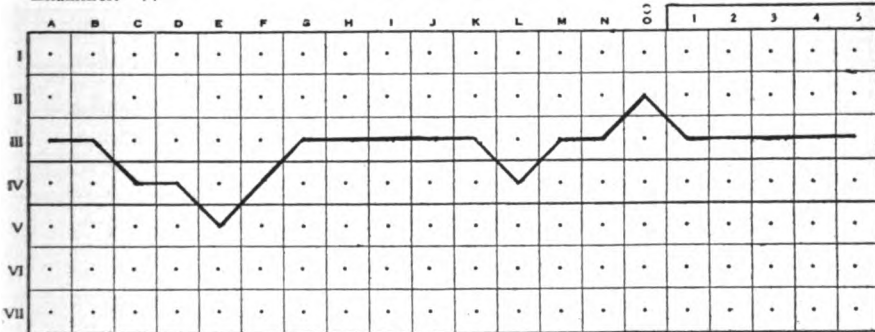
CASE I.

A. Laboratory Report.—Above average. Manifesting special mechanical ability. Somewhat reticent and "touchy." Has idea that she might not be wanted in her present position if her former occupation (school teacher) is known.

B. Foreman's Opinion.—Excellent ability. Very good.

C. Recommendations.—This individual should be encouraged in her work and made to feel that her place is secure. With her mental capacity she ought to be able to become one of the best in your factory and every effort should be made to retain her.

No. I. Sex, Female. Age, 30. Wage, 5.75. M. W. D. Occupation....
 Organization. X
 Plant. X
 Department. X
 Examiner. X



Personality, pleasing.

Character, good.

Habits, O. K.

Traits { Desirable. X
 Undesirable.

References

Labor { Especially Skilled.
 Skilled. X
 Experienced.
 Unskilled.

Recommendations:

Employed as.....

D. *Remarks.*—This employee is a normal school graduate; taught school, but did not like teaching. Gave it up to take her present position. Always fascinated by things mechanical. She started work at \$2.00 per day in assembling department and in five weeks was head assembler and tester at a wage of \$5.75 per day. A glance at her chart will give the reason. It clearly pictures the individual. She is put below average in "mental" column to call attention to a slight depressive state occurring at times which would bear watching. Her leadership ability is below average because of somewhat shut-in type.

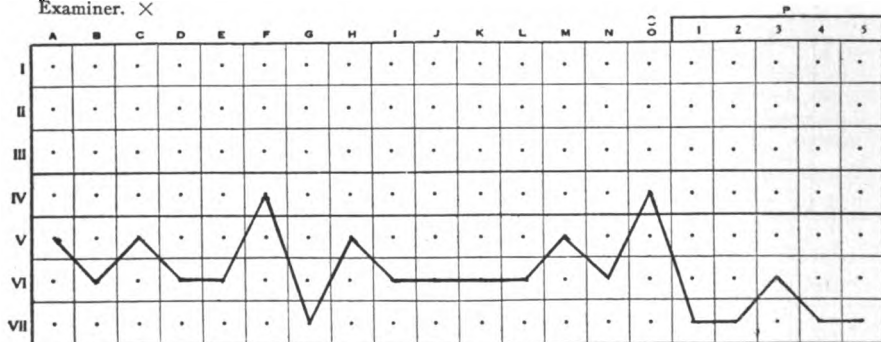
This case is a good demonstration of correlation between intelligence and education reacting to the economical benefit of the individual.

CASE II.

A. *Laboratory Report.*—Very poor. Untrustworthy.

B. *Foreman's Opinion.*—Good.

No. II. Sex, Female. Age, 35. Wage.... M. W. D.... Occupation....
 Organization. X
 Plant. X
 Department. X
 Examiner. X



Personality, below average.

Recommendations:

Character

Habits

Traits { Desirable.
 Undesirable.

References

Labor { Especially Skilled.
 Skilled.
 Experienced. X
 Unskilled. X

Employed as.....

C. *Recommendations.*—It would be unwise to offer this individual advancement for the reason that her capacity is limited and the work that she is now doing is but the work that a normal 11-year-old child could do. She has been four months employed, is receiving \$2.25 per day and is contented and happy. The type of work she does is commensurate with her capacity.

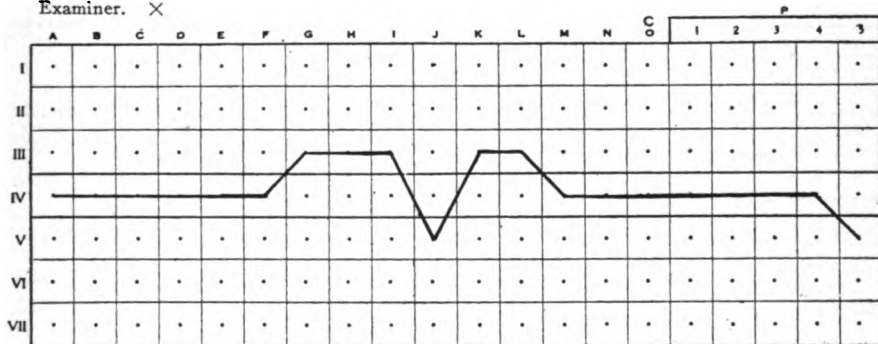
D. Remarks.—The work this employee does is practically automatic. She lifts a piece of metal from a shelf and puts it in a machine. Always the same and very simple. She does it well, so the opinion of the foreman is "good." She could not be advanced to work requiring the use of higher mental processes, such as judgment and reason.

The chart at once shows her type. The "mental" column is "inferior" because she manifests some abnormal mental symptoms.

CASE III.

A. Laboratory Report.—Average good employee. Slow but accurate. Memory good. Attention good.

No. III. Sex, female. Age, 21. Wage.... M. S. W. D.... Occupation....
 Organization, X
 Plant. X
 Department. X
 Examiner. X



Personality, pleasing.

Recommendations:

Character

Habits

Traits { Desirable. X
 Undesirable.

References

Labor { Especially Skilled.
 Skilled.
 Experienced. X
 Unskilled.

Employed as.....

B. Foreman's Opinion.—Good.

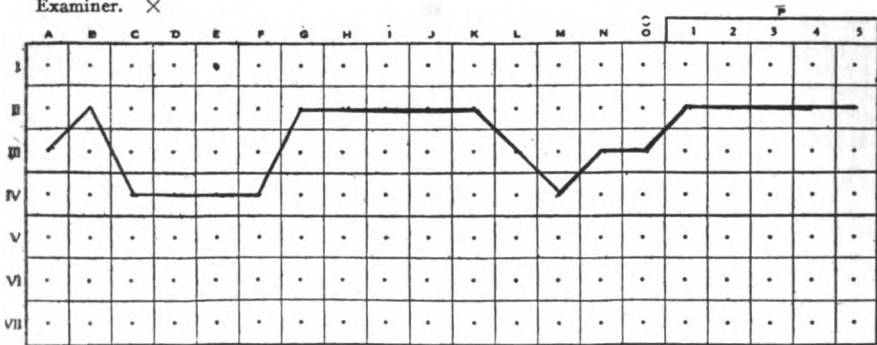
C. Recommendations.—If this individual is properly encouraged and given greater responsibility, especially in a place where her speed will increase and where she can maintain her accuracy, she will become very valuable. She will be a good individual for careful advancement, but always remember that she is slow but accurate.

CASE VI.

A. *Laboratory Report*.—Exceptionally good. Accurate and fast. Attention, steadiness of purpose and memory are superior. Education and intelligence above average. Trustworthy. Poor personality (retiring, shut-in type).

B. *Foreman's Opinion*.—Good.

No. VI. Sex, Male. Age.... Wage.... M. S. W. D.... Occupation....
 Organization. ☒
 Plant. ☒
 Department. ☒
 Examiner. ☒



Personality, not pleasing.

Character

Habits

Traits { Desirable. ☒
 Undesirable.

References

Labor { Especially Skilled.
 Skilled.
 Experienced. ☒
 Unskilled.

Recommendations:

Employed as.....

C. *Recommendations*.—This man has exceptional ability, combined with speed and accuracy. He should be encouraged and watched as he will be likely to cover many good traits because of a bashfulness. Give him all the opportunity that you can except foremanship, although as an experiment it might be desirable to see what could be brought out in this man in the way of teaching, that is, he might be a good instructor for others.

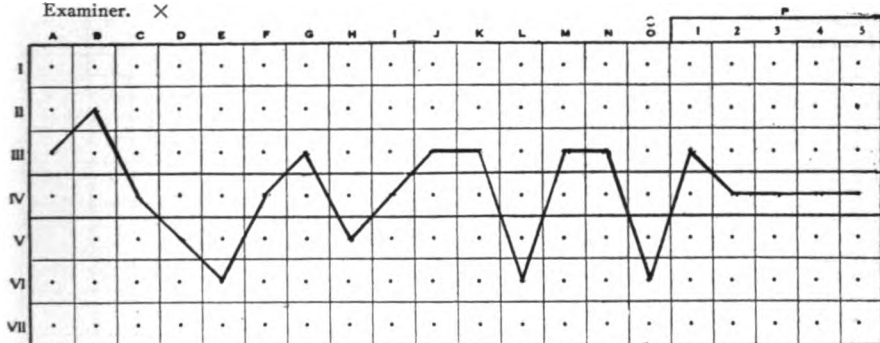
D. *Remarks*.—Suggestions were followed in this case, and the man is making good, proving an exceptionally good demonstrator.

CASE XIII.

A. Laboratory Report.—Good education. Quick, accurate, keen, rapid flow of ideas. Auditory and visual memory good. Restless. Likes to show off. Manic type.

B. Foreman's Opinion.—Poor. Erratic. Untrustworthy.

No. XIII. Sex, female. Age, 40. Wage.... M. W. D.... Occupation....
 Organization. X
 Plant. X
 Department. X
 Examiner. X



Personality, pleasing.

Character

Habits

Traits { Desirable.
 Undesirable. X

References

Labor { Especially Skilled.
 Skilled.
 Experienced.
 Unskilled. X

Recommendations:

Employed as.....

C. Recommendations.—Undesirable. Abnormal mental type. Will distract others from their work. Too talkative. Advise terminating this employee, for her own good as well as that of her co-workers.

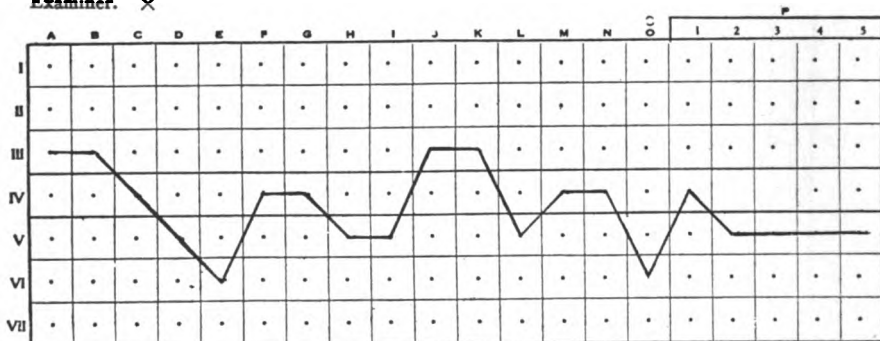
D. Remarks.—Apparently a manic-depressive. Woman aged 40 years. The foreman's opinion checks with examination.

CASE XXIX.

A. Laboratory Report.—Intelligence and education above average. Attention is fleeting. Shut-in type. Worries. Faints frequently. Psychopathic character.

B. Foreman's Opinion.—Capable but irresponsible. Cannot depend upon her.

No. XXIX. Sex, Female. Age, 35. Wage.... M. W. D.... Occupation....
 Organization. ☒
 Plant. ☒
 Department. ☒
 Examiner. ☒



Personality, pleasing.

Recommendations:

Character

Habits

Traits { Desirable.
 Undesirable. ☒

References

Labor { Especially Skilled.
 Skilled.
 Experienced.
 Unskilled. ☒

Employed as.....

C. Recommendations.—This employee is nervously ill. Would advise mental hygiene clinic. Closer inquiry into her work. Probably wise to advise other work. Liable to prove dangerous to others.

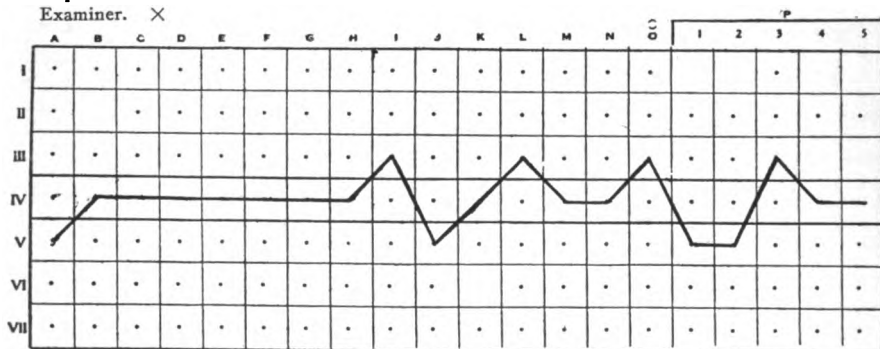
D. Remarks.—This case, woman aged 35 years, shows the value of psychiatric examinations. The work checks with foreman's opinion nicely.

CASE XLVI.

A. Laboratory Report.—Fairly accurate, slow. Auditory memory excellent (able to remember 10 digits). Attention is good. Especially able to quickly recognize relationship of easily recognized parts to a given whole (assembling). Leadership ability.

B. Foreman's Opinion.—A good workman. Ability to handle crew and get results. Slow but accurate.

No. XLVI. Sex, Male. Age, 23. Wage.... M. W. D.... Occupation....
 Organization. ☒
 Plant. ☒
 Department. ☒
 Examiner. ☒



Personality, pleasing.

Recommendations:

Character

Habits

Traits { Desirable. ☒
 Undesirable.

References

Labor { Especially Skilled.
 Skilled.
 Experienced. ☒
 Unskilled.

Employed as.....

C. Recommendations.—Retain this man if possible. Education is limited, but he has special leadership ability and sufficient mechanical ability and accuracy to make him valuable as a sub-foreman. Give him a chance to make good—higher up.

DATE _____

ORGANIZATION:

Ex.

1919]

JAU DON BALL

551

[illegible]

W. = Vision. H. = Hearing. Ht. = Heart. Lng. = Lungs. Gn. Ap. = Gen'l Appearance.

V. = Vision. H. = Hearing. Ht. = Heart. Lng. = Lungs. Gn. Ap. = Gen'l Appearance.

Method of recording neurological data is that described by author in article in collaboration with Dr. H. G. Thomas, appearing in the AMERICAN JOURNAL OF INSANITY, July, 1917.

MARCHANT CALCULATING MACHINE CO.

RESEARCH DIVISION.

(DEPARTMENT _____.)

1. ACCURATE NAME OF JOB
 2. NATURE OF JOB
 -
 - A. KIND OF WORK
 - B. OPERATOR (MALE OR FEMALE)
 - C. WORKING CONDITIONS
 1. Dust
 2. Light
 3. Heat
 4. Noise
 5. Keen eyesight required
 6. Speed required
 7. Accuracy
 8. Attention
 9. Judgment
 10. Automatic
 11. Special skill or ability
 12. Previous training necessary
 13. Agreeable
 14. Disagreeable
 15. Planning ability
 16. Ability required to quickly recognize relationship of well-defined
 and easily recognized parts to a given whole (assembling)
 -
 17. Analytical power associated with manipulating ability requiring
 attention and continuity of effort
 18. Ability to observe and remedy defects (inspection)
 19. Discrimination of form
 20. Necessity for following directions accurately after careful and
 repeated explanations
 - FOREMAN
- (Should this sheet be inadequate to cover each item, use other side.)

SUPPLEMENTARY DATA.

The following information demonstrates more than words the value of medico-psychological examinations as a method to be used in employment departments of industrial plants:

In the assembling department of the Marchant Calculating Machine Co., Oakland, Cal., 57 employees were examined. About two months after the examination a "strike" occurred. The

reasons for the strike and the factors leading up to it will not be discussed in this communication.

In the case of every employee terminated for the group examined whether discharged or voluntarily leaving, the prediction of a possible abnormal conduct or a dissatisfaction was made in the laboratory report and recommendations to the employer.

A brief summary of the analysis of the situation following the strike follows:

ASSEMBLING DEPARTMENT.

Number of employees examined 57 (24 males, 33 females).

Number of employees examined who have
terminated 34 (9 males, 25 females).

Reasons for termination:

Strikers (discharged) 23 (6 males, 17 females).

Work unsatisfactory (discharged) 5 (2 males, 3 females).

Better position elsewhere 2 (1 male, 1 female).

Dissatisfied with work and wages 2 (females).

Husband returned from war 2 (females).

The *conduct* of the strikers is described by the foreman as "*good*," "*fair*," "*very poor*," and "*agitators*," divided among them as follows:

Good	5
Fair	7
Very poor	1
<i>Agitators</i>	10

According to the records, every one of the strikers had something wrong with them from a nervous or mental standpoint (nearly all having a psychopathic history); it was noted that with three exceptions the "*strikers*" cited as agitators were among those grading the highest on the intelligence scale used. The three exceptions can be explained as follows: One who graded 45 per cent, but had a sister who was also an agitator, but who graded high; one who graded 35 per cent, but the laboratory report shows him to be easily rattled, stutters, badly depressed at times, many nervous symptoms, and psychopathic heredity; one who graded 51 per cent, but whose education indicated that she should have graded higher, was timid, but had considerable self-assertion when crowded, besides having a definite psychopathic history.

Three of the strikers cited as "good" showed low grades: one 13 per cent, one 45 per cent, and one 57 per cent. The other two showed high grades: 87 per cent and 79 per cent, but the laboratory report in the one grading 87 per cent shows that she is very nervous, shut-in type, suspicious, many fears, psychopathic history.

The two leaving for better positions had high grades: one 97 per cent, who had been employed in this plant two years; one 75 per cent, who had been employed but one month (an unstable, nervous individual).

The two leaving on account of being dissatisfied: one had a grade of 89 per cent, but gives a very suspicious history, which, associated with her age (16 years), definitely indicates adolescent instability; one had a grade of 67 per cent, easily rattled and worried if put under any stress.

The five discharged for inefficiency showed low intelligence, or definite abnormal mental symptoms in four. The fifth had a very high intelligence (92 per cent), but very definite symptoms of mental trouble. Two others also showed definite mental symptoms, both being paranoidal and very suspicious. The grades for intelligence according to Stearns' test for this group were 28 per cent, 13 per cent, 55 per cent, 65 per cent, and 92 per cent.

We learn from a study of this *terminated* group that the agitators were the ones with the *highest intelligence* as a rule; that the "good" one showed *low intelligence* or *some nervous condition* inhibiting the self-assertive instinct; that the ones leaving for better positions were *high in intelligence*; that those leaving because of dissatisfaction were *definite psychopaths*; that the inefficient ones discharged showed *low intelligence* or were mentally wrong.

The above brief analysis demonstrates the success of a medico-psychological examination in spotting types and giving accurate information regarding individuals. It could not be concluded from this or any other examination that all strikers, whether agitators or not, are psychopaths; but this examination does show that the agitators in this group were the *self-assertive* ones and the ones grading the *highest in intelligence*, the others simply followed the leader. It is not proposed here to enter into a discussion of the causes leading up to the stimulation of this self-assertive

instinct and the resulting conduct. It is necessary, however, to call attention to the value of the examinations in predetermining conduct, and thus enabling the employer to remedy conditions which would be likely to cause trouble in his plant.

Of especial value of this "*coordinate*" method of examination is the determination of "queer guys," "eccentrics," "disturbers," "querulous persons," "unreliable and unstable fellows," "misfits," "the irritable," "the sullen," "socially disgruntled," "unsociable," "negative," "conscientious," "litigious," "bear-a-grudge," "peculiar," "glad-hand," "gossipy," "roving," "restless," "malicious," "lying," "swindling," "sex pervert," "false accusator," "abnormal suggestibility," and "mental twist" types!

Notes and Comment.

THE MEDICO-PSYCHOLOGICAL SOCIETY OF PARIS.—At the opening of the sitting of the Society on the 25th of November, 1918, M. Colin, President, in an eloquent address made reference to the critical period through which the nation had recently passed. To strangers, familiar only with the boulevards of Paris, France had appeared to be a decadent country, but this appreciation showed a profound ignorance of the true spirit of France. France did not require to be rehabilitated; France had continued to be, even after 1870, the "soldier of the ideal," while Germany was brutally preparing its later aggression. Just as earlier, after the first empire, France had tended to exalt Germany as the home of poetry and good feeling, after 1870 it tended to exalt Germany as the model of efficiency. Against both these tendencies the President warned his audience, for German hatred of France is far from being extinguished. Suitable references were made to the losses sustained by the Society during the war, and with considerable emotion the President referred to the fact that the Secretary of the Association, M. Ritti, was a native of Strasbourg.

After sending messages to similar societies in the allied countries, on the motion of M. Semelaigne the Society adopted the following resolution: "The Medico-Psychological Society declares that even after Germany shall be again admitted into the ranks of civilized nations, the Society will abstain from every relation with German scientists who shall not have publicly admitted and disavowed the crimes committed by their compatriots in the course of this war."

In proposing this motion the speaker referred to the document prepared by the scientists of Lille, presenting to the Institute of France and other bodies the records of the atrocities, which they themselves had witnessed. The Academy of Medicine on receipt of this report had decided to postpone all collaboration with German scientists until they had publicly disapproved of the atrocities committed by their government during the war. The

scientists of Lille especially emphasized the fact that the infamous acts committed by the Germans were not to be considered merely due to the government, but were carried out with the hearty co-operation of the individual soldier, not necessarily the professional soldiers but men recently drawn from civil life. "Those responsible for the policies of Germany have willed this war, but the people in arms have approved it and have carried it out with measures of ferocious cruelty, without scruples of conscience, without any movements of indignation."

THE DEFECTIVE, THE SURGEON AND THE LAW.—Not so long ago a wave of "Efficiency" swept over our country, and was accepted and adopted with characteristic celerity by all classes and kinds of men. Its origin lay in rapid evolution of large enterprise, in the centralization of commerce in busy marts and in concentration and specialization of mechanical skill in enormous factories. It was based upon a theory of the subdivision of labor, and it looked to the perfection of automatic action in the individual, that some small part of each fabrication might be his contribution to an intricate and expansive mechanism. It was not a new idea, but an old one carried to an extreme degree, for society is naturally an assembly of different human characteristics, each one assisting in the "silent and concealed work of centralization." Guizot (*History of Civilization in Europe*) attributes the beginnings of this centripetal force to the sixteenth and seventeenth centuries, when man began to advance "the execution of a plan which he has not himself conceived, or which, perhaps, he does not even understand." But Guizot accredited man as an "intelligent and free artificer," an assumption alien to the philosophy of the modern apostle of Efficiency. And his illustration was singularly apt in its application to the theory of this later day: "Conceive a great machine, of which the idea resides in a single mind, and of which the different pieces are confided to different workmen, who are scattered, and are strangers to one another; none of them knowing the work as a whole, or the definitive and general result to which it concurs, yet each executing with intelligence and liberty, by rational and voluntary acts, that of which he has charge."

From the shop and the forge the doctrine of Efficiency invaded the university, and old and honored curricula yielded to a system of intellectual training which aimed to perfect certain attributes of the mind at the expense of others. The classics, the humanities, the lessons of history, of philosophy and of art—all that contribute to broad culture, the allurements of life and the beauties of this world—were thrust aside in a mad rush for the “practical.”

The final step in this evolutionary system, not content with perfecting the individual of the present, sought to purge the future of inferior beings. The philosophy of Eugenics afforded an opportunity to project the doctrine of Efficiency for the benefit of coming generations, and laws were enacted in several states of the Union, looking to the prevention of procreation by the sterilization of the unfit.

These statutes generally authorized commissions, as in New York (1912), for instance, “To examine into the mental and physical condition and the record and family history of the feeble-minded, epileptic, criminals and other defectives confined as inmates in the several state hospitals for the insane, state prisons, reformatories, and charitable and penal institutions of the state, and if, in the judgment of the majority of said board, procreation by any such person would produce children with an inherited tendency to crime, insanity, feeble-mindedness, idiocy, or imbecility and that there is no probability that the condition of any such person will improve to such an extent as to render procreation by any such person advisable, or if the physical or mental condition of such person will be substantially improved thereby, that then the board shall appoint one of its own members to perform such operation for the prevention of procreation as shall be decided by said board to be most effective.”

In order to test this law, a husky male inmate of the Rome State Custodial Asylum for Feeble-Minded was selected and the operation of vasectomy was prescribed for him. The proposed victim was 22 years of age with mental development of a child of eight. Appropriate legal procedure was taken to bring the case before the Supreme Court of the state, and testimony was taken.

Dr. Bernstein, superintendent of the institution, stated that he was not in favor of the operation, and did not know of a case in

the 1300 in his care upon whom it would be desirable to operate; "that it would not help the boy, and it would not help society." He asserted that the boy would need just as much care after the operation as before, and emphasized the need by the present generation of protection from the frightening and raping of girls just as well as the possible and problematical relief of the next from delinquents.

Dr. Fernald, superintendent of the Massachusetts School for Feeble-Minded, testified "That he had never seen an authorized medical statement based upon the actual facts which would justify claims made for the results in Indiana where such a law is in operation; that the operation of vasectomy does not in the slightest interfere with the physical act of sexual intercourse; that illicit intercourse would result, and the effect thereof would be the exchanging of the burden of feeble-minded for the burden of sex immorality or sex diseases and of insanity resulting in that condition which would be quite as serious."

Mr. Justice Rudd, in delivering his opinion, touched cleverly upon the eugenic, moral, social and economic questions involved in the case.

The law of heredity cited by Dr. Bernstein, "We are taught that the dominant traits appear in three-quarters of the offspring, and recessive traits appear in one-quarter, when the parentage is mixed as regards traits; that it is only in cases of feeble-mindedness of both parents that you would look generally for an increase of feeble-mindedness among offspring," was interpreted by the court in the following terse epigram: "In other words, that when one parent is feeble-minded and the other of normal mental capacity, the tendency is recessive, that is, toward the normal"; the expert's conclusions were further accepted that "vasectomy would not change any of the criminal tendencies of the feeble-minded at all; it would only eliminate the one element of procreation; . . . would tend to create a class of people who would . . . go back to promiscuous sexual relations . . . and that such illicit intercourse is a promoter of disease and general demoralization."

The laws of Eugenics, so far as they are known, deal with generalizations; "with the inheritance of traits; with changes in

population through differential fecundity; . . . with changes of population from emigration, or better or worse strains; with hereditary basis of the traits of population." These laws cannot predicate the status of the unborn individual for there is "much of good in the most degenerate families in our land, as the Jukes and the Nams."

Upon the expert testimony the court could not find justification for the operation, "either upon the facts as they exist to-day or in the hope of benefits to come."

In discussing the law itself Mr. Justice Rudd summarizes in no uncertain tone the alleged violation of the Constitution of the United States, "That it is a bill of attainder; that it is depriving citizens of a trial by jury, and also of the privileges or immunities to which citizens of other states are entitled; that it is compelling a citizen to be a witness against himself, and depriving him of life, liberty and property without due process of law; that it permits infliction of a cruel and unusual punishment. . . ."

The court visions in the enactment of the law a purpose to "save expense to future generations in the operation of eleemosynary institutions organized by the people of the state to care for those who are afflicted," and to permit the present generation of defectives to wander at large, which is not a "proper exercise of the police power," and is "almost inhuman in its nature."

For all these reasons the law is offensive to that part of the Fourteenth Amendment which declares "that no state . . . shall deny to any person within its jurisdiction the equal protection of the laws."

In contravention is cited "an interesting and most readable opinion" by the attorney general of California: "As regards the castration of confirmed criminals and rapists, and those guilty of sexual crimes, I am of the opinion that these are grave constitutional questions, but as restricted to the sterilization of the inmates of prisons and hospitals by the method of vasectomy, I am of the opinion that there are no legal inhibitions upon this enlightened piece of legislation which is an awakening note to a new era and a great advance toward that day when man's inhumanity to man will have acquired a meaning beyond mere frothy sentiment," which legal flight into the empyrean calls forth

the following caustic dubitation as it exists in the thought of Mr. Justice Rudd: "Why sterilization by vasectomy of patients in a hospital, who are grouped as a class with rapists in a state prison, strikes an awakening note in a new era and will lead to the day to which the attorney general so poetically refers, is beyond the comprehension of this court and is not enlightening."

The court consequently decides that "the statute is unconstitutional and therefore invalid," and authorizes "judgment may be entered accordingly."

May the judgment be universal! Humanity is under obligation to Mr. Justice Rudd for this clear exposition of the fallacies of an experimental project. The world has recently participated in the most determined and most bloody demonstration of Efficiency in history, and wants no more of it. Guizot recognized the differentiation of capacity in the march of civilization with the reservation of its intellectual basis, the essential element of progress which is ignored by the modern promoter. If the altruistic purpose of the present generation reaches into the future, the improvement of the species may be best found in cultivation of physical and mental excellence, and not by a program which begins with physical mutilation and terminates, in cumulative action, in destruction of all the finer sentiments of the race—faith, hope, charity, sympathy for affliction and distress, admiration of the good and beautiful, and, at last, in annihilation of the highest human feeling, parental love.

M.

AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION SEVENTY-FIFTH ANNUAL MEETING.—The seventy-fifth annual meeting of the American Medico-Psychological Association will be held at the Bellevue-Stratford Hotel, Philadelphia, June 18, 19 and 20.

It is quite fitting that the seventy-fifth annual meeting of the Association should be held in Philadelphia where the Association at a meeting of the memorable thirteen original members had its first session on October 16, 1844. There have been since that first meeting seven meetings in Philadelphia, namely in 1857, 1860, 1867, 1876, 1880, 1884 and the Fiftieth Annual Meeting in 1894.

The following is a preliminary program for the three days:

WEDNESDAY, JUNE 18, 10.00 A. M.

Organization.

Addresses of Welcome.

Reports—

Committees.

Council.

Treasurer.

Editor of JOURNAL OF INSANITY.

Appointment of Nominating Committee.

Memorial Notices.

President's Address.

Address by Dr. G. Alder Blumer.

WEDNESDAY, JUNE 18, AFTERNOON.

Administration and State Problems.

Special papers on this subject have been solicited and promised, outlining the recent trends in State supervision.

Several other papers are promised on related subjects.

WEDNESDAY, JUNE 18, EVENING.

Round Table Conferences.

Each member is expected to pay his own supper bill, but to dine in company with those interested in his own line of activity. It will be an informal breaking up into sectional discussions combined with a social gathering of more or less congenial spirits. We expect to send out cards some time before the meeting, and ask the members to indicate the group with which they would like to dine. Each group will be presided over by a leader or moderator to direct the informal discussions, and as far as possible these moderators will be chosen from the chairmen of the corresponding standing committees. The following groups have been tentatively suggested: 1—Ladies; 2—Administrative; 3—Military; 4—Scientific Investigation; 5—Occupational Therapy; 6—Nursing. Following these round table suppers, we will reassemble for a smoker, with a short address at about 9.30 or 10.00 p. m.

Return cards will be forwarded to Association members later, and no places will be reserved except for those who have returned cards indicating their choice of groups.

THURSDAY, JUNE 19, 10.00 A. M.

This session will be given over to papers of psychiatric interest from the military standpoint.

THURSDAY, JUNE 19, AFTERNOON.

Reconstruction.

Critical and constructive suggestions on undergraduate, postgraduate and institutional training in Neuropsychiatry.

THURSDAY, JUNE 19, EVENING.

Annual Address.

President's Reception.

FRIDAY, JUNE 20.

The three sessions on Friday will be devoted to papers on Clinical Psychiatry, Scientific Subjects and Statistical Classification.

An invitation has been extended by the Managers of the Pennsylvania Hospital to a luncheon at noon on Friday at the birthplace of the Association.

The address by Dr. Blumer on the first day is, we understand, to be a review of the advances of Psychiatry in the last three quarters of a century.

The list of members who have promised papers embraces some twenty-seven names, so that there will not only be a sufficient number of papers read, but doubtless of a wide variety.

Abstracts and Extracts.

YERKES, ROBERT M.: *The Binet Versus the Point Scale Method of Measuring Intelligence.* (Journal of Applied Psychology, 1917, Vol. I, pp. 111-122.)

The Binet method apparently rests on the assumption that important forms of behavior *appear* at various times during infancy, childhood and adolescence. The point scale methods, on the other hand, are chosen from the standpoint of functions to be measured, and without particular relation to the stages of human development. The Binet scale is based upon the assumption of appearing functions; the point scale on the assumption of developing functions. The result of the Binet method is an inflexible scale, which, however accurate it may be for the race, social stratum or sex for which it was constructed, cannot possibly yield reliable results when applied to widely differing groups of individuals. But in order to use the point scale profitably for a new race, or social group, it is necessary only to make a sufficient number of examinations, to yield reliable norms. The Binet method supplies judgments of success or failure—"all-or-none" judgments. These are rather the forerunners of quantitative statements than themselves quantitative. In the point scale, judgments are of the more-or-less type. There is awarded a particular amount of credit which supposedly varies in correspondence with the character or amount of response. A number of tests in the Stanford Revision are highly dependent on education. Means should be devised of measuring the fundamental forms of behavior as they develop; our scales for mental measurement may well come to consist of independently graded and standardized tests which can be used either alone for the measurement of particular response, or in such groups as need dictates. Tables are quoted, contrasting the principles of the Binet and point scales, analysis of the Stanford scale, according to place of test and function measured.

YERKES, ROBERT M., and BURTT, HAROLD E.: *The Relation of Point Scale Measurements of Intelligence to Educational Performance in College Students.* (School and Society, 1917, Vol. V, pp. 535-540.)

The authors summarize their conclusions to say that the men of the groups in question rank in the point scale tests higher than the women. This superiority is especially marked in tests which involve reasoning or other fairly complex thought processes, while the sex differences are least for tests of perception, memory and imagination. 16 per cent of the women are of subnormal intelligence as compared with 12 per cent of the men. The correlation of point scale measurements with educational performance is strikingly positive for the men and somewhat less positive for the women.

SCOTT, WALTER DILL: *A Fourth Method of Checking Results in Vocational Selection*. (Journal of Applied Psychology, 1917, Vol. I, pp. 60-66.)

Various checks have been devised for testing the adequacy of a vocational selection method. One method is to compare rank in the tests with a "firm rank," secured from collective estimates by employers. A second method is to have experienced men or "ringers" take the tests with the applicants, and observe if their performance in the tests shows them to be relevant. A third check, and the most adequate, is that of vocational accomplishments, and consists in comparing the test performance with the rank afterwards achieved in actual work. The fourth method is described under the name of "applicants-experts" method, and consists in a comparison of scores made by applicants with scores made by men of known capacity. Essentially, it is a refinement of the "ringer" method, and its advantage is that, in proportion to its reliability, the results are relatively soon available.

GUILLET, CEPHAS: *A Study of the Memory of Young Women*. (Journal of Educational Psychology, 1917, Vol. VIII, pp. 65-84.)

The results of the investigation suggest to the author the comparative futility of formal memory "training." Even if possible, it is hardly worth while. The teacher should attend rather to training the understanding and judgment and the powers of linguistic expression in the pupil. "Once a child has been gotten to express an idea clearly in his own words, he is guaranteed against forgetting it." The teacher should aim at presenting culture material in such a way that it will enter into vital relation with the child's immediate mental complex. At present, many facts and details are drilled upon pupils while still devoid of all fruitful meaning to them. Their effort is out of all proportion to the value of the matter presented; it should wait for maturer years, when it can be more profitably assimilated.

MULLAN, E. H.: *Mental Status of Rural School Children*. (Public Health Reports, 1916, Reprint No. 377, pp. 16.)

A total of 3793 children was studied. The routine Binet procedure was supplanted by a briefer sifting process. The tests used for this purpose were the Knox cube, repetition of digits and arithmetical problems. In the first, four cubes were used with the lower, and five with the upper grade children. Patterns and statistical tables are quoted. Two trials were given for the repetition of each series of digits, and if the child failed on seven, many further trials were made on this number. Above 12 years, failure here was a frequent symptom of mental deficiency. The arithmetical problems were of the concrete type. These sifting tests occupied four or five minutes. It is concluded that while mental deficiency cannot be diagnosed by the Binet scale alone, it forms an excellent means for finding out about the child through the medium of incidental observations. Five-tenths of 1 per cent of the children examined were found

feeble-minded to the degree of requiring institutional care, and an additional 1.3 per cent are assigned as probably belonging to this group. The survey also suggests that epilepsy is a more prevalent disease than has been hitherto supposed.

TERMAN, LEWIS M., and others: *A Trial of Mental and Pedagogical Tests in a Civil Service Examination for Policemen and Firemen*. (Journal of Applied Psychology, 1917, Vol. I, pp. 17-29.)

The pedagogical examination consisted of Trabue completion tests, the Thorndike oral reading test, samples of handwriting rated by the Ayres scale, a very efficient spelling test devised by Otis, and some tests of arithmetical processes. Thirty candidates were examined individually by the abbreviated Stanford scale, and later with the pedagogical tests in groups. A distribution of the *IQ*'s has its mode at 80-84. The quartiles are 78 and 91. It was actually recommended that candidates with *IQ* below 80 be rejected. A table of inter-correlations is given of the *IQ*, the various pedagogical tests and salary. Salary correlates best (61) with *IQ*; the *IQ* correlates best (81) with arithmetical reasoning, this being also the highest correlation in the table. The correlation on chronological and mental age was $-.05$, and that of age with completion ability and arithmetical reasoning was $-.07$ and $.03$, respectively. It is remarked that the salary to be paid the men placed on the eligible list (median *IQ* 89) is considerably higher than that paid the average California teacher (*IQ* usually above 110).

BAIRD, JOHN WALLACE: *The Legibility of a Telephone Directory*. (Journal of Applied Psychology, 1917, Vol. I, pp. 30-37.)

The essential aim of the investigation was to determine the time required to find a telephone number from four arrangements of page. The test pages were mounted in a special booklet. A given name was read or shown to the subject, who repeated it, and then proceeded to find the telephone number. There was measured the time elapsing between the opening of the booklet on the announcing of the telephone number. Average times in the four arrangements of page were found as 10.36, 10.69, 10.14 and 9.28 seconds, respectively. This last is with a leaded four-column page. A telephone directory thus printed is not only the most legible, but is about 20 per cent reduced in bulk over the previous style. The average finding time for the most practiced group of subjects was 6.46 seconds and for the least practiced, 15.20 seconds.

THORNDIKE, EDWARD L.: *Reading as Reasoning: A Study of Mistakes in Paragraph Reading*. (Journal of Educational Psychology, 1917, Vol. VIII, pp. 323-332.)

It is intended to show that reading is an elaborate procedure, involving a weighing of each of many elements in a sentence, the selection of certain of their connotations and the rejection of others, and the cooperation of

many forces to determine final response. This is illustrated in having a short paragraph read and then calling for answers to questions involving a knowledge of its content. In correct reading: (1) Each word produces a correct meaning; (2) each such element of meaning is given a correct weight in comparison with others; (3) the resulting ideas are examined and validated in relation to the mental set or adjustment for which the reading was done. Reading may be wrong or inadequate: (1) Because of wrong connections with the words singly; (2) over-potency or under-potency of elements; (3) failure to treat the ideas produced by the reading as provisional, and so to inspect and welcome or reject them as they appear. Understanding a paragraph is like solving a problem in mathematics. It consists in selecting the right elements of the situation and putting them together in the right relations, and also with the right amount of weight or influence for each. While the work of judging and applying doubtless demands a more elaborate and inventive control of mental connections, the demands of mere reading are also for the active selection which is typical of thought.

The vice of the poor reader is to say words to himself without actively making judgments concerning what they reveal. Reading aloud or listening to reading aloud may leave this vice unaltered or even encouraged. Perhaps it is in their outside reading of stories and in their study of geography, history and the like, that many school children really learn to read.

MOORE, HENRY T.: *Laboratory Tests of Anger, Fear and Sex Interest.* (American Journal of Psychology, 1917, Vol. XXVIII, pp. 390-395.)

The plan of the experiments was to measure the effectiveness of emotional disturbance in terms of delay in the solution of a problem given just prior to the introduction of the emotional stimulus. The problems were in mental multiplication, whose normal times and limits of variation were previously determined. The tests for anger were meant to involve: Anger at an unjust accusation; anger at bodily annoyance at the hands of another person; anger at having been prevented from carrying out a called-for task. Fear stimuli were concerned with snakes, personal attack in the dark, electric shock and falling. Sex stimuli were with photographs of nudes. Other stimuli of a sensory repulsive character and situations involving embarrassment were employed. It is concluded that the individual variations in the above tests are sufficient to permit the ranking of subjects in respect to the amount of interference created by a given emotion. The fear stimuli caused the most powerful disturbances. Anger and embarrassment caused much less disturbance. Negative results appeared with sex interest and repulsion. A negative correlation of .48 appeared between the effects of anger and fear.

HULL, CLARK L.: *The Formation and Retention of Associations Among the Insane*. (American Journal of Psychology, 1917, Vol. XXVIII, pp. 419-435.)

As the conclusions are summarized, considerable impairment of the power of forming associations is found in constitutional inferiors, dementia præcox and general paralysis cases. It is much more marked in paretics of a given degree of dementia than in the other two types. No disturbance of retentiveness is found in any of the three types. The "fluctuation span" of the pathological subjects was found to be about twice as great as the normal.

JONES, EDWARD S.: *The Woolley Test Series Applied to the Detection of Ability in Telegraphy*. (Journal of Educational Psychology, 1917, Vol. VIII, pp. 27-34.)

The test series was studied in connection with the telegraphic skill of 22 boys, this skill being derived from the judgments of teachers of the rank of each individual in the group. The type of ability called for in telegraphy seems fairly well correlated with ability in certain psychological tests. When six of these records are taken together, their correlation with the judgment of ability is as high as 81. The correlation of the initial and final rankings of the individual teachers was somewhat less than this. By immediate testing with certain selected tests, it seems that more can be known of future telegraphic ability than by judgments of individual teachers after four months of contact with the pupils.

Substitution test measurements and the recognition test indicate no close relationship with telegraphic ability; the opposites test and sentence test measurements, on the other hand, give a high correlation with telegraphic ability as estimated. "It is impossible to predict in advance what tests will correlate highly with special kinds of abilities."

MUSCIO, BERNARD: *The Influence of the Form of a Question*. (British Journal of Psychology, 1916, Vol. VIII, pp. 351-389.)

This is a study in the psychology of testimony. Binet's and Lipmann's studies are reviewed, with a summarizing of Lipmann's classification of forms of question. The attempt is made to investigate the influence upon the answers of: (1) The "direction" of the question, whether subjective or objective; (2) the use of articles (definite or indefinite). A moving picture film, requiring 25 to 28 seconds to reel off, was the method of stimulus. About an hour was spent in the questionnaire for each exposure. The subjects numbered 56, 21 women and 35 men, mostly university graduates or students. It is found that certain forms of questions are less reliable, e. g., those containing a negative or the definite article. "There is little to choose between subjective-direction and objective-direction questions considered as instruments for the discovery of truth. Never-

theless, their answers exhibit great differences, and it is in the interest of justice that these differences should be recognized." Illustrations are given from court-room procedure.

PINTNER, RUDOLF, and TOOPS, HERBERT A.: *A Chart for Rapid Computation of Point Scale Scores*. (Journal of Delinquency, 1917, Vol. II, pp. 209-210.)

The authors give in tabular form the coefficient of mental ability represented by any performance in the Yerkes point scale at any age. An additional column gives the corresponding mental ages. It is an exceedingly useful piece of work, eliminating much of the time wasted in arithmetical computations incidental to intelligence examinations. Apparently the same thing should be done for the Stanford Revision, using the unit of two months' credit in place of the Yerkes "point."

PINTNER, RUDOLF: *A Mental Survey of the School Population of a Village*. (School and Society, 1917, Vol. V, pp. 597-600.)

There were tested 154 children from the grades of a village with 913 inhabitants. Five group-tests were used: Rote memory for concrete words, digit-symbol, symbol-digit, word building, and easy opposites. The performance in the tests is evaluated in terms of percentile ability for each age. The median percentile score of the five tests is used as the mental index of the child. An estimation of the mentality of the entire school and of each grade is thus possible. The school tested appears slightly below normal, having many backward children, and comparatively few bright ones

Half-Yearly Summary.

ARKANSAS.—*State Hospital for Nervous Diseases.*—The legislature recently made an appropriation of \$25,000 for a tubercular building, \$25,000 for a dairy and \$50,000 for new buildings on a five hundred acre tract recently purchased. This farm and the new tubercular building will relieve the congested condition of the hospital, which is the only one in the state.

A school for feeble-minded children is being established here. This is one of the most urgent needs of the hospital.

CALIFORNIA.—At a meeting of the California Society for Mental Hygiene held February 2, 1919, the passage of several bills was urged. One of these creates a psychopathic hospital, another establishes a department of psychology at the state penitentiary, and a third makes it possible for mild mental cases to be admitted for observation to the state hospital on temporary commitments.

CONNECTICUT.—The Connecticut Society for Mental Hygiene held its eighth annual meeting at the rooms of the Hartford Medical Society on December 18, 1918. The following were elected officers: President, Professor Charles A. E. Winslow (re-elected); Secretary, Dr. Thomas N. Hepburn; and Treasurer, Mrs. Josephine B. Bennett.

All patients of the former Connecticut School for Feeble-minded at Lakeville have been transferred to the Mansfield State Training School.

—*Connecticut Hospital for the Insane, Middletown.*—During October and November the hospital suffered from the prevailing epidemic of influenza, there occurring 292 cases. A quarantine for visitors was established, patients' assemblies were discontinued, and the usual prophylactic measures of personal hygiene were adopted. But 7 per cent of the patients suffered from the disease, although over 26 per cent of the employees developed it, a considerable number of the latter living off the hospital grounds, and thus being more exposed to contagion. Twenty-three deaths occurred, or approximately 9 per cent of the total number of cases. The use of the O'Leary anti-influenza vaccine was instituted as a prophylactic measure, but after being administered to 67 persons, 7 of whom subsequently developed the disease, its use was discontinued.

The so-called "Frisbie property," lying between the hospital grounds and a neighboring street, has been purchased. The property is suitable for building sites, but will be used the coming summer for gardens for women patients.

The new concrete piggery has been completed, and is a very satisfactory unit. By the extensive use of patient labor in its construction, the cost was brought slightly below the estimated cost of \$12,000.

Patient labor has also been largely utilized in removing the old greenhouse from its former site, adjacent to the Main Building, to its new site, adjacent to and connected with the new greenhouse erected two years ago.

The card system of collecting statistical information was adopted in connection with the uniform statistical records, as was a card system which shows the service records of all employees, and upon which promotions and salary increases will hereafter be based.

The forty-watt electric lamps formerly in use are gradually being replaced throughout the hospital with one hundred-watt lamps, such replacement having been completed in the North Wing, Main Building, and the Middle Hospital. The larger lamps not only give more efficient lighting, but only 25 per cent as many lamps are required, and the life of the lamps is more than doubled.

On December 18 an exhibition and sale of the products of the occupational classes was held in the Amusement Hall. Booths and decorations were all arranged by members of the various classes. During the afternoon and evening approximately 500 persons were present, and over \$800 was received from sales. The most interesting booth from a medical standpoint was that containing articles made by disturbed and untidy patients. Such articles were not sold, because of their educational value to new employees.

During the fourth Liberty Loan campaign the officers and employees of the hospital purchased \$30,900 worth of bonds. During the War Work campaign in November the hospital contributed \$500. During the Red Cross membership campaign in December, 351 members were secured, or approximately 80 per cent of all employees.

IDAHO.—The sterilization of mentally and socially unfit persons has been advocated by Dr. D'Orr Paynter, Superintendent of the Idaho State Sanitarium at Nampa, in his report to the trustees of the institution.

ILLINOIS.—It is announced that new buildings of the cottage type are to be constructed at the Dixon State Colony and that 700 patients are to be transferred to it from other state institutions.

INDIANA.—The third annual meeting of the Indiana Society for Mental Hygiene was held at Indianapolis, December 16, 1918, under the presidency of Dr. William T. Bryan, President of the State University at Bloomington.

—*Eastern Indiana Hospital for the Insane, Richmond.*—On March 5, 1919, a disastrous fire occurred in the men's building. One patient was burned to death and another was unaccounted for. Twenty-two bedridden patients were removed without mishap. The property loss was \$25,000.

MARYLAND.—*Sheppard and Enoch Pratt Hospital, Towson*.—The Sheppard and Enoch Pratt Hospital suffered a very serious loss on the 21st of December, 1918, in the death of Dr. George B. Wolff, who had been connected with this hospital as an assistant physician since June, 1912.

Dr. Wolff was shot and killed by Dr. Norboru Ishida of Nagasaki, Japan. Dr. Ishida came to America in the latter part of December, 1917, together with two or three other Japanese physicians who were sent over by the Department of Education of Japan to make some studies in various departments of medicine. Dr. Ishida's object was to investigate the conduct of hospitals in this country and to study methods of care of the insane and psychiatry in general. Coming almost immediately to Baltimore early in January, 1918, he commenced work in the Henry Phipps Psychiatric Clinic of the Johns Hopkins Hospital and at the Sheppard and Enoch Pratt Hospital. Until August it was his habit to spend part of the week at the Henry Phipps Psychiatric Clinic and two days at least at the Sheppard and Enoch Pratt Hospital. About the middle of August he came to the Sheppard and Enoch Pratt Hospital to reside and to render such assistance as he could in the work of the hospital, the staff having been depleted early in the year by the entrance of Dr. Humphrey D. Wolfe into the Medical Corps of the United States Army and in August by the entrance of Dr. George F. Sargent into the same service. Nothing unusual was noticed in Dr. Ishida's conduct toward any member of the staff. He was attentive to whatever duties were assigned to him and was busily engaged in doing some special work which he had outlined for himself. It appears, however, that he had commenced to harbor some suspicions concerning Dr. Wolff, but in his relations with the doctor he gave no evidence to any one that he had any but the pleasantest feelings toward him. On the evening before the tragedy he was seen talking and laughing with Dr. Wolff in the library of the hospital, and had that afternoon ridden out in the trolley car from Baltimore with the doctor and the hospital house-keeper, carrying on a pleasant and active conversation with them while in the car. As they left the car at the entrance to the hospital grounds he stated that he was going to Towson, the postoffice town of the hospital, to get some Christmas cards which he had forgotten. In fact, he went to Towson to secure Dr. Wolff's arrest for slandering him and calling him a spy, but was unable to find the magistrate either at his office or his residence. It appears that before coming from town he had also gone to a police station for the same purpose, but was told by the officer in charge that the police of Baltimore had no jurisdiction over residents of Baltimore County. While in town he purchased a revolver and as far as can be ascertained did this before applying to the police.

On the morning of the tragedy Dr. Wolff was engaged together with Dr. Dunton from nine to ten o'clock in the hospital library with a class of nurses. At the conclusion of the conference Dr. Wolff walked to Dr. Dunton's office, where Dr. Ishida was sitting, and was apparently shot the first time while standing at Dr. Dunton's desk looking over the re-

port of the night nurse for the night previous. One bullet entered the back and lodged in the spinal column. Another bullet apparently fired after he had fallen, entered the upper part of the abdomen and tore through the inferior vena cava, resulting in the doctor's death by hemorrhage. The third bullet struck his cheek near the malar prominence and passed out near the corner of the mouth without penetrating the buccal cavity and lodged in the floor. Dr. Ishida was seized and disarmed as soon as he could be reached, and said, in explanation, "I have shot Dr. Wolff. He called me a Japanese spy and a traitor to my country and this country." Upon being taken to jail he made a written confession in which he added to what he had already said that he had committed the act for the honor of a woman. He afterwards explained this statement as testified by Dr. Charles G. Hill, who examined him in jail, by saying that Dr. Wolff the Wednesday evening previous to the tragedy had assaulted one of the nurses in the Nurses' Home by pounding and beating her until she cried out, but that no one came to her relief. At the time of this alleged assault by Dr. Wolff the nurse to whom he referred was busily engaged on night duty in another part of the building.

Dr. Ishida was indicted for murder in the first degree, and on the 17th of March was placed upon trial before Judges Burke, Duncan and McLane of the Circuit Court for Baltimore County without a jury. The trial lasted three and a half days and ended in the conviction of murder in the first degree. Because, however, of some apparent doubt in the minds of the judges as to his mental status at the time of the murder, he was not sentenced to be hanged, but on the contrary, to imprisonment for life in the Maryland Penitentiary.

A brief obituary notice of Dr. Wolff appeared in the JOURNAL for January.

Dr. Charles H. Riley, who has been a trustee of the Sheppard and Enoch Pratt Hospital since 1887, and who succeeded Mr. George A. Pope as president of the board early in 1918, died at his residence in Baltimore on January 23, 1918.

Dr. Riley had been a practitioner of medicine in Baltimore since 1881. For some years his practice has been largely confined to gynæcology and obstetrics and for a time he gave lectures on obstetrics in the Woman's Medical College of Baltimore, which institution is no longer in existence.

MASSACHUSETTS.—*Gardner State Colony, East Gardner.*—A woman has been added to the staff to act as companion (or social service worker within the hospital) to the patients. She, trained as a teacher in the public schools, has a knowledge of music, and will act as companion to the patients, both male and female, encouraging the reading of papers and magazines, library books, playing of games, arranging for special entertainments, assisting patients to keep in touch with their friends and relatives and in writing letters to them, and assisting in every way to make the daily life of the patients happier.

This companion will assist the medical staff in looking after the daily welfare of patients in a manner practically impossible for members of the medical staff to do because of their many other duties. Beneficial results are already being seen in the more active interest in reading, recreation and entertainment, and in letter writing by those patients who require some stimulation, which should result in a greater interest being taken in them by their relatives. It is expected that much good will result from the efforts of this worker.

—*Monson State Hospital, Palmer.*—The Monson Anniversary number of the bulletin of the Massachusetts Commission on Mental Diseases has just been published. This contains papers which were read at the meeting held at this hospital to celebrate the 20th anniversary of the work it has done. It also contains reproductions of quite a large number of placards which were used at this meeting, and it has a good number of reproductions of photographs showing the buildings and the work of the institution.

The average number of patients at this institution has been formerly in the neighborhood of 1200, although during the past year the number has fallen. Nearly 200 of the patients have been away from the hospital capable of doing satisfactory work, but now that the war stress for labor is lessening, these patients are gradually returning, as they cannot maintain themselves continuously. More have worked during this last year than at any other time in the history of the institution. This has decreased the amount of work done at the institution because the best workers have been absent.

The shortage on the medical staff still continues, although one member has already returned, and of the four others absent there is a fair prospect that two will return within a few months. The shortage of attendants has largely decreased now in the male wards, but in the female wards the shortage continues. The out-patient work has been kept up though considerably diminished during the war period.

There is at present no plan to increase the capacity of the institution until matters are much more settled than they are now.

MICHIGAN.—*Kalamazoo State Hospital, Kalamazoo.*—A bill has been introduced, at the request of the State Hospital, and is now pending in the Michigan Legislature, the object of which is to permit state hospitals in Michigan to conduct out-clinics and to provide future care and supervision of patients discharged from the institution. As reported in previous communications from this institution, the Kalamazoo State Hospital is already conducting out-clinics on its own initiative, at the request and expense of various counties in its district.

The object of the bill is to enable it to extend work of this kind and also to add to the service, after-care.

The legislature is also being asked for a new cottage for men at the Colony Farm, for a refrigerating and ice making plant, for enlargements of stock barns, and for improved and increased water supply.

The hospital has secured an affiliation with the Western State Normal whereby its pupils in the department of physical culture, in groups of five or ten can give instruction in physical culture to the hospital patients. This arrangement is working both to the advantage of the State Normal and the hospital.

Expansion of the department of occupational therapy is steadily and constantly taking place. Nothing in the line of therapy that has not already been mentioned in previous issues of the JOURNAL has been established.

NEW YORK.—The State Hospitals Commission has recommended the construction of a new psychopathic hospital in New York City for preliminary treatment and research. It is greatly needed. It is also urged that the Creedmoor Branch of the Brooklyn State Hospital be enlarged.

During the Fall the Women's Council of Defence co-operated with the commission in an effort to secure 1000 nurses for state hospital service. A three-year course in training is given, leading to a registered nurse's certificate.

—Binghamton State Hospital, Binghamton.—The acute hospital, Fairmount, which was closed last August on account of the shortage of help, was re-opened March 1. Of the sixty-two employees and six physicians who left the hospital to enter the federal military service, three physicians and thirteen employees have returned to duty. Besides these former employees, seventeen new men from the army and the navy have been employed at the hospital during the past six months.

The situation as regards the shortage of employees has been considerably relieved during the past two months. This relief is probably due in large measure to extensive advertising in nearby cities and towns through the medium of newspapers. At the present time but fifteen employees are lacking in all departments of the institution.

A bill which is now before the legislature, if it becomes a law, will increase the wages of employees in all grades of the state hospital service.

During February, Dr. Herman E. Hasseltine, Assistant Surgeon General of the U. S. Public Health Service, and Drs. Gibbs, Welden and Anthony, also of the U. S. Public Health Service, visited the hospital and inoculated approximately 50 per cent of the patients in the hospital with a vaccine designed to prevent the development of pneumonia. Careful record is being kept of these patients, apart from the general hospital records, to determine if possible the value of the vaccine.

Plans and specifications covering an addition to the laboratory building, also plans and specifications for extension to dormitory, scullery and equipment to the East building have been received from the state architect

and approved by the board of managers of the hospital. It is expected that construction work on these additions will be commenced in the early spring.

Mr. William H. Hecox and Mr. J. Arnot Rathbone, members of the board of managers of the hospital, entered the federal service during the past six months. Mr. Rathbone has returned to his home in Elmira, N. Y., and Mr. Hecox expects to receive his discharge April 1.

On December 1, 1918, Miss Edith Atkin, R. N., principal of our school of nursing, resigned to accept the superintendency of the Binghamton City Hospital. This vacancy has been filled by the appointment of Miss Susan L. Carpenter, R. N., of Middletown, Conn. Miss Carpenter assumed the duties of principal January 2, 1919.

—*Craig Colony for Epileptics, Sonyea.*—During the influenza epidemic which existed in October and November, 1918, over 1000 cases developed at the colony, 900 among patients and 100 among employees, 138 patients and five employees succumbed to the disease. In the neighboring village of Mt. Morris, four miles distant, as well as at the colony, there was apparently a virulent type of infection which would explain the high death rate. The vast majority of patients who died were of the type considerably deteriorated both physically and mentally.

Work has been begun on the erection of Oneida, the new dining room and kitchen building in the West Group for males. This building will have space in the dining room for 350 patients and a separate dining room for employees working in the division in which the building is located.

—*Gowanda State Homeopathic Hospital, Gowanda.*—A feed water heater has been installed at the power house and will soon be in operation.

Eight new colony houses have been constructed at the poultry range to accommodate the spring hatch of chickens.

A portion of one of the large day rooms on Ward 17 has been converted into a marking room and the clothing clerk is in charge of all clothing and personal property received for men and women patients.

—*Kings Park State Hospital, Kings Park, Long Island.*—A new Employees' Home has been constructed and it is expected that it soon will be opened. The home is now heated, lighted, and, when a few minor construction details are completed, will be accepted by the state, and turned over to the proper authorities. Nearly all the furniture and equipment are on the grounds and ready to be placed in the home as soon as it is accepted. The home is of fireproof construction throughout, with reinforced concrete floors, beams, and columns. The partitions between the rooms are Ebsary fireproof blocks. Burkhardt's system of reinforcement was used in the construction of the building.

A new chlorinating apparatus has been installed at the sewage disposal plant, and an addition has been built to the filtration beds. An appropri-

tion of \$12,000 has been asked of the next legislature, to build an additional settling tank.

An authorization of \$150,000 has been made by the legislature for additional construction to the Tuberculous Group, of which \$75,000 is available. Also an appropriation of \$19,000 for constructing a kitchen for the Tuberculous Group.

An authorization of \$35,000 was made for a new water storage reservoir, of which \$10,000 is available. The present legislature has been asked to make \$25,000 more available.

An appropriation was made for reconstruction of the elevators. Material has been ordered and is being received for the purpose of reconstructing two elevators—one at C-D Kitchen, and one at Group 1 Kitchen, where the elevators are now in a poor condition.

The hospital was awarded first prize at the meeting of the American Medico-Psychological Association, held in Chicago on June 4, 1918, for embroidery, reed and raffia work.

At the request of Dr. Charles B. Davenport, Director of the Eugenics Record Office, Cold Spring Harbor, Long Island, Dr. William C. Garvin gave a clinic to twelve of his students on the morning of July 16, 1918, after which the class made a tour of the hospital under the guidance of a number of our physicians.

A clinic was given by Dr. William C. Garvin, to the students in psychology of Professor Hollingworth, of Barnard College, Columbia University, on the morning of August 6, 1918, following which the party was shown through the buildings and grounds by a number of our physicians.

The entire hospital population is being inoculated with typhoid paratyphoid vaccine in order to prevent any outbreaks of this disease.

Dr. Edward Francis, of the U. S. Public Health Service, and several assistants inoculated one-half of the patients on each of the wards of the hospital with pneumococcic vaccine, types 1, 2 and 3. By this method it is hoped that its prophylactic value against pneumonia will be determined.

At the present time the following physicians of the staff are in the Medical Corps of the U. S. Army:

Major A. J. Rosanoff,
Captain Walter H. Sanford,
Captain Harry A. Steckel,
First Lieutenant Charles H. Brush,
First Lieutenant John V. Swierat.

—*Manhattan State Hospital, Ward's Island.*—Influenza first developed in the hospital October 4, 1918, the first case occurring in the Nurses' Home. The epidemic lasted until the middle of January, during which period 165 cases occurred among the patients, 29 of whom developed pneumonia; 53 of the total number died.

Thirty-two employees developed influenza, 12 cases being complicated by pneumonia; three deaths occurred among the employees.

Eight hundred and six patients were vaccinated against the disease, 16 of whom later contracted influenza.

The epidemic was at first confined to two buildings for chronic female cases. Subsequently, however, numerous cases developed throughout the various hospital services.

The high death rate may in part be explained by the virulency of the disease and the fact that the medical service was depleted nearly 50 per cent by the absence of those in military service. The ward service was also greatly reduced owing to conditions of war and the absence from duty of those who were sick with the disease.

Never before have so many patients, male and female, been employed as at the present time, both on the ward services and out of doors. Many have been trusted with keys and in no instance have they violated the privilege extended to them, seeming to realize the existing exigency, due to the shortage of help, doing all in their power to assist; with benefit to themselves as well as the institution.

Many of the older hospital buildings have been repaired, new floors laid and interiors painted. A detached building containing Wards 11 and 12, has been thoroughly renovated and will be equipped for the special treatment and care of female neurological cases.

A large number of working patients have filled in and done considerable grading about the hospital grounds. Streets have been repaired and new ones laid; for the most part being paralleled with cement sidewalks, many new walks having recently been built.

Modern attractive electric street lamps have been placed at frequent intervals; streets and avenues have been named and appropriate signs placed on the lamp-posts at street intersections.

As an aid to centralization of administration, several of the outside departments have been grouped together under a less number of respective heads.

The work on the Naval Hospital has been greatly deferred owing to frequent strikes; the buildings, however, are now being rapidly completed and it is believed will be occupied within the near future.

On February 18 a disturbed patient was admitted to the hospital who upon examination was found to have diphtheria. Shortly after, on another ward of the Reception Hospital another patient was admitted who had had diphtheria and was a carrier. As a result of these exposures, several clinical cases of diphtheria developed and by cultures it was found that a large number of patients had become carriers; a total of 65. The building was quarantined, as a result of which the epidemic was confined entirely to this one building, as no cases occurred in other parts of the hospital from this source.

—*Middletown State Homeopathic Hospital, Middletown.*—The tuberculosis pavilion, which has been under construction for 40 patients, was equipped with temporary lines for furnishing heat and water, and occupied on December 27, 1918.

A broad veranda, inclosed in glass, faces southeast, and is the principal day room. Behind it in one wing is an infirmary for 25 patients, a small day room in the center, and in the other wing some single rooms, a small infirmary, and bath and toilet facilities. The dining room and kitchen are behind the day room.

The building has only temporary equipment, but is found light and airy, and the plan thus far is satisfactory, except for additional toilet facilities in connection with the large infirmary, which are imperative.

—*St. Lawrence State Hospital, Ogdensburg.*—A farm horse barn to accommodate 27 horses has been erected nearby the dairy barn. The present stable will be made over into a granary for the storage of farm crops and dairy feed.

The work of rewiring the Central Group is in progress. This is being done from year to year as the legislature provides funds. During the last two sessions \$1500 has been appropriated at each session.

During the months of October and November, 1918, occurred a severe epidemic of influenza, a total of 757 cases (patients and employees) contracting the disease. Of this number 246 developed pneumonia and 61 died (56 patients and 5 employees). The hospital was under a strict quarantine which was not lifted until November 20.

On December 19, 1918, a transfer of 27 female patients was received from the Manhattan State Hospital.

The total subscription to the Fourth Liberty Loan from the officers and employees of this hospital on October 19, 1918, was \$18,500.

November 15 and 16, 1918, the total subscription from officers and employees to the United War Work Campaign was \$630.25.

—*Utica State Hospital, Utica.*—Influenza held sway in the institution from October 10 until the middle of November. In all there were 372 cases among the patients, divided about equally as to sex. Thirty-five deaths results from the disease and its complications. Of the employees and officers 112 contracted the malady. There were two deaths among the nurses—one man and one woman. During the days of the most serious shortage in the nursing force, assistance was asked of the Red Cross and several volunteer workers were sent to the hospital. The institution was quarantined and no visiting was allowed from October 8 to November 19. Chapel service and entertainments were suspended.

On the afternoon of October 4 the annual field sports were held. Despite a date so late in the season, the weather was warm and pleasant and the exercises especially successful. They had been postponed for several weeks on account of unpropitious weather.

The annual Christmas entertainment, consisting of musical numbers and motion pictures, was held on the evening of December 24. Practically every patient in the institution was provided with Christmas presents, letters having been sent to correspondents and relatives several weeks before.

Such patients as had no gifts from home or were without relatives were remembered through the generosity of the board of managers and other thoughtful friends of the hospital, who contributed donations.

A complete and thoroughly modern building for a laboratory and mortuary is soon to be erected. The appropriation is \$35,000. It will be a brick building of fireproof construction, 40 x 60 feet, two stories in height, consisting of receiving room and cold vaults, autopsy and lecture room, library and museum, photographic department, chapel and several laboratory rooms.

At a cost of \$126,000 contracts have been let for remodeling the power house and boiler plant. There will be installed four 400-horsepower boilers of the water-tube type.

Dr. H. L. Palmer, who has been superintendent of the hospital since October 25, 1899, and who had served at the hospital since January 26, 1893, has tendered his resignation to take effect April 1, 1919. At a meeting of the board of managers held March 17, 1919, the members collectively and individually gave expression to their regret at Dr. Palmer's departure, and to the warm feeling of friendship held by them for Dr. and Mrs. Palmer.

—*Willard State Hospital, Willard.*—Influenza broke out at the hospital October 16, and from that time until the epidemic subsided about the end of December, 486 patients out of a total of 2400, and 177 officers and employees were ill with it. Pneumonia developed in 121 patients and 11 employees. Ninety patients and two employees died.

Out of a total of 127 places for women, and 131 for men nurses and attendants engaged in ward service, there have been 33 vacancies for women and 52 for men. Twenty-six men were absent on military service, five of whom have returned. Applications for work are now being received from men who have been discharged from the army and others from munition factories, but as yet no applications are being received from women.

A new greenhouse, with concrete walls and beds, has been constructed in the garden for propagating vegetables. New roofs have been put on the kitchens and boiler-houses at Sunnycroft and Edgemere. A contract has been awarded for new tile floors for the dining rooms at The Pines.

The budget for the coming year, which has recently been introduced in the legislature, contains an item of \$35,000, with \$20,000 immediately available, for the construction of a tuberculosis hospital for men, to accommodate 45 patients.

NORTH CAROLINA.—*State Hospital at Goldsboro.*—There has been constructed in the last two years a steel tower with two tanks of 115,000-gallon capacity, a cannery 36 x 40 feet, equipped with all necessary conveniences. An addition has been made to the kitchen, and a room built for preparing vegetables.

There is now under construction a building for the accommodation of 90 patients, and a new system of pipe lines for supplying the above, and other buildings to be erected, with water and heat.

OHIO.—Steps are being taken to form a state society for mental hygiene to co-operate with the national organization. Drs. Erl Baber, Emerson A. North, and Ora O. Fordyce, form a committee in charge of the movement.

—*Longview Hospital, Cincinnati.*—The report of the directors of this hospital for the triennial period ending November 15, 1918, contains an account of, and reports upon, the investigation ordered by Judge A. K. Nippert of the physical condition of every patient in the hospital. This was conducted by 76 physicians and 22 nurses summoned by the judge, and despite popular feeling in the matter these reports were not made public by the court. The Academy of Medicine of Cincinnati appointed a committee to investigate conditions and suggest more scientific treatment. Their recommendations are given and the management was held guiltless of any wrongdoing. Among the former, the impossibility of securing proper medical service at the inadequate recompense paid the hospital physicians was emphasized.

PENNSYLVANIA.—A state commission has purchased land in the neighborhood of Selinsgrove for the erection of a new \$1,000,000 hospital.

—*Friends Hospital, Frankford, Philadelphia.*—By the will of Margaret H. Jones this hospital will receive a sum sufficient for the erection of a memorial cottage.

SOUTH CAROLINA.—*State Hospital for the Insane, Columbia.*—The hospital has continued to be conducted along the lines indicated in the "Half-Yearly Summary," which appeared some months ago in the JOURNAL.

Progress has been made in remodeling the old wards of the white female department, though the work has been greatly handicapped on account of the difficulty in securing building material and sufficient help. The seventh, eighth, ninth, and tenth wards were finished and occupied September 25, 1918. The wards all conform to a definite plan, which has been carefully studied, the object being to supply the patients with accommodations that are best suited for their care. It is difficult for one not familiar with the situation to appreciate the striking comparison between the new and the old. The new, clean and attractive wards at once appeal to the patients, and not infrequently a careless, untidy patient, stimulated by his improved environment, will show marked improvement. Within a short time wards four, five, six and twelve will be ready for occupancy, and work of remodeling the remaining wards of the white female department is now well advanced.

Since the work of remodeling has begun, nothing has been accomplished that supplies a greater need to the hospital than the building of a tubercular cottage, which was occupied on September 15. The building is located in the northern part of the grounds, being about two hundred yards from the

nearest building. It is a one-story, frame building, one hundred and sixty feet long, and twenty-six feet wide. It is divided into two compartments or wards, one for female and the other for male patients. Each ward will accommodate, without crowding, twenty-five patients. The building is especially designed to meet the cardinal requirements of caring for tubercular patients, which are supplying them with an abundance of fresh air and sunshine.

The medical work has been conducted with the same clinical standards outlined in former reports, with the essential point of view that the mentally sick patient is one to be studied and treated as an individual rather than one who merely belongs to a certain disease category requiring only custodial care. Continuous baths and packs have been resorted to for excitement. All mechanical restraint has been abolished and seclusion reduced to the minimum. The continuation of suitable occupation and amusement for patients has demanded much time and thought.

Probably one of the most beneficial changes that have occurred in the medical department during the past year, was the placing of graduate female nurses in charge of six of the white male wards. There is much to speak for the character of their work, both in caring for the patients and the manner in which they have kept the wards.

WISCONSIN.—*Central State Hospital for the Insane, Waupun.*—This hospital is overcrowded, and the legislature has been asked for an appropriation of \$100,000 to erect two new hospital wings.

CANADA.—A new military hospital for mental cases is to be established at London, Ontario. An administrative and six ward buildings are to be erected.

Appointments, Resignations, Etc.

- ALLEN, DR. HENRY, appointed Assistant Physician at Manhattan State Hospital at Ward's Island, N. Y., February 1, 1919.
- ATKINS, DR. HENRY SKILLMORE, formerly Superintendent of St. Louis Asylum for the Insane, at St. Louis, Mo., died in St. Luke's Hospital, St. Louis, December 25, 1918, aged 51.
- AUBRY, DR. WALLACE J. C., Medical Interne at Manhattan State Hospital at Ward's Island, N. Y., promoted to Assistant Physician November 1, 1918.
- BABER, DR. ARMITAGE, Superintendent of Dayton State Hospital at Dayton, Ohio, granted an indefinite leave of absence.
- BAKER, DR. JANE ROGERS, formerly Superintendent of Chester County Hospital for the Insane at Embreeville, Pa., died at her home in Chester, Pa., October 23, 1918, from typhoid fever, aged 51.
- BARTRAM, DR. NELL W., Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., resigned February 15, 1919, to go to Serbia with the American Red Cross.
- BECKER, DR. DEDOREST, Dental Interne at Manhattan State Hospital at Ward's Island, N. Y., resigned October 30, 1918.
- BREMER, DR. NELSON H., Superintendent of Mimico Hospital for the Insane at Toronto, Ontario, elected Vice-President of the Aesculapian Club of Toronto.
- BENTLEY, DR. INEZ, Woman Physician at Kings Park State Hospital at Kings Park, N. Y., left October 21, 1918, for service with the American Committee for Devastated France.
- BENTON, DR. GEORGE H., appointed Medical Interne at St. Elizabeth's Hospital at Washington, D. C., December 20, 1918.
- BERRY, DR. WALTER D., appointed Assistant Superintendent of Gardner State Colony, at East Gardner, Mass., and assumed his duties December 20, 1918.
- BLACKBURN, DR. ELLA, Assistant Physician at Kenilworth Sanitarium at Kenilworth, Ill., resigned.
- BLAISDELL, DR. RUSSELL, Senior Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., promoted to First Assistant Physician, August 1, 1918.
- BOGDONOFF, SAMUEL, D. D. S., appointed Dental Interne at St. Elizabeth's Hospital at Washington, D. C., February 14, 1919.
- BOONE, DR. J. E., Interne at State Hospital for the Insane at Columbia, S. C., promoted to Assistant Physician, July 1, 1918.
- BOULDEN, DR. GEORGE P., Assistant Physician at Manhattan State Hospital at Ward's Island, N. Y., resigned October 30, 1918.
- BROWN, DR. JOHN F., appointed Superintendent of Central State Hospital at Waupun, Wis.
- BROWN, DR. LOUIS R., Assistant Physician at Connecticut Hospital for the Insane at Middletown, appointed First Assistant Physician at New Jersey State Hospital at Trenton, December 4, 1918.
- BUSH, DR. NATHANIEL HAWLEY, formerly Assistant Physician at Henry Phipps Psychiatric Clinic at Baltimore, Md., and recently Captain, M. C., U. S. A., has been ordered from Fort Oglethorpe, Ga., to Debarkation Hospital No. 51, National Soldiers' Home, Va.
- BUSHONG, DR. R. E., Assistant Superintendent of Athens State Hospital at Athens, Ohio, appointed Acting Superintendent of Dayton State Hospital at Dayton, Ohio.
- CAMPBELL, DR. GEORGE B., First Assistant Physician at Utica State Hospital at Utica, N. Y., and recently Major, M. C., U. S. A., on overseas duty, has returned to Utica.

- CHANDLER, DR. HENRY M., appointed Assistant Physician at Connecticut Hospital for the Insane at Middletown, October 13, 1918.
- CHANDLER, DR. JENNIE S., appointed Assistant Physician at Connecticut Hospital for the Insane at Middletown, October 23, 1918.
- COFFIN, DR. HARRIET F., Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., resigned December 9, 1918.
- COON, CAPTAIN GEORGE B., M. C., U. S. A., appointed Assistant Physician at State Hospital for Mental Diseases at Howard, R. I.
- COVEY, DR. CLYDE V., Assistant Physician at State Hospital for Mental Diseases at Howard, R. I., commissioned Lieutenant, M. C., U. S. A., and is on duty at Camp Meade.
- CRANE, DR. ALVAN H., formerly of Public Health Service, appointed Assistant Physician at Connecticut Hospital for the Insane at Middletown, January 3, 1919.
- DEWEY, DR. RICHARD, Physician in Charge of the Milwaukee Sanitarium at Wauwatosa, Wis., has become Medical Director of the same.
- DIAMOND, DR. BERT B., Assistant Physician at Manhattan State Hospital at Ward's Island, N. Y., resigned February 28, 1919.
- DOMINGO, DR. E., appointed Medical Intern at St. Elizabeth's Hospital at Washington, D. C., October 5, 1918, and resigned November 18, 1918.
- DURSCHMIDT, DR. ELIZABETH WELLS, Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., resigned September 1, 1918.
- DUVAL, DR. LEON E., Assistant Physician at St. Elizabeth's Hospital at Washington, D. C., promoted to Senior Assistant Physician, December 1, 1918.
- EASTON, DR. FLORA ESTELLA PARKER, for eight years Assistant Physician at State Hospital for the Insane at Norristown, Pa., died in the institution, October 25, 1918, from pneumonia following influenza, aged 46.
- ENGZELIUS, DR. A. E., Assistant Physician at Craig Colony for Epileptics at Sonyea, N. Y., resigned December 31, 1918.
- EVANS, DR. EDWARD E., formerly Assistant Superintendent of State Hospital Number 1 at Fulton, Mo., died at Memorial Hospital at Rosedale, Kan., December 12, 1918, from pernicious anemia, aged 50.
- EVARTS, DR. ABRAH B., Senior Assistant Physician at St. Elizabeth's Hospital at Washington, D. C., resigned October 31, 1918.
- EYMAN, DR. HENRY C., Superintendent of Massillon State Hospital at Massillon, Ohio, for thirty-four years, resigned.
- FERRIS, DR. GEORGE NEWTON, from 1881 to 1889 Superintendent of Kings County State Hospital at Brooklyn, N. Y., died at the home of his sister in Brooklyn, January 28, 1919, from heart disease, aged 64.
- FINKLE, DR. BEVERLY A., Assistant Superintendent of Norfolk Hospital for the Insane at Norfolk, Neb., appointed Superintendent of State Orthopedic Hospital at Lincoln, Neb.
- FOULES, DR. SARA E., appointed Medical Intern at Kings Park State Hospital at Kings Park, N. Y., January 7, 1919, and resigned February 5, 1919, to go to Serbia with the American Red Cross.
- FRANZ, DR. CHARLES H., formerly Assistant Superintendent of the Elgin State Hospital at Elgin, Ill., and recently in private practice in Aurora, has removed to San Francisco, Cal., where he is Assistant Surgeon in the United States Public Health Service.
- FRY, DR. CHAUNCEY B., Dental Intern at Binghamton State Hospital at Binghamton, N. Y., returned from military service March 3, 1919.
- FURMAN, DR. ISAAC J., Senior Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., resigned November 23, 1918.
- GANNON, DR. CHARLES H., Assistant Physician at State Hospital for Mental Diseases at Howard, R. I., commissioned Lieutenant, M. C., U. S. A., and is stationed at U. S. Hospital No. 34, East Norfolk, Mass.
- GARVIN, DR. WILLIAM C., Senior Assistant Physician at Manhattan State Hospital at Ward's Island, N. Y., appointed Superintendent of Kings Park State Hospital at Kings Park, N. Y., August 1, 1918.

- GIBSON, DR. EDWARD T., Clinical Director and Pathologist at Connecticut Hospital for the Insane at Middletown, granted leave of absence October 26, 1918, commissioned First Lieutenant, M. C., U. S. A., and has been on duty at Plattsburg Barracks.
- GIBSON, DR. SAMUEL CARROLL, Superintendent of Nevada Hospital for Mental Diseases at Reno from 1904 to 1911, died in San Francisco, March 11, 1919.
- GILL, DR. GEORGE GUYER, First Assistant Physician at State Hospital for Criminal Insane at Fairview, Pa., died at his home, November 4, 1918, from pneumonia, following influenza, aged 35.
- GILLETTE, DR. PHILIP F., formerly Assistant Physician at Elgin State Hospital at Elgin, Ill., reappointed.
- GLASCOCK, DR. ALFRED, formerly Assistant Physician at St. Elizabeth's Hospital at Washington, D. C., and recently Captain, M. C., U. S. A., died at a base hospital in France, where he was serving as psychiatrist, October 10, 1918, from pneumonia, aged 37.
- GLISMANN, DR. MARVIN B., Medical Interne at St. Lawrence State Hospital at Ogdensburg, N. Y., commissioned Junior Lieutenant, Second Grade, U. S. N., October 8, 1918.
- GLUECK, DR. BERNARD, formerly Alienist at New York State Prison at Sing Sing, and recently Captain, M. C., U. S. A., has been discharged.
- GORRILL, DR. GEORGE WESLEY, Superintendent of Buffalo State Hospital at Buffalo, N. Y., died at his home, October 27, 1918, from pneumonia following influenza, aged 41.
- GRAU, DR. LeROY C., SR., Assistant Physician at Manhattan State Hospital at Ward's Island, N. Y., resigned January 21, 1919.
- GROVER, DR. MILTON M., Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., promoted to Senior Assistant Physician, June 22, 1918.
- GUNDRY, DR. ALFRED T., Medical Director of the Gundry Sanitarium at Catonsville, Md., elected Secretary-Treasurer of the Baltimore County Medical Association.
- HARALSON, DR. GUY CHAILLE, formerly Assistant Physician at East Mississippi Insane Hospital at Meridian, and recently Lieutenant, M. C., U. S. A., died at Fort McPherson, Ga., October 24, 1918, from pneumonia, aged 36.
- HEYEN, DR. JOHN P., Member of the Board of Managers of Kings Park State Hospital at Kings Park, N. Y., died October 30, 1918.
- HORNER, DR. BLANCHE, Assistant Physician at Rochester State Hospital at Rochester, Minn., appointed Assistant Physician at Kenilworth Sanitarium at Kenilworth, Ill.
- HUTCHINGS, DR. RICHARD H., formerly Superintendent of St. Lawrence State Hospital at Ogdensburg, N. Y., and recently Major, M. C., U. S. A., returned to his former position February 7, 1919, and was transferred to Utica State Hospital April 1, 1919.
- HYDE, DR. ARTHUR G., Superintendent of Cleveland State Hospital at Cleveland, Ohio, transferred to Massillon State Hospital.
- ISHIDA, DR. NOBORU, Professor of Psychiatry in the University of Nagasaki, Japan, who shot and killed Dr. George B. Wolff, was sentenced to imprisonment for life in the Maryland Penitentiary.
- JACOBS, ADOLPH, D. D. S., Resident Dentist at St. Elizabeth's Hospital at Washington, D. C., resigned January 31, 1919.
- JAMISON, DR. EMILIE, appointed Assistant Physician at Manhattan State Hospital at Ward's Island, N. Y., December 20, 1918.
- JELLIFFE, DR. SMITH ELY, Visiting Neurologist to the City Hospital at Blackwell's Island, N. Y., has retired from the editorship of the New York Medical Journal.
- KENYON, DR. H. M., Assistant Physician at Binghamton State Hospital at Binghamton, N. Y., left for military service October 31, 1918, and returned January 2, 1919.
- KLEINERT, MR. ALBERT E., of Board of Managers of Kings Park State Hospital at Kings Park, N. Y., appointed Deputy Tenement House Commissioner of the Borough of Brooklyn, New York.

- KOENIG, DR. CHARLES, Assistant Physician at Manhattan State Hospital at Ward's Island, N. Y., resigned October 10, 1918.
- KRADWELL, DR. WILLIAM THEODORE, formerly Assistant Physician at the Milwaukee Sanitarium at Wauwatosa, Wis., and recently Captain, M. C., U. S. A., appointed Assistant Superintendent at the Milwaukee Sanitarium.
- LANDES, DR. BERTRAM HUGHEY, Assistant Physician at Northern Indiana Hospital for the Insane at Logansport, died January 13, 1919, from pneumonia following influenza, aged 32.
- LEBRET, DR. GERARD HENRY, formerly Assistant Physician at Essex County Hospital for the Insane at Cedar Grove, N. J., and recently Lieutenant, M. C., U. S. A., died at his home in Montclair, N. J., October 17, 1918, from pneumonia following influenza, aged 32.
- LEHRMAN, DR. RAPHAEL, Medical Interne at St. Lawrence State Hospital at Ogdensburg, N. Y., promoted to Assistant Physician, December 4, 1918, and resigned December 17, 1918.
- LEWIS, DR. NOLAN D. C., formerly Pathologist at Crownsville State Hospital at Crownsville, Md., and recently Lieutenant, M. C., U. S. A., appointed Pathologist at St. Elizabeth's Hospital at Washington, D. C.
- LISOR, DR. GRAHAM M., formerly Assistant Physician at Elgin State Hospital at Elgin, Ill., appointed Superintendent of St. James Hospital and Sanitarium at St. James, Minn.
- LORD, DR. FRANK H., Assistant Physician at Oxford Retreat at Oxford, Ohio, resigned to take charge of a sanitarium near Dayton, Ohio.
- MACAULAN, DR. JAMES L., Assistant Physician at Gardner State Colony at East Gardner, Mass., discharged from army service and returned to duty January 1, 1919.
- MCCAFFERTY, DR. GEORGE W., Superintendent of Somerset Hospital for the Insane at Somerset, Pa., died at the Windher Hospital at Windher, Pa., December 13, 1918, following an operation for appendicitis, aged 48.
- MCELROY, DR. H. A., Assistant Physician at State Hospital for the Insane at Columbia, S. C., promoted to Resident Physician at State Park of the Hospital, December 13, 1918.
- MORRILL, MR. J. B., of Centerport, Long Island, appointed to Board of Managers of Kings Park State Hospital at Kings Park, N. Y., by Governor Charles S. Whitman, November 26, 1918, and reappointed by Governor Alfred E. Smith, January 23, 1919.
- MUNNERLYN, DR. J. F., Senior Assistant Physician at State Hospital for the Insane at Columbia, S. C., promoted to Medical Director, August 15, 1918.
- MUNSON, DR. JAMES FREDERICK, formerly Pathologist at Craig Colony for Epileptics at Sonyea, N. Y., and recently Captain, M. C., U. S. A., died at Plattsburg, N. Y., October 25, 1918, from influenza, aged 37.
- NEWELL, DR. N. H., Assistant Superintendent of Nebraska Hospital for the Insane at Lincoln, resigned.
- NEYMANN, DR. CLARENCE A., formerly Assistant Physician at Henry Phipps Psychiatric Clinic at Baltimore, Md., and recently Lieutenant, M. C., U. S. A., appointed Superintendent of Cook County Psychopathic Hospital at Chicago, Ill.
- OLIVER, DR. JOHN RATHBONE, formerly Assistant Physician at Henry Phipps Psychiatric Clinic at Baltimore, Md., appointed Psychiatrist to the criminal courts of Baltimore.
- PALMER, DR. HAROLD L., Superintendent of Utica Hospital at Utica, N. Y., resigned April 1, 1919.
- PARKER, DR. CHARLES S., Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., promoted to Senior Assistant Physician, June 22, 1918.
- PATON, DR. STEWART, formerly Director of the Laboratory at the Sheppard and Enoch Pratt Hospital at Towson, Md., and recently Major, M. C., U. S. A., has been discharged.
- PAYNE, DR. GUY, Superintendent of Essex County Hospital for the Insane at Cedar Grove, N. J., granted leave of absence for military service until December 31, 1918.

- PECK, DR. MARTIN W., formerly Assistant Physician at Devereux Mansion at Gloucester, Mass., and recently Lieutenant, M. C., U. S. A., appointed Assistant Physician at Sheppard and Enoch Pratt Hospital at Towson, Md.
- PETERY, DR. ARTHUR KRAFT, Assistant Physician at the State Hospital for the Insane at Norristown, Pa., died at the hospital, October 2, 1918, from pneumonia following influenza, aged 32.
- PETTJOHN, DR. ABRA C., formerly Superintendent of Eastern Oklahoma Hospital for the Insane at Vinita, appointed Resident Physician at Dr. C. R. Woodson's Sanitarium at St. Joseph, Mo.
- PICKENS, DR. EDGAR A., appointed Assistant Physician at Nebraska Hospital for the Insane at Lincoln.
- PIERSON, DR. HELENA B., Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., resigned December 20, 1918.
- PILGRIM, DR. CHARLES W., Chairman of New York State Hospitals Commission, has been elected Chairman of the Section on Mental Hygiene and Medical Advice of the State Conference of Charities and Corrections.
- PLAMONDON, DR. JAMES D., Assistant Physician at State Insane Asylum at Salem, Oregon, appointed Superintendent of Eastern Oregon State Hospital at Pendleton.
- PRIESTMAN, DR. GORDON, Senior Assistant Physician at Willard State Hospital at Willard, N. Y., absent on military duty.
- PRINGLE, DR. FRED A., appointed Assistant Physician at Essex County Hospital for the Insane at Cedar Grove, N. J.
- PRITCHARD, DR. J. A., appointed Senior Assistant Physician at Binghamton State Hospital at Binghamton, N. Y., October 31, 1918.
- PUTNAM, DR. JAMES J., Consulting Neurologist to Massachusetts General Hospital at Boston, Mass., died at his home in Boston, Mass., November 4, 1918, from heart disease, aged 72.
- RAYMOND, DR. HERMAN L., formerly Assistant Physician at Gowanda State Homeopathic Hospital at Collins, N. Y., and recently Captain, M. C., U. S. A., resumed his hospital position December 16, 1919.
- REXFORD, DR. HOMER I., Medical Intern at Willard State Hospital at Willard, N. Y., absent on military duty.
- RILEY, DR. CHARLES HENRY, President of the Board of Trustees of the Sheppard and Enoch Pratt Hospital at Towson, Md., died January 23, 1919, at his home from kidney disease, aged 62.
- ROMERS, DR. HENRY W., appointed Medical Intern at Kings Park State Hospital at Kings Park, N. Y., February 18, 1919.
- ROWE, DR. HENRY, JR., appointed Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., June 20, 1918, and resigned September 20, 1918.
- SALMON, COL. THOMAS W., Senior Consultant in Neuro-Psychiatry for the A. E. F., has returned for duty in the Surgeon-General's Office in Washington, D. C.
- SANFORD, DR. LESTER E., Assistant Physician at Binghamton State Hospital at Binghamton, N. Y., returned from military service March 10, 1919, having left the hospital May, 1918.
- SCANLAND, DR. JOHN M., Superintendent of State Hospital for the Insane at Warm Springs, Mont., commissioned Captain, M. C., U. S. A.
- SCHETZ, DR. MILDRED S., Assistant Physician at St. Elizabeth's Hospital at Washington, D. C., promoted to Senior Assistant Physician, November 1, 1918.
- SHUFFLETON, DR. JOSEPH H., Assistant Physician at Kings Park State Hospital at Kings Park, N. Y., promoted to Senior Assistant Physician, June 22, 1918.
- SLAGLE, MRS. ELEANOR CLARKE, General Superintendent of Occupations of the Illinois State Hospitals, appointed Supervisor of Aides in Occupational Therapy in the Medical Department, U. S. A.
- SLEVSTER, DR. L. ROCK, Superintendent of Central State Hospital for the Insane at Waupun, Wis., appointed Physician in Charge of the Milwaukee Sanitarium at Wauwatosa, Wis.
- SOBEL, DR. NATHAN, Medical Intern at Kings Park State Hospital at Kings Park, N. Y., resigned, September 30, 1918.

- SOMERS, DR. ELBERT, formerly Superintendent of Long Island State Hospital at Brooklyn, N. Y., appointed Superintendent of a Red Cross Hospital in France.
- SPEAR, DR. GEORGE E., Assistant Physician at Nebraska State Hospital at Ingleside, was shot by a nurse, November 11, 1918, and died the following day, aged 45.
- SPEERER, DR. IRVING, appointed Dental Interne at Manhattan State Hospital at Ward's Island, N. Y., December 1, 1918.
- SPRADLEY, DR. J. BRUTUS, Medical Interne at Binghamton State Hospital at Binghamton, N. Y., resigned December 20, 1918, to enter a general hospital in Rome, N. Y.
- SPRADLING, DR. RICHARD H., Assistant Physician at Nebraska Hospital for the Insane at Lincoln, promoted to Assistant Superintendent.
- STARK, DR. CLINTON E., Trustee of Norwich State Hospital at Norwich, Conn., since its institution, died at his home in Norwich, September 27, 1918, from pneumonia following influenza, aged 64.
- STICK, DR. H. LOUIS, formerly Superintendent of Hospital Cottages for Children at Baldwinville, Mass., and now Captain, M. C., U. S. A., has been ordered to Plattsburg Barracks.
- STOUGH, DR. DOWLING B., Medical Interne at Binghamton State Hospital at Binghamton, N. Y., resigned March 1, 1919, to reside in Arkansas.
- SZETO, DR. HENRY C., Medical Interne at Manhattan State Hospital at Ward's Island, N. Y., promoted to Assistant Physician November 1, 1918.
- SZWAJKART, DR. ADAM, Superintendent of Cook County Psychopathic Hospital at Chicago, Ill., resigned.
- TADDIKEN, DR. PAUL G., Acting Superintendent of St. Lawrence State Hospital at Ogdensburg, N. Y., appointed Superintendent of Buffalo State Hospital at Buffalo, N. Y., January 26, 1919.
- VERMILYEA, DR. SIDNEY CHARLES, formerly Assistant Physician at Hudson River State Hospital at Poughkeepsie, N. Y., and recently Lieutenant, M. C., U. S. A., died in service.
- VESSIE, DR. PERCY R., Senior Assistant Physician at Gowanda State Homeopathic Hospital at Collins, N. Y., resigned to enter private practice in Gowanda.
- WALLS, H. ERNEST, D. D. S., appointed Dental Interne at St. Elizabeth's Hospital at Washington, D. C., February 14, 1919, and resigned February 18, 1919.
- WASSON, DR. WATSON LOVELL, Superintendent of Vermont State Hospital for the Insane at Waterbury, and Professor of Psychiatry in the University of Vermont, died November 24, 1918, from pneumonia, aged 44.
- WHEELER, MISS ANN W., appointed to Board of Managers of Kings Park State Hospital at Kings Park, N. Y., April 11, 1918, by Governor Charles S. Whitman.
- WHITE, DR. GEORGE M., appointed Assistant Superintendent of Nebraska State Hospital at Ingleside.
- WHITTEN, DR. B. O., Resident Physician at State Park of State Hospital for the Insane at Columbia, S. C., resigned December 15, 1918.
- WILLIAMS, DR. GUY H., Assistant Physician at Columbus State Hospital at Columbus, Ohio, appointed Superintendent of Cleveland State Hospital at Cleveland, Ohio.
- WILLIAMS, DR. TOM A., has recently returned from France, where he had been acting as Medical Adviser to the Bureau of Medical Research of the American Red Cross.
- WISWALL, DR. EDWARD HASTINGS, formerly Assistant Physician at the Westborough State Hospital at Westborough, Mass., and recently Superintendent of Wellesley Sanitarium at Wellesley, Mass., died at his home, October 7, 1918, aged 57.
- WOLFF, DR. GEORGE BANEY, Assistant Physician at Sheppard and Enoch Pratt Hospital at Towson, Md., was shot and instantly killed by Dr. Noboru Ishida, December 21, 1918, aged 33.
- ZARRISKIE, LT. COL. E. G., Consulting Neuro-psychiatrist to the Savenay Hospital Centre, has been designated Senior Consultant in Neuro-psychiatry for the A. E. F.

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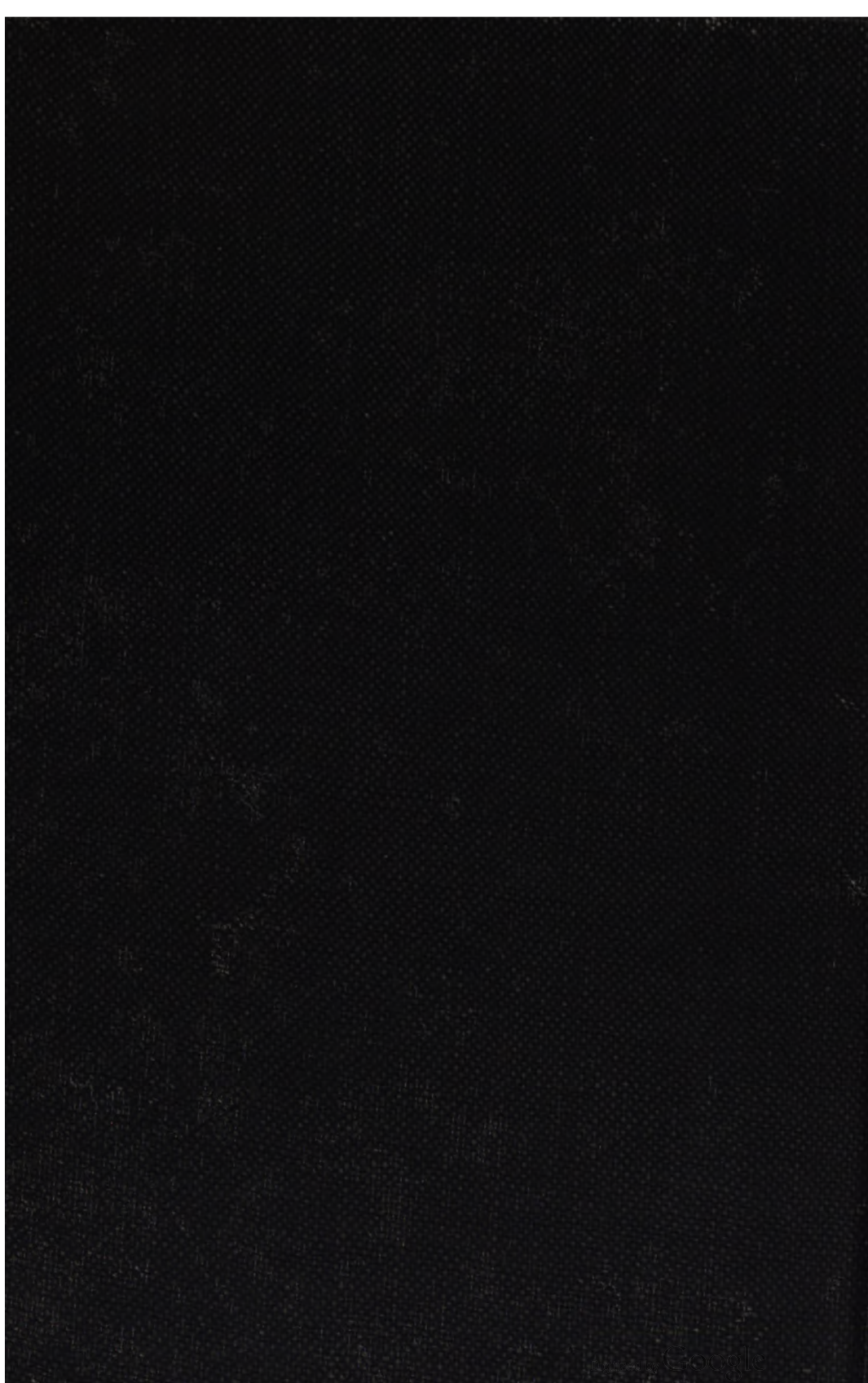
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American Psychiatric Association

American Psychiatric Association	
Logo of the APA	
Formation	1844
Headquarters	1000 Wilson Boulevard, Suite 1825 Arlington, Virginia, United States
Membership	36,000 members ^[1]
May 2013–2014 President	Jeffrey Lieberman, M.D.
Website	www.psychiatry.org ^[1]

The **American Psychiatric Association (APA)** is the main professional organization of psychiatrists and trainee psychiatrists in the United States, and the largest psychiatric organization in the world.^[1] Its some 36,000^[1] members are mainly American but some are international. The association publishes various journals and pamphlets, as well as the *Diagnostic and Statistical Manual of Mental Disorders* (DSM). The DSM codifies psychiatric conditions and is used worldwide as a key guide for diagnosing disorders.

The organization has its headquarters in Arlington County, Virginia.^[2]

History

At a meeting in 1844 in Philadelphia, 13 superintendents and organizers of insane asylums and hospitals formed the Association of Medical Superintendents of American Institutions for the Insane (AMSAI). The group included Thomas Kirkbride, creator of the asylum model which was used throughout the United States. At the meeting they passed the first proposition of the new organization: "It is the unanimous sense of this convention that the attempt to abandon entirely the use of all means of personal restraint is not sanctioned by the true interests of the insane."^[3]

The name of the organization was changed in 1892 to The American Medico-Psychological Association to allow assistant physicians working in mental hospitals to become members.

In 1921, the name was changed to the present American Psychiatric Association. The APA emblem, dating to 1890, became more officially adopted from that year. It was a round medallion with a purported facial likeness of Benjamin Rush and 13 stars over his head to represent the 13 founders of the organization. The outer ring contains the words "American Psychiatric Association 1844." Rush's name and an M.D.^[4] The Association was Incorporated in the District of Columbia in 1927.

In 1948, APA formed a small task force to create a new standardized psychiatric classification system. This resulted in the 1952 publication of the first DSM. In 1965 a new task force of 10 people developed DSM-II, published in 1968. DSM-III was published in 1980, after a larger process involving some 600 clinicians. The book was now 500 pages long, including many more disorders, and it sold nearly half a million copies. APA published a revised DSM-III-R in 1987 and DSM-IV in 1994, the latter selling nearly a million copies by the end of 2000. DSM-IV-TR with minor revisions was published in 2000. APA is currently developing and consulting on DSM-V, which will be published in May 2013.

In the early 1970s, activists campaigned against the DSM classification of homosexuality as a mental disorder, protesting at APA offices and at annual meetings from 1970 to 1973. In 1973 the Board of Trustees voted to remove homosexuality as a disorder category from the DSM, a decision ratified by a majority (58%) of the general APA membership the following year. A category of "sexual orientation disturbance" was introduced in its place in 1974,

and then replaced in the 1980 DSM-III with Ego-dystonic sexual orientation. That was removed in 1987.

In 2002, amidst increasing concern to differentiate themselves from clinical psychologists, the APA assembly membership voted against a proposed name change to the American Psychiatric Medical Association.^[5]

Dr. Saul Levin was named on May 15th, 2013 as the new chief executive officer and medical director of the APA, making him the first known openly gay person to head the APA.^[6]

Organization and membership

APA is led by the President of the American Psychiatric Association and a Board of Trustees with an Executive Committee.

APA reports^[7] that its membership is primarily medical specialists who are qualified, or in the process of becoming qualified, as psychiatrists. The basic eligibility requirement is completion of a residency program in psychiatry accredited by the Residency Review Committee for Psychiatry of the Accreditation Council for Graduate Medical Education (ACGME), the Royal College of Physicians and Surgeons of Canada (RCPS(C)), or the American Osteopathic Association (AOA). Applicants for membership must also hold a valid medical license (with the exception of medical students and residents) and provide one reference who is an APA member.

APA holds an annual conference attended by a US and international audience.

APA is made up of some 76 district associations throughout the US.^[8]

Theoretical position

The APA reflects and represents mainstream psychiatry in the United States. Reflecting larger trends, the APA members and leaders had been largely psychodynamic in their approaches until recent decades, when the field became more "biopsychosocial."

The DSM is currently intended to be less theoretical than prior editions, having moved away from psychodynamic theories to be more widely accepted, and is proposed to not be committed to a particular theorized etiology for mental disorders. The criteria for many of the mental disorders have been expanded and involve a checklist of so-called 'Feighner Criteria' to try and capture the varying sets of features which would be necessary to diagnose a particular disorder.

Publications and campaigns

APA position statements,^[9] Psych.org and practice guidelines^[10] and description of its core diagnostic manual the DSM^[11] are published.

APA publishes several journals^[12] focused on different areas of psychiatry, for example, academic, clinical practice, or news.

APA recently launched a health campaign^[13] with a new PR approach^[14]

Notable figures

- Adolf Meyer rose to prominence as the president of the American Psychiatric Association and was one of the most influential figures in psychiatry in the first half of the twentieth century.
- Robert Spitzer was a key figure in the development of later editions of the DSM.
- Donald Ewen Cameron is best known for his MK-ULTRA-related mind-control and behavior modification research for the CIA. Cameron was President of the APA in 1952-1953.
- Current president Jeffrey Lieberman was principal investigator for the NIMH CATIE study.^[15]

Drug company ties

In his book *Anatomy of an Epidemic* (2010), Robert Whitaker described the partnership that has developed between the APA and pharmaceutical companies since the 1980s.^[1] APA has come to depend on pharmaceutical money.^[1] The drug companies endowed continuing education and psychiatric "grand rounds" at hospitals. They funded a political action committee (PAC) in 1982 to lobby Congress.^[1] The industry helped to pay for the APA's media training workshops.^[1] It was able to turn psychiatrists at top schools into speakers, and although the doctors felt they were independents, they rehearsed their speeches and likely would not be invited back if they discussed drug side effects.^[1] "Thought leaders" became the experts quoted in the media.^[1] As Marcia Angell wrote in *The New England Journal of Medicine* (2000), "thought leaders" could agree to be listed as an author of ghostwritten articles,^[16] and she cites Thomas Bodenheimer and David Rothman who describe the extent of the drug industry's involvement with doctors.^{[17][18]} *The New York Times* published a summary about antipsychotic medications in October 2010.^[19]

In 2008, for the first time, Senator Charles Grassley asked the APA to disclose how much of its annual budget came from drug industry funds. The APA said that industry contributed 28% of its budget (\$14 million at that time), mainly through paid advertising in APA journals and funds for continuing medical education.^[1]

Controversies

Controversies have related to anti-psychiatry and disability rights campaigners, who regularly protest at American Psychiatric Association offices or meetings. In 1971, members of the Gay Liberation Front organization sabotaged an APA conference in San Francisco. In 2003 activists from MindFreedom International staged a 21-day hunger strike, protesting at a perceived unjustified biomedical focus and challenging APA to provide evidence of the widespread claim that mental disorders are due to chemical imbalances in the brain. APA published a position statement in response^[20] and the two organizations exchanged views on the evidence.

There was controversy when it emerged that US psychologists and psychiatrists were helping interrogators in Guantanamo and other US facilities. The American Psychiatric Association released a policy statement that psychiatrists should not take a direct part in interrogation of particular prisoners^[21] but could "offer general advice on the possible medical and psychological effects of particular techniques and conditions of interrogation, and on other areas within their professional expertise."

After previous controversy over APA's classification of homosexuality as a mental illness, there is also controversy regarding the remaining category of "sexual disorder not otherwise specified" which can include a state of distress about one's sexual orientation, as well as the diagnosis of "gender identity disorder" or gender dysphoria.^[22]

The APA's Standard Diagnostic Manual came under criticism from autism specialists Tony Attwood and Simon Baron-Cohen for proposing the elimination of Asperger's syndrome as a disorder and replacing it with an autism severity scale. Professor Roy Richard Grinker wrote a controversial editorial for the *New York Times* expressing support for the proposal.

The APA president in 2005, Steven Sharfstein, caused controversy when, although praising the pharmaceutical industry, he argued that American psychiatry had "allowed the biopsychosocial model to become the bio-bio-bio model" and accepted "kickbacks and bribes" from pharmaceutical companies leading to the over-use of medication

and neglect of other approaches.^[23] In 2008 APA became a focus of congressional investigations regarding the way that money from the pharmaceutical industry can shape the practices of nonprofit organizations that purport to be independent in their viewpoints and actions. The drug industry accounted in 2006 for about 30 percent of the association's \$62.5 million in financing, half through drug advertisements in its journals and meeting exhibits, and the other half sponsoring fellowships, conferences and industry symposiums at its annual meeting. APA is considering its response to increasingly intense scrutiny and questions about conflicts of interest.^[24] The APA president of 2009-2010, Alan Schatzberg, has also come under fire after it came to light that he was principal investigator on a federal study into a drug being developed by Corcept Therapeutics, a company Schatzberg had himself set up and in which he had several millions of dollars' worth of stock.^[25]

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Statistical manual for the use of hospitals for mental diseases. In collaboration with the National Committee for Mental Hygiene.

American Psychiatric Association. National Committee for Mental Hygiene. 1948

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Publisher: Utica, N. Y. : State Hospitals Press

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PSYCHIATRIC NEWS

..... The First and Last Word in Psychiatry

A Message From APA President Dilip Jeste, M.D., on *DSM-5*

December 1, 2012

I am pleased to announce that *DSM-5* has just been approved by APA's Board of Trustees. Getting to the finish line has taken a decade of arduous work and tens of thousands of pro-bono hours from more than 1,500 experts in psychiatry, psychology, social work, psychiatric nursing, pediatrics, neurology, and other related fields from 39 countries. We look forward to the book's publication next May.

The goal of the *DSM-5* process has been to develop a scientifically based manual of psychiatric diagnosis that is useful for clinicians and our patients. APA's interest in developing DSM dates back to the organization's inception in 1844, when one of its original missions was to gather statistics on the prevalence of mental illness. In 1917, the Association officially adopted the first system for uniform statistical reporting called the Statistical Manual for the Use of Hospitals for Mental Diseases, which was adopted successfully by mental hospitals throughout the country. It was expanded into the first *Diagnostic and Statistical Manual (DSM)* in 1952 and first revised (*DSM-II*) in 1968. Like the rest of the field in that era, these first two versions were substantially influenced by psychoanalytic theories.

With advances in clinical and scientific knowledge, changes in diagnostic systems are inevitable. The World Health Organization's *International Classification of Diseases (ICD)*—the standard diagnostic tool for epidemiology, health management, and clinical care used around the world, which covers all medical diagnoses—has been through 10 editions since the late 1800s and is now preparing its 11th edition, due in 2015. Likewise, *DSM* has undergone changes to take into account progress in our understanding of mental illnesses. *DSM-III*, published in 1980 under the leadership of Dr. Robert Spitzer, and *DSM-IV*, published in 1994 under the leadership of Dr. Allen Frances, represented the state of science of psychiatry at those times and significantly advanced the field.

In the two decades since the publication of *DSM-IV*, we have witnessed a wealth of new studies on epidemiology, neurobiology, psychopathology, and treatment of various mental illnesses. So, it was time for APA to consider making necessary modifications in the diagnostic categories and criteria based on new scientific evidence. But there were, of course, challenges inherent in revising an established diagnostic system.

The primary criterion for any diagnostic revisions should be strictly scientific evidence. However, there are sometimes differences of opinion among scientific experts. At present, most psychiatric disorders lack validated diagnostic biomarkers, and although considerable advances are being made in the arena of neurobiology, psychiatric diagnoses are still mostly based on clinician assessment.

Also, there are unintended consequences of psychiatric diagnosis. Some arise from the unfortunate social stigma and discrimination in getting jobs or even obtaining health insurance (notwithstanding the mental health parity law) associated with a psychiatric illness. There is also the double-edged sword of underdiagnosis and overdiagnosis. Narrowing diagnostic criteria may be blamed for excluding some patients from insurance coverage and needed services, while expanded efforts to diagnose (and treat) patients in the early stages of illness to prevent its chronicity are sometimes criticized for increasing its prevalence and potentially expanding the market for the pharmaceutical industry. (It should be noted, however, that *DSM* is not a treatment manual and that diagnosis does not equate to a need for pharmacotherapy.)

APA has carefully sought to balance the benefits of the latest scientific evidence with the risks of changing diagnostic categories and criteria. We realize that, given conflicting views among different stakeholders, there will be inevitable disagreements about some of the proposals—whether they involve retaining the traditional *DSM-IV* criteria or modifying them.

The process of developing *DSM-5* began in earnest in 2006, when APA appointed Dr. David Kupfer as chair and Dr. Darrel Regier as vice chair of the task force to oversee the development of *DSM-5*. The task force included the chairs of 13 diagnostic work groups, who scrutinized the research and literature base, analyzed the findings of field trials, reviewed public comments, and wrote the content for specific disorder categories within *DSM-5*. To ensure transparency and reduce industry-related conflicts of interest, APA instituted a strict policy that all task force and work group members had to make open disclosures and restrict their income from industry. In fact, the vast majority of the task force and work group members had no financial relationship with industry.

To obtain independent reviews of the work groups' diagnostic proposals, the APA Board of Trustees appointed several review committees. These included the Scientific Review Committee (co-chaired by Drs. Ken Kendler and Robert Freeman), Clinical and Public Health Committee (co-chaired by Drs. Jack McIntyre and Joel Yager), and APA Assembly Committee (chaired by Dr. Glenn Martin). Additionally, there was a forensic review by members of the Council on Psychiatry and Law. Drs. Paul Appelbaum and Michael First were consultants on forensic issues and criteria/public comments, respectively. Reviews by all these groups were coordinated in meetings of the Summit Group, which included the task force and review committee co-chairs and consultants along with members of the Executive Committee of the Board of Trustees.

There has been much more public interest and media scrutiny of *DSM-5* than any previous revisions. This reflects greater public awareness and media interest in mental illness, as well as widespread use of the Internet and social media. To facilitate this transparent process, APA created a Web site (www.dsm5.org) where preliminary draft revisions were available for the public to examine, critique, and comment on. More than 13,000 Web site comments and 12,000 additional comments from e-mails, letters, and other forms of communication were received. Members of the *DSM-5* work groups reviewed the feedback submitted to the Web site and, where appropriate, made modifications in their proposed diagnostic criteria.

We believe that *DSM-5* reflects our best scientific understanding of psychiatric disorders and will optimally serve clinical and public health needs. Our hope is that the *DSM-5* will lead to more accurate diagnoses, better access to mental health services, and improved patient outcomes.

The history of psychiatric diagnosis can be divided into two eras: before DSM-III and after DSM-III. There are several good accounts of the early history of psychiatric diagnosis, so only a brief synopsis need be covered here. One interesting historical fact is that the reason that we have a *Diagnostic and Statistical Manual of Mental Disorders* instead of simply a *Diagnostic Manual of Mental Disorders* is because the DSM was developed from national statistical records. The U.S. Constitution mandates the collection of census data for purposes of representation and taxation. Over time, questions were added to the census to gather additional information. The first tallies of mental disorders (intended to learn about the institutionalized population) were obtained in the 1840 census, although categories at that time were only idiocy/insanity. In 1918, the Census Bureau published *The Statistical Manual for the Use of Hospitals for Mental Diseases* (2), which was updated in 10 editions through 1942. There were several other important influences leading to the first DSM, but the Census Bureau's *Statistical Manual* can fairly be described as the key precursor (hence the retention of the term *Statistical Manual* despite the smaller role now played by statistics).

Attention Deficit Hyperactivity Disorder: Concepts, Controversies, New

Directions. Keith McBurnett, Linda Pfiffner, editors. New York; Healthcare USA, Inc. 2008. Page 1.



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STATISTICAL MANUAL

FOR THE USE OF

c/L . . : '■
INSTITUTIONS FOR THE INSANE A s ' *■

PREPARED BY TUB

COMMITTEE ON STATISTICS

OF THE

AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION

IN COLLABORATION WITH THE

BUREAU OF STATISTICS

OF THE

NATIONAL COMMITTEE FOR MENTAL HYGIENE
50 UNION SQUARE, NEW YORK CITY

NEW YORK
1918

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FOREWORD

The American Medico-Psychological Association at its meeting held in New York, in May 1917, adopted the report of its Committee on Statistics which provided for a system of uniform statistics in institutions for mental diseases, and appointed a standing Committee on Statistics to promote the introduction of the system throughout the country. This committee met in New York City on February 7, 1918, and in cooperation with the National Committee for Mental Hygiene outlined a plan of procedure.

The National Committee has established a Bureau of Uniform Statistics and has received a special gift to defray the initial expenses of the work of collecting statistics from institutions for the insane. As close relationships have always existed between the American Medico-Psychological Association and the National Committee, it was thought wise for the Committee on Statistics to become an advisory committee to the Bureau of Uniform Statistics of the National Committee and to have the work of introducing the new system and of collecting statistics from the institutions carried out by the Bureau.

In accordance with this arrangement the Bureau, with the assistance of the Committee on Statistics of the American Medico-Psychological Association,, has prepared this manual to assist the institutions in compiling their annual statistics and has printed a series of forms to be used in preparing statistical reports. The manual and duplicate forms will be furnished free to all cooperating institutions, and it is earn-

estly hoped that they will be generally adopted, so that a national system of statistics of mental diseases may become an actuality. j! 1 -

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It is recommended that the standardized tables be used in the annual reports of the institutions so far as possible and that a duplicate copy of the tables be sent to the Bureau of Uniform Statistics of the National Committee for Mental Hygiene as soon as possible after the end of the fiscal year of the institution.

Albert M. Barrett, Chairman
E. Stanley Abbot
Owen Copp
George H. Kirby
James V. May
Frankwood E. Williams

Committee on Statistics, American
Medico-Psychological Association

Thomas W. Salmon

Medical Director l National Com-
mittee for Mental Hygiene

Eoith M. Fiirbush, Statistician,

Horatio M. Pollock,

' Consulting Statistician,
Bureau of Statistics, National Com-
mittee for Mental Hygiene

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Senile psychoses

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General paralysis . . . , *

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Psychoses with Huntington's chorea	
Psychoses with brain tumor	
Psychoses with other brain or nervous diseases	
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STATISTICAL MANUAL FOR THE USE OF INSTITUTIONS FOR THE INSANE

Statistics of mental disease, to be trustworthy, must be based on accurate original data. If the facts first ascertained concerning the patients are recorded in a haphazard way without a clear understanding of the purposes to be attained, the statistics compiled therefrom will probably be very defective, if not absolutely worthless.

As a first step in preparing statistics of patients in an institution for the insane it is necessary to formulate statistical data cards with the essential captions arranged in convenient form. Such cards call for the same items of information concerning every patient^ and if properly designed and filled out, will furnish data that may be classified in various ways and tabulated so as to give clear summaries of important facts concerning the patients and their diseases and the results of treatment

To facilitate tabulation and filing, it is recommended that four distinct statistical cards be used, viz. :

1. A first admission card, to be filled out for every insane patient admitted for the first time to any hospital for the treatment of mental diseases, except institutions for temporary care only.

2. A readmission card, to be filled out for every insane patient admitted who has been previously under treatment in a hospital for mental diseases, excepting transfers and those who have received treatment only in institutions for temporary care.

3. A discharge card, to be filled out for every insane patient discharged, except transfers.

4. A death card, to be filled out for every insane patient who dies in the hospital.

It is suggested that first admission cards be printed on white cardboard, readmission cards on yellow, discharge

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cards on salmon, and death cards on blue, and that in each instance cards for male patients be printed with black ink and cards for female patients with red.

Sample forms for the cards are submitted herewith :

FIRST ADMISSION MALE (or female)
State Hospital

Committed
Identification No. Legal status - Voluntary

Psychosis- No. Group Type

Hativity (state or country) of patient of father of mother Date of

arrival in U. S.
 Citizenship of patient — American foreign of father — American foreign

 Race Marital condition — Single married widowed divorced separated

 Education— None reads only reads and writes common school high school
 collegiate
 Occupation Religion (Denomination)

 Environment— Urban rural Economic condition— Dependent marginal

 comfortable
 Actual residence— County P. O.

 Time in state
 Etiological factors othei than heredity

 I Tempera meD tally normal, abnormal (specify)
 abnormal (specify!
 Family history of mental diseases
 Family history of nervous diseases
 Family history of mental deficiency
 Family history of inebriety (alcohol or drugs) (specify)

 f Abstinent
 Alcoholic habits of patient J Moderate (specify)

 [Intemperate (specify)
 Accompanying physical diseases not an integral part of the j

 Duration of present attack before admission yrs. mos.

 Number of previous attacks

 Date of admission 19 Age on admission yrs.

 Presented at staff meeting 19 By Dr.

 Hospital number for the year
 Note — This card for First Admission to any hospital for the i
 [Size of card 5 in. i 8 in.]

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 KEADMI88ION CARD MALE (or female)

 State Hospital

 Committed
 Name Identification No. Legal status — Voluntary

 Psychosis — No. Group

 Nativity (atate or country) of patie

 arrival in U. S.
 Citizenship of patient— American foreign of father — American foreign

 Race Marital condition — Single married widowed divorced separated

 Education— -None reads only reads and writes common school high school
 collegiate
 Occupation Religion (denomination)

 Environment — Urban rural Economic condition — Dependent marginal

 comfortable
 Actual residence — County P. O.

 Time in state
 Etiological factors other than heredity

 (Temperamentally normal, abnormal (specify)

abnormal (specify)
 Family history of mental diseases
 Family history of nervous diseases
 Family history of mental deficiency
 Family history of inebriety (alcohol or drugs) (specify)

 I Abstemious
 Alcoholic habits of patient ^ Moderate (specify)

 I intemperate (specify)
 Accompanying physical diseases not an integral part of the psychosis

 Duration of present attack before admission yri. mos. das.

 Number of previous attacks

 No. of previous admissions Date and duration of each previous hospital
 residence (exclusive of parole)
 Condition at last discharge Date Hosp

 Date of readmission 19 Age on readmission yrs.

 Presented at staff meeting 19 By Dr.

 Hospital number for the year
 Note - This card for cases previously admitted to any hospital for the

 [Size of card 5 in-, x 8 in.]

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 10

 DISCHARGE CARD MALE (or female)

 State Hospital

 Committed
 Name Identification No. Legal status- Voluntary

 Psychosis - No. Group Type

 Nativity (state or country) of patient of father of mother

 Citizenship of patient - American foreign of father - American foreign

 Age on discharge years

 Residence when admitted- County P. O.

 No. of previous attacks

 No. of previous admissions Date of last admission

 Date and duration of each' previous hospital residence (exclusive of parole)

 Duration of last psychosis before admission years months days

 Duration of last hospital residence (exclusive of parole) years months
 days
 Total duration of hospital life (all admissions, exclusive of paroles) years
 months days

 Condition on discharge - Recovered much improved improved unimproved
 Not insane: Epilepsy alcoholism drug addiction constitutional inferiority

 mental deficiency dotage others (specify)
 Date of parole - 19

 Date of discharge 1.9

 Patient was discharged to the custody of
 Address

Hospital discharge number for the year
[Size of card 5 in. x 8 in.]

DEATH CARD MALE (or female)

State Hospital

Committed

Name Identification No. Legal status — Voluntary

Psychosis — No. Group Type

Nativity (state or country) of patient of father of mother

Citizenship of patient — American foreign of father — American foreign

Age at death years

No. of previous attacks No. of previous admissions

Date and duration of each previous hospital residence (exclusive of parole)

Duration of last psychosis before admission years months days

Date of last admission

Period of last hospital residence years months days

Total duration of hospital life (all admissions, exclusive of paroles) years
months days

Cause of death (Follow international list of causes and underline principal

Autopsy No yes Findings of autopsy

Residence when admitted— County city or village

Date of death 19

Hospital discharge number for the year

[Size of card 5 in. x 8 in.]

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The facts needed to fill out the admission cards are obtained from (a) the relatives and friends of the patient, (b) the patient himself, (c) the commitment papers, (d) the family physician, (e) official documents and records, and (f) the mental and physical examination of the patient.

The nurse or attendant sent from the hospital to bring in a patient should be provided with a history blank and should note thereon all of the important facts concerning the patient and his family history that can be obtained from relatives and friends. Additional data should be secured when friends come to the hospital to visit the patient.

The data required to fill out the discharge and death cards are obtained from the hospital records. These cards should always be consistent with the admission cards.

It is advisable to have a statistical data sheet, similar to the first admission card, filled out and incorporated in the case record of the patient

At the close of the fiscal year when all the cards are filled out and checked up, the statistical tables should be made therefrom. The tabulation can be easily and accurately done by sorting the cards into groups corresponding to the table headings and then counting the several groups. The

totals should be made after each count is completed, and mistakes rectified before the cards are regrouped.

When the tables for the year are finished, the cards should be systematically filed according to patients' identification numbers, all of the cards relating to one patient being brought together.

Filling in Cards

Fill in every caption on each card ; if full or accurate information can not possibly be obtained, enter " U " (symbol for "facts unascertained").

If the information is negative, enter " none " or " no ".

Do not use the interrogation point (?).

Do not use the dash (-) for " unascertained " or for " negative ".

Do not use the term " several " ; as " several years " ; enter rather " less than 1 yr.," " between 1 and 5 ym," or " over 10 yrs.," if exact figures can not be obtained.

Avoid round numbers ; accept figures ending with 5 or with with skepticism and only after close questioning. Avoid,

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e. g., " 1 yr." for 11 mos., 12y 2 mos., etc., and " 1 mo." for 35 days, etc. Avoid " 60 yrs." for 59 or 61 yrs

Avoid ambiguous abbreviations; as " lob. pneu." (lobar or lobular?), "par." (paranoic or paralytic?), etc., and use only standard abbreviations.

If the place assigned to any caption of the schedule is too limited to enter all ascertained data, mark the blank "over", and enter the data on the back of the card.

Entries on all cards should be typewritten. Designate items on the cards, by underscoring; as, single. Do not cross out items or use check marks.

CLASSIFICATION OF MENTAL DISEASES

Explanatory notes of the various groups and clinical types follow the classification.

1. Traumatic psychoses

(a) Traumatic delirium

(b) Traumatic constitution

(c) Post-traumatic mental enfeeblement (dementia)

2. Senile psychoses

(a) Simple deterioration

(b) Presbyphrenic type

(c) Delirious and confused types

(d) Depressed and agitated states in addition to deterioration

(e) Paranoid types

(f) Pre-senile types

3. Psychoses with cerebral arteriosclerosis

4. General paralysis
 5. Psychoses with cerebral syphilis
 6. Psychoses with Huntington's chorea
 7. Psychoses with brain tumor
 8. Psychoses with other brain or nervous diseases
- The following are the more frequent affections and should be specified in the diagnosis.
- Cerebral embolism
Paralysis agitans
- Meningitis, tubercular or other forms (to be specified)
Multiple sclerosis
Tabes
- Acute chorea
Other conditions (to be specified)

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9. Alcoholic psychoses
 - (a) Pathological intoxication
 - (b) Delirium tremens
 - (c) Korsakow's psychosis
 - (d) Acute hallucinosis
 - (e) Chronic hallucinosis
 - (f) Acute paranoid type
 - (g) Chronic paranoid type
 - (h) Alcoholic deterioration
 - (i) Other types, acute or chronic
10. Psychoses due to drugs and other exogenous toxins
 - (a) Opium (and derivatives), cocaine, bromides, chloral, etc., alone or combined (to be specified)
 - (b) Metals, as lead, arsenic, etc. (to be specified)
 - (c) Gases (to be specified)
 - (d) Other exogenous toxins (to be specified)
11. Psychoses with pellagra
12. Psychoses with other somatic diseases
 - (a) Delirium with infectious diseases
 - (b) Post-infectious psychosis
 - (c) Exhaustion-delirium
 - (d) Delirium of unknown origin
 - (e) Cardio-renal diseases
 - (f) Diseases of the ductless glands
 - (g) Other diseases or conditions (to be specified)
13. Manic-depressive psychoses

- (a) Manic type
- (b) Depressive type
- (c) Stupor
- (d) Mixed type
- (e) Circular type
- 14. Involution melancholia
- 15. Dementia praecox
 - (a) Paranoid type
 - (b) Catatonic type
 - (c) Hebephrenic type
 - (d) Simple type
- 16. Paranoia or paranoic conditions
- 17. Epileptic psychoses
 - (a) Deterioration
 - (b) Clouded states
 - (c) Other conditions (to be specified)

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- 18. Fsyhoneuroses and neuroses
 - (a) Hysterical type
 - { b) Psychasthenic type
 - (c) Neurasthenic type
 - (d) Anxiety neuroses
- 19. Psychoses with constitutional psychopathic inferiority
- 20. Psychoses with mental deficiency
- 21. Undiagnosed psychoses
- 22. Not insane
 - (a) Epilepsy without psychosis
 - (b) Alcoholism without psychosis
 - (c) Drug addiction without psychosis
 - (d) Constitutional psychopathic inferiority without psychosis
 - (e) Mental deficiency without psychosis
 - (f) Others (to be specified)

DEFINITIONS AND EXPLANATORY NOTES

The following explanatory notes and definitions of the various clinical groups were prepared for the Committee by Dr. George H. Kirby, Director, Psychiatric Institute, Ward's Island, New York City.

1. Traumatic Psychoses

The diagnosis should be restricted to mental disorders aris-

ing as a direct or obvious consequence of a brain (or head) injury producing psychotic symptoms of a fairly characteristic kind. The amount of damage to the brain may vary from an extensive destruction of tissue to simple concussion or physical shock with or without fracture of the skull.

Manic-depressive psychoses, general paralysis, dementia praecox, and other mental disorders in which trauma may act as a contributory or precipitating cause, should not be included in this group.

The following are the most common clinical types of traumatic psychosis and should be specified in the statistical record of the hospital :

(a) Traumatic delirium: This may take the form of an acute delirium (concussion delirium), or a more protracted delirium resembling the Korsakow mental complex.

(b) Traumatic constitution : Characterized by a gradual post-traumatic change in disposition with vasomotor instability, headaches, fatigability, irritability or explosive emo-

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tionai reactions; usually hyper-sensitiveness to alcohol, and in some cases development of paranoid, hysteroid, or epileptoid symptoms.

(c) Posttraumatic mental enfeeblement (dementia): Varying degrees of mental reduction with or without aphasic symptoms, epileptiform attacks or development of a cerebral arteriosclerosis.

2. Senile Psychoses

A well denned type of psychosis which as a rule develops gradually and is characterized by the following symptoms : Impairment of retention (forgetfulness) and general failure of memory more marked for recent experiences; defects in orientation and a general reduction of mental capacity; the attention, concentration and thinking processes are interfered with ; there is self-centering of interests, often irritability and stubborn opposition; a tendency to reminiscences and fabrications. Accompanying this deterioration there may occur parauoid trends, depressions, confused states, etc. Certain clinical types should therefore be specified, but these often overlap :

(a) Simple deterioration : Retention and memory defects, reduction in intellectual capacity and narrowing of interests; usually also suspiciousness, irritability and restlessness, the latter particularly at night

(b) Presbyophrenic type: Severe memory and retention defects with complete disorientation; but at the same time preservation of mental alertness and attentiveness with ability to grasp immediate impressions and conversation quite well. Forgetfulness leads to absurd contradictions and repetitions; suggestibility and free fabrication are prominent symptoms. (The general picture resembles the Korsakow mental complex.)

(c) Delirious and confused types: Often in the early stages of the psychosis and for a. long period the picture is one of deep confusion or of a delirious condition.

id) Depressed and agitated types: In addition to the underlying deterioration there may be a pronounced depression and persistent agitation.

(e) Paranoid types: Well marked delusional trends, chiefly persecutory or expansive ideas, often accompany the deterioration and in the early stages may make the diagnosis difficult if the defect symptoms are mild.

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(f) Pre-senile types : The so-called "Alzheimer's disease." An early senile deterioration which usually leads rapidly to a deep dementia. Reported to occur as early as the fortieth year. Most cases show an irritable or anxious depressive mood with aphasic or apractic symptoms.- There is apt to be general resistiveness and sometimes spasticity.

3. Psychoses with Cerebral Arteriosclerosis

The clinical symptoms, both mental and physical, are varied depending in the first place on the distribution and severity of the vascular cerebral disease and probably to some extent on the mental make-up of the person.

Cerebral physical symptoms, headaches, dizziness, fainting attacks, etc., are nearly always present, and usually signs of focal brain disease appear sooner or later (aphasia, paralysis, etc.).

The most important mental symptoms (particularly if the arteriosclerotic disease is diffuse) are impairment of mental tension, i. e., interference with the capacity to think quickly and accurately, to concentrate and to fix the attention; fatigability and lack of emotional control (alternate weeping and laughing), often a tendency to irritability is marked; the retention is impaired and with it there is more or less general defect of memory, especially in the advanced stages of the disease, or after some large destructive lesion occurs.

Pronounced psychotic symptoms may appear in the form of depression (often of the anxious type), suspicions or paranoid ideas, or episodes of marked confusion.

To be included in this group are the psychoses following cerebral softening or hemorrhage, if due to arterial disease. (Autopsies in state hospitals show that in arteriosclerotic cases softening is relatively much more frequent than hemorrhage.)

Differentiation from senile psychosis is sometimes difficult particularly if the arteriosclerotic disease manifests itself in the senile period. The two conditions may be associated; when this happens preference should be given in the statistical report to the arteriosclerotic disorder.

High blood pressure, although usually present, is not essential for the diagnosis of cerebral arteriosclerosis.

4. General Paralysis

The range of symptoms encountered in general paralysis is too great to be reviewed here in detail. As to mental symp-

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toms. most stress should be laid on the early changes in disposition and character, judgment defects, difficulty about time relations and discrepancies in statements, forgetfulness and later on a diffuse memory impairment. Cases with marked grandiose trends are less likely to be overlooked than cases with depressions, paranoid ideas, alcoholic-like episodes, etc.

Mistakes of diagnosis are most apt to be made in those cases having in the early stages pronounced psychotic symptoms and relatively slight defect symptoms, or cases with few definite physical signs. Lumbar puncture should always be made

. if there is any doubt about the diagnosis. A Wassermann examination of the blood alone is not sufficient as this does not tell us whether or not the central nervous system is involved.

5. Psychoses with Cerebral Syphilis

Since general paralysis itself is now known to be a parenchymatous form of brain syphilis, the differentiation of the cerebral syphilis cases might on theoretical grounds be regarded as less important than formerly. Practically, however, the separation of the non-parenchymatous forms is very important because the symptoms, the course and therapeutic outlook in most of these cases are different from those of general paralysis.

According to the predominant pathological characteristics, three types of cerebral syphilis may be distinguished, viz. : (a) Meningitic, (b) Endarteritic, and (c) Gummatous. The lines of demarcation between these types are not, however, sharp ones. We practically always find in the endarteritic and gummatous types a certain amount of meningitis.

The acute meningitic form is the most frequent type of cerebral syphilis and gives little trouble in diagnosis; many of these cases do not reach state hospitals. In most cases after prodromal symptoms (headache, dizziness, etc.) there is a rapid development of physical signs, usually cranial nerve involvement, and a mental picture of dullness or confusion with few psychotic symptoms except those related to a delirious or organic reaction.

In the rarer chronic meningitic forms which are apt to occur a long time after the syphilitic infection, usually in the period in which we might expect general paralysis the diagnostic difficulties may be considerable.

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In the endarteritic forms the most characteristic symptoms are those resulting from focal vascular lesions.

In the gummatous forms the slowly developing focal and pressure symptoms are most significant

In all forms of cerebral syphilis the psychotic manifestations are less prominent than in general paralysis and the personality is much better preserved as shown by the social reactions, ethical sense, judgment and general behavior. The grandiose ideas and absurd trends of the general paralytic are rarely encountered in these cases.

6. Psychoses With Huntington's Chorea

Mental symptoms are a constant accompaniment of this form of chorea and as a rule become more marked as the disease advances. Although the disease is regarded as being hereditary in nature, a diagnosis can be made on the clinical picture in the absence of a family history.

The chief mental symptoms are those of mental inertia and an emotional change, either apathy and silliness or a depressive irritable reaction with a tendency to passionate outbursts. As the disease progresses the memory is affected to some extent, but the patient's ability to recall past events is often found to be surprisingly well preserved when the disinclination to cooperate and give information can be overcome. Likewise the orientation is well retained even when the patient appears very apathetic and listless. Suspensions and paranoid ideas are prominent in some cases.

7. Psychoses with Brain Tumor

A large majority of brain tumor cases show definite mental symptoms. Most frequent are mental dullness, somnolence,

hebetude, slowness in thinking, memory failure, irritability and depression, although a tendency to facetiousness is sometimes observed. Episodes of confusion with hallucinations are common; some cases express suspicions and paranoid ideas.

The diagnosis must rest in most cases on the neurological symptoms, and these will depend on the location, size and rate of growth of the tumor. Certain general physical symptoms due to an increased intra-cranial pressure are present in most cases, viz: headache, dizziness, vomiting, slowing of the pulse, choked disc and interlacing of the color fields.

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8. Psychoses with other Brain or Nervous Diseases

This division provides a place for grouping a variety of less common mental disorders associated with organic disease of the nervous system and not included in the preceding larger groups. On the card the special type of brain or nervous diseases should be mentioned after the group name. The following are the conditions most frequently met with :

(a) Cerebral embolism (if an incident in cerebral arteriosclerosis it should be placed in group 3).

(b) Paralysis agitans.

(c) Meningitis, tubercular or other forms (to be specified).

(d) Multiple sclerosis.

(e) Tabes (paresis to be carefully excluded).

(f) Acute chorea (Sydenham's type). Hysterical chorea to be excluded.

(g) Other conditions (to be specified).

9. Alcoholic Psychoses

The diagnosis of alcoholic psychosis should be restricted to these mental disorders arising with few exceptions in connection with chronic drinking and presenting fairly well defined symptom-pictures. One must guard against making the alcoholic group too inclusive. Over-indulgence in alcohol is often found to be merely a symptom of another psychosis, or at any rate may be incidental to another psychosis, such as general paralysis, manic-depressive insanity, dementia praecox, epilepsy, etc. The cases to be regarded as alcoholic psychoses which do not result from chronic drinking are the episodic attacks in some psychopathic personalities, the dipsomanias (the true periodic drinkers) and pathological intoxication, any one of which may develop as the result of a single imbibition or a relatively short spree.

The following alcoholic reactions usually present symptoms distinctive enough to allow of clinical differentiation:

(a) Pathological intoxication: An unusual or abnormal immediate reaction to taking a large or small amount of alcohol. Essentially an acute mental disturbance of short duration characterized usually by an excitement or furor with confusion and hallucinations, followed by amnesia.

(b) Delirium tremens: An hallucinatory delirium with marked general tremor and toxic symptoms.

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(c) Korsakow's psychosis: This occurs with or without polyneuritis. The delirious type is not readily differentiated in the early stages from severe delirium tremens but is more protracted. The non-delirious type presents a characteristic retention defect with disorientation, fabrication, suggestibility and tendency to misidentify persons. Hallucinations are infrequent after the acute phase.

(d) Acute hallucinosis: This is chiefly an auditory hallucinosis of rapid development with clearness of the sensorium, marked fears, and a more or less systematized persecutory trend.

(e) Chronic hallucinosis: This is an infrequent type which may be regarded as the persistence of the symptoms of the acute hallucinosis without change in the character of the symptoms except perhaps a gradual lessening of the emotional reaction accompanying the hallucinations.

(f) Acute paranoid type: Suspicious, misinterpretations, and persecutory ideas, often a jealous trend; hallucinations usually subordinate; clearing up on withdrawal of alcohol.

(g) Chronic paranoid type: Persistence of symptoms of the acute paranoid type with fixed delusions of persecution or jealousy usually not influenced by withdrawal of alcohol; difficult to differentiate from non-alcoholic paranoid states or dementia praecox.

(h) Alcoholic deterioration: A slowly developing moral, volitional and emotional change in the chronic drinker; apparently relatively few cases are committed as the mental symptoms are not usually looked upon as sufficient to justify the diagnosis of a definite psychosis. The chief symptoms are ill humor and irascibility or a jovial, careless, facetious mood; abusiveness to family, unreliability and tendency to prevarication; in some cases definite suspicions and jealousy; there is a general lessening of efficiency and capacity for physical and mental work; memory not seriously impaired. To be excluded are residual defects due to Korsakow's psychosis, or mental reduction due to arteriosclerosis or to traumatic lesions.

(i) Other types to be specified.

10. Psychoses Due to Drugs and other Exogenous Toxins

The clinical pictures produced by drugs and other exogenous poisons are principally deliria or states of confusion;

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although sometimes hallucinatory and paranoid reactions are met with. Certain poisons and gases apparently produce special symptoms, e. g., cocaine, lead, illuminating gas, etc. Grouped according to the toxic etiological factors the following are to be differentiated :

(a) Opium (and derivatives), cocaine, bromides, chloral, etc., alone or combined (to be specified)

(b) Metals, as arsenic, lead, etc. (to be specified)

(c) Gases (to be specified)

(d) Other exogenous toxins (to be specified)

11. Psychoses with Pellagra

The relation which various mental disturbances bear to the disease pellagra is not yet settled. Cases of pellagra occurring during the course of a well established mental disease such as dementia praecox, manic-depressive insanity, senile

dementia, etc.; should not be included in this group. The mental disturbances which are apparently most intimately connected with pellagra are certain delirious or confused states (toxic-organic-like reactions) arising during the course of a severe pellagra. These are the cases which for the present should be placed in the group of psychoses with pellagra

12. Psychoses with other Somatic Diseases

Under this heading are brought together those mental disorders which appear to depend directly upon some physical disturbance or somatic disease not already provided for in the foregoing groups.

In the types designated below under (a) to (e) inclusive, we have essentially deliria or states of confusion arising during the course of an infectious disease or in association with a condition of exhaustion or a toxæmia. The mental disturbance is apparently the result of interference with brain nutrition or the unfavorable action of certain deleterious substances, poisons or toxins, on the central nervous system. The clinical pictures met with are extremely varied. The delirium may be marked by severe motor excitement and incoherence of utterance, or by multiform hallucinations with deep confusion or a dazed, bewildered condition; epileptiform attacks, catatonic-like symptoms, stupor, etc. may occur. In classifying these psychoses a difficult problem arises in many cases if attempts are made to distinguish between infection and ex-

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haustion as etiological factors. For statistical reports the following differentiations should be made :

Under (a) "Delirium with infectious diseases" place the initial deliria which develop during the prodromal or incubation period or before the febrile stage as in some cases of typhoid, small-pox, malaria, etc. ; the febrile deliria which seem to bear a definite relation to the rise in temperature; the post-febrile deliria of the period of defervescence including the so-called " collapse delirium."

Under (b) " Post-infectious psychoses " are to be grouped deliria, the mild forms of mental confusion, or the depressive, irritable, suspicious reactions which occur during the period of convalescence from infectious diseases. Physical asthenia and prostration are undoubtedly important factors in these conditions and differentiation from " exhaustion deliria " must depend chiefly on the history and obvious close relationship to the preceding infectious disease. (Some cases which fail to recover show a peculiar mental enfeeblement) In this group should be classed the " cerebropathica psychica toxæmica" or the non-alcoholic polyneuritic psychoses following an infectious disease as typhoid, influenza, septicaemia, etc.

Under (c) "Exhaustion deliria" are to be classed psychoses in which physical exhaustion, not associated with or the result of an infectious disease, is the chief precipitating cause of the mental disorder, e. g., hemorrhage, severe physical over-exertion, deprivation of food, prolonged insomnia, debility from wasting disease, etc.

Of the psychoses which occur with diseases of the ductless glands, the best known are the thyrogenous mental disorders. Disturbance of the pituitary or of the thymus function is often associated with mental symptoms.

According to the etiology and symptoms the following types should therefore be specified under " Psychoses with Other Somatic Diseases:"

(a) Delirium with infectious disease (specify)

(b) Post-infectious psychosis (specify)

(c) Exhaustion delirium

(d) Delirium of unknown origin

(e) Cardio-renal disease

(f) Diseases of the ductless glands (specify)

■- '(g) Other diseases or conditions (to be specified)

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13. Manic-Depressive Psychoses

This group comprises the essentially benign affective psychoses, mental disorders which fundamentally are marked by emotional oscillations and a tendency to recurrence. Various psychotic trends, delusions, illusions and hallucinations, clouded states, stupor, etc. may be added. To be distinguished are:

The manic reaction with its feeling of well-being (or irascibility), flight of ideas and over-activity.

The depressive reaction with its feeling of mental and physical insufficiency, a despondent, sad or hopeless mood and in severe depressions, retardation and inhibition; in some cases the mood is one of uneasiness and anxiety, accompanied by restlessness.

The mixed reaction, a combination of manic and depressive symptoms.

The stupor reaction with its marked reduction in activity, depression, ideas of death, and often dream-like hallucinations; sometimes mutism, drooling and muscular symptoms suggestive of the catatonic manifestations of dementia praecox, from which, however, these manic-depressive stupors are to be differentiated.

An attack is called circular when, as is often the case, one phase is followed immediately by another phase, e. g., a manic reaction passes over into a depressive reaction or vice versa.

Oases formerly classed as allied to manic-depressive should be placed here rather than in the undiagnosed group.

In the statistical reports the following should be specified :

(ft) Manic attack

(b) Depressive attack

(c) Stuporous attack

(d) Mixed attack

(e) Circular attack

14. Involution Melancholia

These depressions are probably related to the manic-depressive group; nevertheless the symptoms and the course of the involution cases are sufficiently characteristic to justify us in keeping them apart as special forms of emotional reaction.

To be included here are the slowly developing depressions of middle life and later years which come on with worry, insomnia, uneasiness, anxiety and agitation, showing usually the unreality and sensory complex, but little or no evidence

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of any difficulty in thinking. The tendency is for the course to be a prolonged one. Arteriosclerotic depressions should be excluded.

When agitated depressions of the involution period are clearly superimposed on a manic-depressive foundation with previous attacks (depression or excitement) they should for statistical purposes be classed in the manic-depressive group.

15. Dementia Praecox

This group cannot be satisfactorily defined at the present time as there are still too many points at issue as to what constitute the essential clinical features of dementia praecox. A large majority of the cases which should go into this group may, however, be recognized without special difficulty, although there is an important smaller group of doubtful, atypical allied or transitional cases which from the standpoint of symptoms or prognosis occupy an uncertain clinical position,

Oases formerly classed as allied to dementia praecox should be placed here rather than in the undiagnosed group. The term "schizophrenia" is now used by many writers instead of dementia praecox.

The following mentioned features are sufficiently well established to be considered most characteristic of the dementia praecox type of reaction :

A seclusive type of personality or one showing other evidences of abnormality in the development of the instincts and feelings.

Appearance of defects of interest and discrepancies between thought on the one hand and the behavior-emotional reactions on the other.

A gradual blunting of the emotions, indifference or silliness with serious defects of judgment and often hypochondriacal complaints, suspicions or ideas of reference.

Development of peculiar trends, often fantastic ideas, with odd, impulsive or negativistic conduct not accounted for by any acute emotional disturbance or impairment of the sensorium.

Appearance of autistic thinking and dream-like ideas, peculiar feelings of being forced, of interference with the mind, of physical or mystical influences, but with retention of clearness in other fields (orientation, memory, etc.).

According to the prominence of certain symptoms in indi-

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vidual cases the following four clinical forms of dementia praecox may be specified, but it should be borne in mind that these are only relative distinctions and that transitions from one clinical form to another are common :

(a) Paranoid type; Cases characterized by a prominence of delusions, particularly ideas of persecution or grandeur, often connectedly elaborated, and hallucinations in various fields.

(b) Catatonic type : Cases in which there is a prominence of negativistic reactions or various peculiarities of conduct with phases of stupor or excitement, the latter characterized by impulsive, queer or stereotyped behavior and usually hallucinations.

(e) Hebephrenic type: Cases showing prominently a tendency to silliness; smiling, laughter, grimacing, mannerisms in speech and action, and numerous peculiar ideas usually absurd, grotesque and changeable in form.

(d) Simple type: Cases characterized by defects of interest, gradual development of an apathetic state, often with peculiar behavior, but without expression of delusions or hallucinations.

16. Paranoia or Paranoic Conditions

From this group should be excluded the deteriorating paranoic states and paranoic states symptomatic of other mental disorders or of some damaging factor such as alcohol, organic brain disease, etc.

The group comprises cases which show clinically fixed suspicions, persecutory delusions, dominant ideas or grandiose trends logically elaborated and with due regard for reality after once a false interpretation or premise has been accepted. Further characteristics are formally correct conduct, adequate emotional reactions, clearness and coherence of the train of thought

17. Epileptic Psychoses

In addition to the epileptic deterioration, transitory psychoses may occur which are usually characterized by a clouded mental state followed by an amnesia for external occurrences during the attack. (The hallucinatory and dream-like experiences of the patient during the attack may be vividly recalled.) Various automatic and secondary states of consciousness may occur.

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According- to the most prominent clinical features the epileptic mental disorders should therefore be specified as follows :

(a) Deterioration: A gradual development of mental dullness, slowness of association and thinking, impairment of memory, irritability or apathy.

(b) Clouded states: Usually in the form of dazed reactions with deep confusion, bewilderment and anxiety or excitements with hallucinations, fears and violent outbreaks; instead of fear there may be ecstatic moods with religious exaltation.

(c) Other conditions (to be specified).

18. Psychoneuroses and Neuroses

The psychoneurosis group includes those disorders in which mental forces or ideas of which the subject is either aware (conscious) or unaware (unconscious) bring about various mental and physical symptoms; in other words these disorders are essentially psychogenic in nature.

The term neurosis is now generally used synonymously with psychoneurosis, although it has been applied to certain disorders in which, while the symptoms are both mental and physical, the primary cause is thought to be essentially physical. In most instances, however, both psychogenic and physical causes are operative and we can assign only a relative weight to the one or the other.

The following types are sufficiently well defined clinically to be specified:

(a) Hysterical type: Episodic mental attacks in the form

of delirium, stupor or dream states during which repressed wishes, mental conflicts or emotional experiences detached from ordinary consciousness break through and temporarily dominate the mind. The attack is followed by partial or complete amnesia. Various physical disturbances (sensory and motor) occur in hysteria, and these represent a conversion of the affect of the repressed disturbing complexes into bodily symptoms or, according to another formulation, there is a dissociation of consciousness relating to some physical function.

(b) Psychasthenic type: This includes the compulsive and obsessional neuroses of some writers. The main

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clinical characteristics are phobias, obsessions, morbid doubts and impulsions, feelings of insufficiency, nervous tension and anxiety. Episodes of marked depression and agitation may occur. There is no disturbance of consciousness or amnesia as in hysteria.

(c) Neurasthenic type: This should designate the fatigue neuroses in which physical as well as mental causes evidently figure; characterized essentially by mental and motor fatigability and irritability; also various hyperesthesias and paraesthesias ;' hypochondriasis and varying degrees of depression.

(d) Anxiety neuroses: A clinical type in which morbid anxiety or fear is the most prominent feature. A general nervous irritability (or excitability) is regularly associated with the anxious expectation or dread ; in addition there are numerous physical symptoms which may be regarded as the bodily accompaniments of fear, particularly cardiac and vasomotor disturbances : the heart's action is increased, often there is irregularity and palpitation: there may be sweating, nausea, vomiting, diarrhea, suffocative feelings, dizziness, trembling, shaking, difficulty in locomotion, etc. Fluctuations occur in the intensity of the symptoms, the acute exacerbations constituting the " anxiety attack."

19. Psychoses with Constitutional Psychopathic Inferiority Under the designation of constitutional psychopathic inferiority is brought together a large group of pathological personalities whose abnormality of make-up is expressed mainly in the character and intensity of their emotional and volitional reactions. Individuals with an intellectual defect (feeble-mindedness) are not to be included in this group,

Several of the preceding groups, in fact all of the so-called constitutional psychoses, manic-depressive, dementia praecox, paranoia, psychoneuroses, etc., may be considered as arising on a basis of psychopathic inferiority because the previous mental make-up in these conditions shows more or less clearly abnormalities in the emotional and volitional spheres. These reactions are apparently related to special forms of psychopathic make-up now fairly well differentiated, and the associated psychoses also have their own distinctive features. There remain, however, various other less well differentiated types of psychopathic personalities, and in these the

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psychotic reactions (psychoses) also differ from those already specified in the preceding groups.

It is these less well differentiated types of emotional and volitional deviation which are to be designated, at least for statistical purposes, as constitutional psychopathic inferior-

ity. The type of behavior disorder, the social reactions, the trends of interests, etc., which the psychopathic inferior may show give special features to many cases, e. g., criminal traits, moral deficiency, tramp life, sexual perversions and various temperamental peculiarities.

The pronounced mental disturbances or psychoses which develop in psychopathic inferiors and bring about their commitment are varied in their clinical form and are usually of an episodic character. Most frequent are attacks of irritability, excitement, depression, paranoid episodes, transient confused states, etc. True prison psychoses belong in this group.

In accordance with the standpoint developed above, a psychopathic inferior with a manic-depressive attack should be classed in the manic-depressive group, and likewise a psychopathic inferior with a schizophrenic psychosis should go in the dementia praecox group.

Psychopathic inferiors without an episodic mental attack or any psychotic symptoms should be placed in the not insane group under the appropriate sub-heading.

20. Psychoses with Mental Deficiency

This group includes the psychoses with various types of intellectual deficiency or feeble-mindedness. The degree of mental deficiency should be determined by the history and the use of standard psychometric tests. The intellectual level may be denoted in the statistics by specifying moron, imbecile, idiot

Acute, usually transient psychoses of various forms occur in mentally deficient persons and commitment to a hospital for the insane may be necessary. The most common mental disturbances are episodes of excitement or irritability, depressions, paranoid trends, hallucinatory attacks, etc.

Mentally deficient persons may suffer from manic-depressive attacks or from dementia praecox. When this occurs the diagnostic grouping should be manic-depressive or dementia praecox as the case may be.

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Mental deficiency cases without psychotic disturbances should go into the group of not insane under the appropriate sub-heading. ■

/ 21. Undiagnosed Psychoses

In this group should be placed the cases in which a satisfactory diagnosis cannot be made and the psychosis must therefore be regarded as an unclassified one. The difficulty may be due to lack of information or inaccessibility of the patient; or the clinical picture may be obscure, the etiology unknown, or the symptoms unusual. Cases placed in this group during the year should be again reviewed before the annual diagnostic tables are completed.

Cases of the type formerly placed in one of the allied groups should not be put in the undiagnosed group except for some special reason. Most of the cases hitherto called allied should be placed in the main group to which they seem most closely related.

/ 22. Not Insane

This group should receive the occasional case which after investigation and observation gives no evidence of having had a psychosis. The only difficulty likely to be encountered in the statistical reports will arise in the grouping of patients who have recovered from a psychosis prior to admission. In such cases, if the history, the commitment papers or the patient's retrospective account shows that a psychosis actually existed

immediately before admission, that is, at the time of commitment, then the case should be considered as having suffered from a mental disorder, and classification under the appropriate heading should be made.

If it is determined that no psychosis existed, then the condition which led to admission should be specified. The following come most frequently into consideration:

- (a) Epilepsy without psychosis
- (b) Alcoholism without psychosis
- (c) Drug addiction without psychosis
- (d) Constitutional psychopathic inferiority without psychosis
- (e) Mental deficiency without psychosis
- (f) Other conditions (to be specified)

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STATISTICAL TABLES RECOMMENDED

A series of eighteen statistical tables is recommended for the use of all institutions for the insane. These provide for the systematic presentation of the data that should be annually compiled by every such institution and that should be available for use by everyone interested in psychiatry or the treatment of mental diseases. These tables are:

Table 1.

Table 2.

Table 3.

Table 4.

Table 5.

Table 6.

General information.

Financial statement

Movement of patients.

Nativity and parentage of first admissions.

Citizenship of first admissions.

Psychoses of first admissions, types as well as principal psychoses to be designated.

Table 7. Race of first admissions classified with reference to principal psychoses.

Table 8. Age of first admissions classified with reference to principal psychoses.

Table 9. Degree of education of first admissions classified with reference to principal psychoses.

Table 10. Environment of first admissions classified with reference to principal psychoses.

Table 11. Economic condition of first admissions classified with reference to principal psychoses.

Table 12. Use of alcohol by first admissions classified with reference to principal psychoses.

Table 13. Marital condition of first admissions classified with reference to principal psychoses.

Table 14. Psychoses of readmissions, types as well as principal psychoses to be designated.

Table 15. Discharges of patients classified with reference to principal psychoses and condition on discharge.

Table 16. Causes of death of patients classified with reference to principal psychoses.

Table 17. Age of patients at time of death classified with reference to principal psychoses.

Table 18. Duration of hospital life of patients dying in hospital, classified with reference to principal

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The National Committee for Mental Hygiene has printed a series of forms to be used in preparing the foregoing tables and will furnish them free to every institution requesting them or that signifies its willingness to cooperate in the general movement for uniform statistics. The forms are numbered to correspond with the tables. In order to secure uniformity in filling out the blanks the following explanations and definitions are submitted :

directions for the preparation of statistical tables
Table 1. General Information

The data relative to hospital plant, medical service, employees and patients, called for in this table, should be given as of the last day of the fiscal year of the institution.

Hospital plant: The value of the hospital property should be estimated at cost unless its original value has been diminished by depreciation. In case a considerable amount of depreciation has occurred, a reasonable allowance therefor should be made. As the estimates of the value of hospital property in different institutions will be subject to comparison, the appraisal in each case should be made with care and should represent as nearly as possible the true value of the property.

Medical service: The term " assistant physicians," as used in the table, includes all physicians regularly employed in the hospital in a grade below that of superintendent and above that of medical interne. The term " clinical assistants " includes physicians and medical students who are employed temporarily or permanently in hospital work below the grade of medical interne.

Consulting physicians, eye and ear specialists, dentists, and pharmacists, are not to be included in the report of the medical service.

Employees: The term " graduate nurses " includes only those nurses who have graduated from a school of nursing maintained by a general hospital or a hospital for the insane giving a course covering at least two years.

The term " social workers " refers to persons regularly employed by the hospital to look after the interests of parole and other out-patients. Voluntary workers in this field are not to be included in the table.

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Table 2. Financial Statement

The data should be given in accordance with the headings provided in the table so far as possible. If it is impossible to supply the data pertaining to any of the items the total receipts and disbursements should be given and explanations concerning their classification may be submitted in detail on a separate sheet. The various terms in the table are used in the ordinary sense and are self-explanatory.

Table 3. Movement of Insane Patient Population

This table calls for a report of movement of insane patients apart from other patients, who may be cared for in the same institution. As rates of admission, discharge and death will be computed from the data, submitted from this table, it is important that the directions included therein, be very carefully followed. For convenience of reference, the principal terms used in this table are herein defined. These terms have the same significance wherever used in the tables described in this manual.'

" First admissions " includes all insane patients admitted for the first time to any institution for the insane, public or private, wherever situated, in or outside of state, excepting institutions for temporary care only.

" Readmissions " includes all insane patients admitted who have been previously under treatment in an institution for the insane, excepting transfers and patients who have received treatment only in institutions for temporary care.

" Recovered " indicates the condition of patients who have regained their normal mental health so that they may be considered as having practically the same mental status as they had previous to the onset of the psychosis.

" Improved " denotes any degree of mental gain less than recovery,

A " voluntary patient " is one who is received in an institution upon his own application and without commitment

Table 4. Nativity of First Admissions and of Parents of First Admissions

Care should be taken to ascertain the country of birth of every first admission. Changes in national boundaries made by the present war should not be recognized until its close and until the new boundary lines, if any, are definitely fixed.

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The following is the list of countries to be used in reporting nativity :

Modified Form of United States Census Classification of Nativity

Africa

Finland

Porto Rico

Austria

Germany

Portugal

Australia

Greece

Koumania.

Austria

Hawaii

Russia

Belgium

Holland

Scotland

Bohemia

Hungary

South America

Can a da J

India

Spain

Central America

Ireland

Sweden

China

Italy

Switzerland

Cub*

Japan

Turkey in Asia

Denmark

Mexico

Turkey in Europe

England

Norway

Wales

Europe!

Philippine Islands West Indies"

Finland

Poland

Other countries

+ Not otherwise specified.
t Includes Newfoundland.
•Except Cuba and Porto Rico.

Table 5. Citizenship of First Admissions

Accurate data concerning the citizenship of first admissions in the several states is highly important as the matter has a direct bearing on the policy of the United States relative to immigration.

The following notes pertaining to citizenship may be found helpful :

Foreign-born persons (with few exceptions) are aliens unless naturalized and should be so reported if evidence of their naturalization can not be produced.

Aliens may be naturalized in several ways, as follows :

1. By making required declarations and receiving final naturalization papers from a court of competent jurisdiction.
2. A woman, by the naturalization of her husband or by marriage to a citizen.
3. Minors, by the naturalization of their parents.

All persons (with few exceptions) born in the United States are citizens regardless of parentage.

A woman loses her citizenship by marriage to an alien.

A declaration of intention does not confer rights of citizenship; a foreigner is an alien until naturalized. An alien, to be eligible for citizenship, must have resided in the United States continuously for five years.

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Table 6. Psychoses of First Admissions

In diagnosing the mental diseases of patients, the instructions given in this manual (pages 14-29) should be carefully studied and followed so far as possible. In making out the table, give the total for each numbered group and so far as may be determined the number in each subdivision thereof.

Table 7. Race of First Admissions Classified with Ref-

erence to Principal Psychoses

The race of patients admitted should be designated by the terms given in the following list :

African (Hack)

Greek

Scotch

American Indian

Hebrew

Slavonic"

Armenian

Irish

Spanish

Bulgarian

Italian*

Spanish-American

Chinese

Japanese

Syrian

Cuban

'Lithuanian

Turkish

Dutch and Flemish

Magyar

Welsh

East Indian

Mexican

West Indian (except

English

Pacific Islander

Cuban)

Finnish

Portuguese

Other specific races

French

Roumanian

Mixed

German

Scandinavian!

Race unascertained

+ Includes " north " and " south."
t Norwegians, Danes and Swedes.

■Includes Bohemian, Bosnian, Croatian, Delmatian, Herzegovinian, Montenegrin, Moravian, Polish, Russian, Ruthenian, Servian, Slovak, Slovenian.

The " Dictionary of Races " prepared by the Immigration Commission should be used as a guide for the determination of race. A pamphlet copy of this excellent manual may be obtained from the Superintendent of Documents, Washington, D. C, for twenty cents.

The following suggestions relative to race classification should be carefully noted :

African. This term should be applied to all negroes of pure or mixed blood, whether coming from Africa, Cuba or other West Indian Islands, Europe or North or South America.

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Armenian. Care should be taken not to confuse Armenians with Syrians.

Bulgarian. The Bulgarians who come to the United States are all from Bulgaria but, with the readjustment of boundary lines which may follow the present war, it is likely that in the future it will not always be possible to distinguish Bulgarians by their starting place in Europe. The language should identify them in all cases.

Cuban. Care must be taken not to include negroes and Spanish-Americans among " Cubans."

Dutch and Flemish. Nearly all the Dutch who come to the United States come from Holland. They call themselves " Hollanders." The Flemish come principally from Belgium.

East Indian. This term refers to the natives of the East Indies, including Hindus, and is a very loose term, ethnologically. This is a matter of small importance, however, as very few immigrants come to the United States from the East Indies.

English. Care must be taken to exclude Hebrews who are born in England, also English-speaking people of other races.

Finnish. All natives of Finland are not Finns; many of them are Swedes. Of the Finns living in Europe, more than 1,000,000 live outside of Finland.

German. Care must be taken to classify Germans from Russia as Germans.

Hebrew. No difficulty will be experienced in identifying Hebrews and they should be so classified without regard to the country from which they come.

Italian. Very few Italians come to the United States from any country except Italy, although some come from Brazil and the Argentine Republic. Care must be taken not to confuse these with Spanish-Americans.

Lithuanian. Lithuanians in the United States are quite likely to be confused with Poles or Slovaks. They are quite distinct from the " Slavonic " people and should be enumerated separately.

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Magyar. Magyars are often called "Hungarians," *' Huns " or " Hunyaks " in popular language in this country.

Roumanian. In reporting patients born in Roumania, the only chance for error is the failure to exclude Hebrews and Gypsies. There are about half as many Roumanians in Hungary as there are in Roumania and so it is necessary to consider them in reporting the race of natives of Hungary.

Slavonic. This is a very important racial division as a very large number of Slavonic immigrants have come to the United States in recent years. It is believed that the use of this term will solve a great many difficulties as it makes it unnecessary to distinguish between Poles, Slovaks, etc. The only danger to guard against is that of including Lithuanians, Finns, Magyars or Roumanians.

Spanish. Care should be taken not to apply this term to Spanish-Americans.

Spanish- Americans. This term refers only to " the people of Central and South America of Spanish descent "

Turkish. Armenians and Syrians should not be included under this designation.

West Indian. Care should be taken to exclude negroes, Cubans and Spanish-Americans. Only a very small number of West Indians not negroes, are admitted to the United States.

Mixed. This term should be used to designate the race of a patient whose ancestors were of two or more races.

The terms "American," " Swiss," and "Austrian," should not be used to designate race (see discussion of these terms in the "Dictionary of Races:" American, p. 102; Swiss, p. 138 ; Austrian, p. 20).

Table 8. Age of First Admissions Classified with Reference to Principal Psychoses

In filling out this table and the other tables in which the

principal psychoses are correlated with other items, care should be taken to give the same totals for each group in every table.

Age groups as designated in the headings are inclusive, e. g., 15-19 years includes the years 15, 16, 17, 18 and 19.

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Table 9. Degree of Education of First Admissions Classified with Reference to Principal Psychoses

" Illiterate " denotes persons who cannot read and write.

Under " reads and writes " should be included those who have attended a common school but who have not completed the work of the fourth grade. Common school, high school, and college should be interpreted as meaning graduation from such institutions respectively or completion of at least half of the prescribed course. Two years of a course taken in a professional school, such as medicine, dentistry and pharmacy, should be considered as college education. Business schools are principally of common school grade although a few are of high school or college grade.

Table 10. Environment of First Admissions Classified with Reference to Principal Psychoses

" Urban " and " rural " are used in this table as in the United States census classification. Places having a population of 2,500 or more are considered as " urban." All other places are considered as " rural."

Table 11. Economic Condition of First Admissions Classified with Reference to Principal Psychoses

The term " economic condition " refers to the patients' circumstances before the onset of the psychosis. The terms used in classifying " economic condition " are defined as follows:

Dependent: Lacking in necessities of life or receiving aid from public funds or persons outside the immediate family.

Marginal: Living on daily earnings but accumulating little or nothing; being on the margin between self-support and dependency.

Comfortable: Having accumulated resources sufficient to maintain self and family for at least four months.

Patients should not be classed as " dependent " because they are not able to reimburse the hospital for their maintenance provided they were previously able to maintain themselves. Minors and aged people cared for by their families

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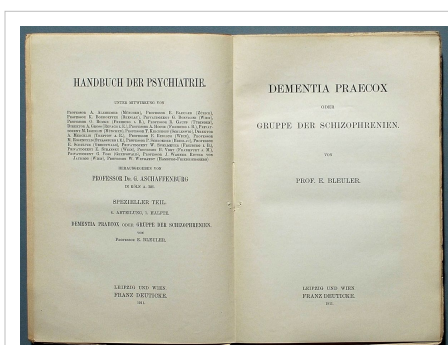
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Dementia praecox

Dementia praecox (a "premature dementia" or "precocious madness") refers to a chronic, deteriorating psychotic disorder characterized by rapid cognitive disintegration, usually beginning in the late teens or early adulthood. It is a term first used in 1891 in this Latin form by Arnold Pick (1851–1924), a professor of psychiatry at the German branch of Charles University in Prague.^[1] His brief clinical report described the case of a person with a psychotic disorder resembling hebephrenia (see below). It was popularized by German psychiatrist Emil Kraepelin (1856–1926) in 1893, 1896 and 1899 in his first detailed textbook descriptions of a condition that would eventually be reframed into a substantially different disease concept and relabeled as schizophrenia.^[2] Kraepelin, regarding the major psychoses as naturally occurring disease entities, reduced the complex psychiatric taxonomies of the nineteenth century by dividing them into two classes: manic depressive psychosis or dementia praecox. This division is commonly referred to as the Kraepelinian dichotomy and it has had a significant and fundamental impact on twentieth-century psychiatry, though it has also been questioned.^[3]

The primary disturbance in dementia praecox was said to be not one of mood, but of thinking or cognition. Cognitive disintegration refers to a disruption in cognitive or mental functioning such as in attention, memory, and goal-directed behavior. Kraepelin contrasted this with manic-depressive psychosis, in which he included not just what would be termed bipolar disorder today but also other forms of mood disorder, including major depressive disorder. However, Kraepelin himself noted cases in between and eventually accepted that it was not possible to distinguish his categories on the basis of cross-sectional symptoms.^[4] Indeed, a mixed diagnosis of schizoaffective disorder has also developed.

From the outset, dementia praecox was viewed by Kraepelin as a progressively deteriorating disease from which no one recovered. The three terms that Kraepelin used to refer to the end state of the disease were "*Verblödung*" (deterioration), *Schwachsinn* (mental weakness) or *Defekt* (defect). Although "dementia" is part of the name of the disease, Kraepelin did not intend it to be similar to senile dementia and rarely used this term to refer to the end state of the disease. However, by 1913, and more explicitly by 1920, Kraepelin admitted that although there seemed to be a residual cognitive defect in most cases, the prognosis was not as uniformly dire as he had stated in the 1890s. Still, he regarded it as a specific disease concept that implied incurable, inexplicable madness.



An article by Eugen Bleuler on *dementia praecox* (1911)

History

[T]he history of dementia praecox is really that of psychiatry as a whole

—Adolf Meyer^[5]

First use of the term



Benedict Augustin Morel (1809-1873)

Dementia is an ancient term which has been in use since at least the time of Lucretius in 50 B.C.E. where it meant "being out of one's mind".^[6] Until the seventeenth century dementia referred to states of cognitive and behavioural deterioration leading to psychosocial incompetence. This condition could be innate or acquired and the concept had no reference to a necessarily irreversible condition. It is the concept in this popular notion of psychosocial incapacity that forms the basis for the idea of legal incapacity.^[7] By the eighteenth century, at the period when the term entered into European medical discourse, clinical concepts were added to the vernacular understanding such that dementia was now associated with intellectual deficits arising from any cause and at any age.^[8] By the end of the nineteenth century the modern 'cognitive paradigm' of dementia was taking root.^[9] This holds that dementia is understood in terms of criteria relating to aetiology, age and course which excludes former members of the family of the demented such as adults with acquired head trauma or children with cognitive deficits. Moreover, it was now understood as an

irreversible condition and a particular emphasis was placed on memory loss in regard to the deterioration of intellectual functions.^[10]

The term *démence précoce* was used in passing to describe the characteristics of a subset of young mental patients by the French physician Bénédict Augustin Morel in 1852 in the first volume of his *Études cliniques*.^[11] and the term is used more frequently in his textbook *Traité des maladies mentales* which was published in 1860.^[12] Morel, whose name will be forever associated with religiously inspired concept of degeneration theory in psychiatry, used the term in a descriptive sense and not to define a specific and novel diagnostic category. It was applied as a means of setting apart a group of young men and women who were suffering from "stupor."^[13] As such their condition was characterised by a certain torpor, enervation, and disorder of the will and was related to the diagnostic category of melancholia. He did not conceptualise their state as irreversible and thus his use of the term dementia was equivalent to that formed in the eighteenth century as outlined above.^[14]

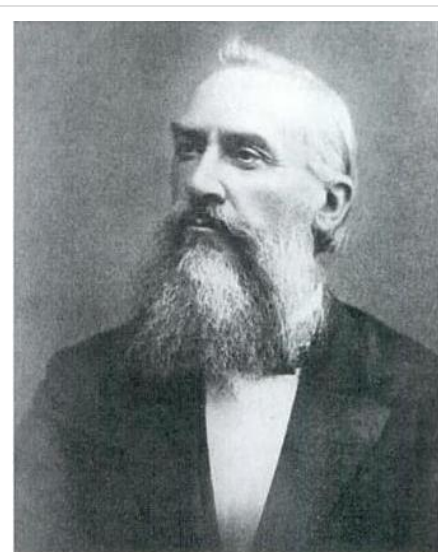
While some have sought to interpret, if in a qualified fashion, the use by Morel of the term *démence précoce* as amounting to the "discovery" of schizophrenia,^[13] others have argued convincingly that Morel's descriptive use of the term should not be considered in any sense as a precursor to Kraepelin's dementia praecox disease concept.^[10] This is due to the fact that their concepts of dementia differed significantly from each other, with Kraepelin employing the more modern sense of the word and that Morel was not describing a diagnostic category. Indeed, until the advent of Pick and Kraepelin, Morel's term had vanished without a trace and there is little evidence to suggest that either Pick or indeed Kraepelin were even aware of Morel's use of the term until long after they had published their own disease concepts bearing the same name.^[15] As Eugène Minkowski succinctly stated, 'An abyss separates Morel's *démence précoce* from that of Kraepelin.'^[16]

Morel described several psychotic disorders that ended in dementia, and as a result he may be regarded as the first alienist or psychiatrist to develop a diagnostic system based on presumed outcome rather than on the current presentation of signs and symptoms. Morel, however, did not conduct any long-term or quantitative research on the course and outcome of dementia praecox (Kraepelin would be the first in history to do that) so this prognosis was

based on speculation. It is impossible to discern whether the condition briefly described by Morel was equivalent to the disorder later called dementia praecox by Pick and Kraepelin.

The time component

Psychiatric nosology in the nineteenth-century was chaotic and characterised by a conflicting mosaic of contradictory systems.^[17] Psychiatric disease categories were based upon short-term and cross-sectional observations of patients from which were derived the putative characteristic signs and symptoms of a given disease concept.^[18] The dominant psychiatric paradigms which gave a semblance of order to this fragmentary picture were Morelian degeneration theory and the concept of "unitary psychosis" (*Einheitspsychose*).^[19] This latter notion, derived from the Belgian psychiatrist Joseph Guislain (1797–1860), held that the variety of symptoms attributed to mental illness were manifestations of a single underlying disease process.^[20] While these approaches had a diachronic aspect they lacked a conception of mental illness that encompassed a coherent notion of change over time in terms of the natural course of the illness and based upon an empirical observation of changing symptomatology.^[21]



Karl Ludwig Kahlbaum 1828-1899)

In 1863, the Danzig based psychiatrist, Karl Ludwig Kahlbaum (1828–1899), published his text on psychiatric nosology *Die Gruppierung der psychischen Krankheiten* (*The Classification of Psychiatric Diseases*).^[22] Although with the passage of time this work would prove profoundly influential, when it was published it was almost completely ignored by German academia despite the sophisticated and intelligent disease classification system which it proposed.^[23] In this book Kahlbaum categorized certain typical forms of psychosis (*vesania typica*) as a single coherent type based upon their shared progressive nature which betrayed, he argued, an ongoing degenerative disease process.^[24] For Kahlbaum the disease process of *vesania typica* was distinguished by the passage of the sufferer through clearly defined disease phases: a melancholic stage; a manic stage; a confusional stage; and finally a demented stage.^[25]

In 1866 Kahlbaum became the director of a private psychiatric clinic in Görlitz (Prussia, today Saxony, a small town near Dresden). He was accompanied by his younger assistant, Ewald Hecker (1843–1909), and during a ten-year collaboration they conducted a series of research studies on young psychotic patients that would become a major influence on the development of modern psychiatry.

Together Kahlbaum and Hecker were the first to describe and name such syndromes as dysthymia, cyclothymia, paranoia, catatonia, and hebephrenia.^[26] Perhaps their most lasting contribution to psychiatry was the introduction of the "clinical method" from medicine to the study of mental diseases, a method which is now known as psychopathology.

When the element of time was added to the concept of diagnosis, a diagnosis became more than just a description of a collection of symptoms: diagnosis now also defined by prognosis (course and outcome). An additional feature of the clinical method was that the characteristic symptoms that define syndromes should be described without any prior assumption of brain pathology (although such links would be made later as scientific knowledge progressed). Karl Kahlbaum made an appeal for the adoption of the clinical method in psychiatry in his 1874 book on catatonia. Without Kahlbaum and Hecker there would be no dementia praecox.^[27]

Upon his appointment to a full professorship in psychiatry at the University of Dorpat (now Tartu, Estonia) in 1886, Kraepelin gave an inaugural address to the faculty outlining his research programme for the years ahead. Attacking

the "brain mythology" of Meynert and the positions of Griesinger and Gudden, Kraepelin advocated that the ideas of Kahlbaum, who was then a marginal and little known figure in psychiatry, should be followed. Therefore, he argued, a research programme into the nature of psychiatric illness should look at a large number of patients over time to discover the course which mental disease could take.^[28] It has also been suggested that Kraepelin's decision to accept the Dorpat post was informed by the fact that there he could hope to gain experience with chronic patients and this, it was presumed, would facilitate the longitudinal study of mental illness.^[29]

The quantitative component

Understanding that objective diagnostic methods must be based on scientific practice, Kraepelin had been conducting psychological and drug experiments on patients and normal subjects for some time when, in 1891, he left Dorpat and took up a position as professor and director of the psychiatric clinic at Heidelberg University. There he established a research program based on Kahlbaum's proposal for a more exact qualitative clinical approach, and his own innovation: a quantitative approach involving meticulous collection of data over time on each new patient admitted to the clinic (rather than only the interesting cases, as had been the habit until then).

Kraepelin believed that by thoroughly describing all of the clinic's new patients on index cards, which he had been using since 1887, researcher bias could be eliminated from the investigation process.^[30] He described the method in his posthumously published memoir:

... after the first thorough examination of a new patient, each of us had to throw in a note [in a "diagnosis box"] with his diagnosis written on it. After a while, the notes were taken out of the box, the diagnoses were listed, and the case was closed, the final interpretation of the disease was added to the original diagnosis. In this way, we were able to see what kind of mistakes had been made and were able to follow-up the reasons for the wrong original diagnosis.^[31]

The fourth edition of his textbook, *Psychiatrie*, published in 1893, two years after his arrival at Heidelberg, contained some impressions of the patterns Kraepelin had begun to find in his index cards. Prognosis (course and outcome) began to feature alongside signs and symptoms in the description of syndromes, and he added a class of psychotic disorders designated "psychic degenerative processes", three of which were borrowed from Kahlbaum and Hecker: *dementia paranoides* (a degenerative type of Kahlbaum's paranoia, with sudden onset), *catatonia* (per Kahlbaum, 1874) and *dementia praecox*, (Hecker's hebephrenia of 1871). Kraepelin continued to equate dementia praecox with hebephrenia for the next six years.^[30]

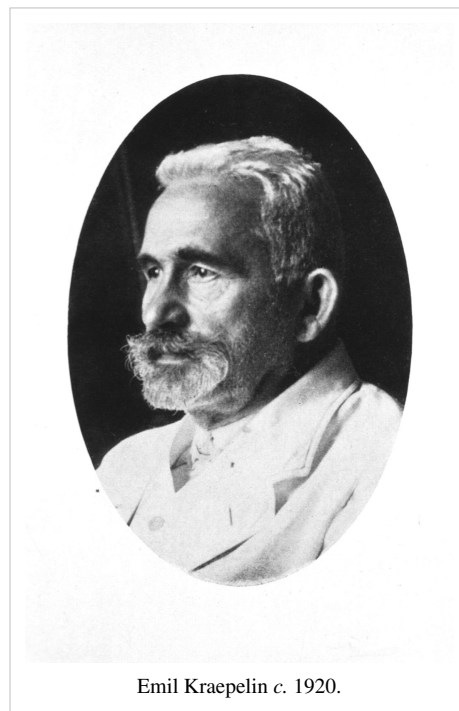
In the March 1896 fifth edition of *Psychiatrie*, Kraepelin expressed confidence that his clinical method, involving analysis of both qualitative and quantitative data derived from long term observation of patients, would produce reliable diagnoses including prognosis:

What convinced me of the superiority of the clinical method of diagnosis (followed here) over the traditional one, was the certainty with which we could predict (in conjunction with our new concept of disease) the future course of events. Thanks to it the student can now find his way more easily in the difficult subject of psychiatry.^[32]

In this edition dementia praecox is still basically hebephrenia, and it, dementia paranoides and catatonia are described as distinct psychotic disorders among the "metabolic disorders leading to dementia".^[33]

Kraepelin's influence on the next century

In the 1899 (6th) edition of *Psychiatrie*, Kraepelin established a paradigm for psychiatry that would dominate the following century, sorting most of the recognized forms of insanity into two major categories: dementia praecox and manic-depressive illness. Dementia praecox was characterized by disordered intellectual functioning, whereas manic-depressive illness was principally a disorder of affect or mood; and the former featured constant deterioration, virtually no recoveries and a poor outcome, while the latter featured periods of exacerbation followed by periods of remission, and many complete recoveries. The class, dementia praecox, comprised the paranoid, catatonic and hebephrenic psychotic disorders, and these forms are still found today in the DSM-IV-TR's paranoid, catatonic and disorganized types of schizophrenia. The ICD-10 still uses "hebephrenic" to designate the third type.^[34] These subtypes may be dropped from the next edition of the DSM, DSM-V, due to be published in May 2013.^[35]



Emil Kraepelin c. 1920.

Change in prognosis

In the seventh, 1904, edition of *Psychiatrie*, Kraepelin accepted the possibility that a small number of patients may recover from dementia praecox. Eugen Bleuler reported in 1908 that in many cases there was no inevitable progressive decline, there was temporary remission in some cases, and there were even cases of near recovery with the retention of some residual defect. In the eighth edition of Kraepelin's textbook, published in four volumes between 1909 and 1915, he described eleven forms of dementia, and dementia praecox was classed as one of the "endogenous dementias". Modifying his previous more gloomy prognosis in line with Bleuler's observations, Kraepelin reported that about 26% of his patients experienced partial remission of symptoms. Kraepelin died while working on the ninth edition of *Psychiatrie* with Johannes Lange (1891–1938), who finished it and brought it to publication in 1927.^[36]

Etiology

Though his work and that of his research associates had revealed a role for heredity, Kraepelin realized nothing could be said with certainty about the etiology of dementia praecox, and he left out speculation regarding brain disease or neuropathology in his diagnostic descriptions. Nevertheless, from the 1896 edition onwards Kraepelin made clear his belief that poisoning of the brain, "autointoxication", probably by sex hormones, may underlie dementia praecox – a theory also entertained by Eugen Bleuler. Both theorists insisted dementia praecox is a biological disorder, not the product of psychological trauma. Thus, rather than a disease of hereditary degeneration or of structural brain pathology, Kraepelin believed dementia praecox was due to a systemic or "whole body" disease process, probably metabolic, which gradually affected many of the tissues and organs of the body before affecting the brain in a final, decisive cascade.^[37] Kraepelin, recognizing dementia praecox in Chinese, Japanese, Tamil and Malay patients, suggested in the eighth edition of *Psychiatrie* that, "we must therefore seek the real cause of dementia praecox in conditions which are spread all over the world, which thus do not lie in race or in climate, in food or in any other general circumstance of life..."^[38]

Treatment

Kraepelin had experimented with hypnosis but found it wanting, and disapproved of Freud's and Jung's introduction, based on no evidence, of psychogenic assumptions to the interpretation and treatment of mental illness. He argued that, without knowing the underlying cause of dementia praecox or manic-depressive illness, there could be no disease-specific treatment, and recommended the use of long baths and the occasional use of drugs such as opiates and barbiturates for the amelioration of distress, as well as occupational activities, where suitable, for all institutionalized patients. Based on his theory that dementia praecox is the product of autointoxication emanating from the sex glands, Kraepelin experimented, without success, with injections of thyroid, gonad and other glandular extracts.^[38]

Use of term spreads

Kraepelin noted the dissemination of his new disease concept when in 1899 he enumerated the term's appearance in almost twenty articles in the German-language medical press.^[38] In the early years of the twentieth century the twin pillars of the Kraepelinian dichotomy, dementia praecox and manic depressive psychosis, were assiduously adopted in clinical and research contexts among the Germanic psychiatric community.^[38] German-language psychiatric concepts were always introduced much faster in America (than, say, Britain) where émigré German, Swiss and Austrian physicians essentially created American psychiatry. Swiss-émigré Adolf Meyer (1866–1950), arguably the most influential psychiatrist in America for the first half of the 20th century, published the first critique of dementia praecox in an 1896 book review of the 5th edition of Kraepelin's textbook. But it was not until 1900 and 1901 that the first three American publications regarding dementia praecox appeared, one of which was a translation of a few sections of Kraepelin's 6th edition of 1899 on dementia praecox.



Adolf Meyer was the first to apply the new diagnostic term in America. He used it at the Worcester Lunatic Hospital in Massachusetts in the fall of 1896. He was also the first to apply Eugen Bleuler's term "schizophrenia" (in the form of "schizophrenic reaction") in 1913 at the Henry Phipps Psychiatric Clinic of the Johns Hopkins Hospital.

The dissemination of Kraepelin's disease concept to the Anglophone world was facilitated in 1902 when Ross Diefendorf, a lecturer in psychiatry at Yale, published an adapted version of the sixth edition of the *Lehrbuch der Psychiatrie*. This was republished in 1904 and with a new version, based on the seventh edition of Kraepelin's *Lehrbuch* appearing in 1907 and reissued in 1912.^{[39][40]} Both dementia praecox (in its three classic forms) and "manic-depressive psychosis" gained wider popularity in the larger institutions in the eastern United States after being included in the official nomenclature of diseases and conditions for record-keeping at Bellevue Hospital in New York City in 1903. The term lived on due to its promotion in the publications of the National Committee on Mental Hygiene (founded in 1909) and the Eugenics Records Office (1910). But perhaps the most important reason for the longevity of Kraepelin's term was its inclusion in 1918 as an official diagnostic category in the uniform system adopted for comparative statistical record-keeping in all American mental institutions, *The Statistical Manual for the Use of Institutions for the Insane*. Its many revisions served as the official diagnostic classification scheme in America until 1952 when the first edition of the *Diagnostic and Statistical Manual: Mental Disorders*, or DSM-I, appeared. Dementia praecox disappeared from official psychiatry with the publication of DSM-I, replaced by the Bleuler/Meyer hybridization, "schizophrenic reaction".

Schizophrenia was mentioned as an alternate term for dementia praecox in the 1918 *Statistical Manual*. In both clinical work as well as research, between 1918 and 1952 five different terms were used interchangeably: dementia

praecox, schizophrenia, dementia praecox (schizophrenia), schizophrenia (dementia praecox) and schizophrenic reaction. This made the psychiatric literature of the time confusing since, in a strict sense, Kraepelin's disease was not Bleuler's disease. They were defined differently, had different population parameters, and different concepts of prognosis.

The reception of dementia praecox as an accepted diagnosis in British psychiatry came more slowly, perhaps only taking hold around the time of World War I. There was substantial opposition to the use of the term "dementia" as misleading, partly due to findings of remission and recovery. Some argued that existing diagnoses such as "delusional insanity" or "adolescent insanity" were better or more clearly defined.^[41] In France a psychiatric tradition regarding the psychotic disorders predated Kraepelin, and the French never fully adopted Kraepelin's classification system. Instead the French maintained an independent classification system throughout the 20th century. After 1980, when DSM-III totally reshaped psychiatric diagnosis, French psychiatry began to finally alter its views of diagnosis to converge with the North American system. Kraepelin thus finally conquered France via America.

From dementia praecox to schizophrenia

Due to the influence of alienists such as Adolf Meyer, August Hoch, George Kirby, Charles Macphie Campbell, Smith Ely Jelliffe and William Alanson White, psychogenic theories of dementia praecox dominated the American scene by 1911. In 1925 Bleuler's schizophrenia rose in prominence as an alternative to Kraepelin's dementia praecox. When Freudian perspectives became influential in American psychiatry in the 1920s schizophrenia became an attractive alternative concept. Bleuler corresponded with Freud and was connected to Freud's psychoanalytic movement,^[42] and the inclusion of Freudian interpretations of the symptoms of schizophrenia in his publications on the subject, as well as those of C.G. Jung, eased the adoption of his broader version of dementia praecox (schizophrenia) in America over Kraepelin's narrower and prognostically more negative one.

The term "schizophrenia" was first applied by American alienists and neurologists in private practice by 1909 and officially in institutional settings in 1913, but it took many years to catch on. It is first mentioned in *The New York Times* in 1925. Until 1952 the terms dementia praecox and schizophrenia were used interchangeably in American psychiatry, with occasional use of the hybrid terms "dementia praecox (schizophrenia)" or "schizophrenia (dementia praecox)".

Diagnostic manuals

Editions of the Diagnostic and Statistic Manual of Mental Disorders since the first in 1952 had reflected views of schizophrenia as "reactions" or "psychogenic" (DSM-I), or as manifesting Freudian notions of "defense mechanisms" (as in DSM-II of 1969 in which the symptoms of schizophrenia were interpreted as "psychologically self-protected"). The diagnostic criteria were vague, minimal and wide, including either concepts that no longer exist or that are now labeled as personality disorders (for example, schizotypal personality disorder). There was also no mention of the dire prognosis Kraepelin had made. Schizophrenia seemed to be more prevalent and more psychogenic and more treatable than either Kraepelin or Bleuler would have allowed.

Conclusions

As a direct result of the effort to construct Research Diagnostic Criteria (RDC) in the 1970s that were independent of any clinical diagnostic manual, Kraepelin's idea that categories of mental disorder should reflect discrete and specific disease entities with a biological basis began to return to prominence. Vague dimensional approaches based on symptoms—so highly favored by the Meyerians and psychoanalysts—were overthrown. For research purposes, the definition of schizophrenia returned to the narrow range allowed by Kraepelin's dementia praecox concept. Furthermore, after 1980 the disorder was a progressively deteriorating one once again, with the notion that recovery,

if it happened at all, was rare. This revision of schizophrenia became the basis of the diagnostic criteria in DSM-III (1980). Some of the psychiatrists who worked to bring about this revision referred to themselves as the "neo-Kraepelinians".

Footnotes

- [1] Hoenig 1995, p. 337.
- [3] Greene 2007, p. 361.
- [4] Berrios, Luque & Villagran 2003, p. 134.
- [5] Sass 1994, p. (<http://books.google.ie/books?id=dwGeKBDa5-AC&pg=PA133>).
- [6] ; ;
- [7] ;
- [8] Berrios, Luque & Villagran 2003, p. 116.
- [9] Burns 2009, pp. 199-200.
- [10] Berrios, Luque & Villagran 2003, p. 117.
- [11] ; . Berrios, Luque and Villagran contend in their 2003 article on schizophrenia that Morel's first use dates to the publication in 1860 of *Traité des maladies mentales* (;). Dowbiggin inaccurately states that Morel used the term on page 234 of the first volume of his 1852 publication *Etudes cliniques* (;). On page 235] Morel does refer to *démence juvénile* in positing that senility is not an age specific affliction and he also remarks that at his clinic he sees almost as many young people suffering from senility as old people (). Also, as Hoenig accurately states, Morel uses the term twice in his 1852 text on pages 282 and 361 (;). In the first instance the reference is made in relation to young girls of asthenic build who have often also suffered from typhoid. It is a description and not a diagnostic category (). In the next instance the term is used to argue that the illness course for those who suffer mania does not normally terminate in an early form of dementia ().
- [12] . The term *Démence précoce* is used by Morel once in his 1857 text *Traité des dégénérescence physiques, intellectuelles, et morales de l'espèce humaine* () and seven times in his 1860 book *Traité des maladies mentales* ().
- [13] Dowbiggin 1996, p. 388.
- [14] Berrios, Luque & Villagran 2003, p. 118.
- [15] While Berrios, Luque and Villagran argue this point forcefully (), others baldly state that Kraepelin was clearly inspired by Morel's lead. Yet no evidence of this claim is offered. For example, .
- [16] Quoted in .
- [17] ; ;
- [18] ; ;
- [19] ;
- [21] Noll 2007a, p. 242 (<http://books.google.ie/books?id=jzoJxps189IC&pg=PA242>).
- [22] ; ;
- [23] Kraam 2009, p. 87.
- [24] ;
- [25] ;
- [26] Porter 1999, p. 512.
- [27] Hoenig 1995, pp. 337-8.
- [28] Steinberger & Angermeyer 2001, pp. 297-327.
- [29] Berrios 1996, p. 23 (http://books.google.ie/books?id=XSD_ucVR3E8C&pg=PA23).
- [30] Noll 2007a, p. xiv (<http://books.google.ie/books?id=jzoJxps189IC&pg=PR14>).
- [32] quoted in
- [34] American Psychiatric Association 2000, p. 303 (<http://books.google.ie/books?id=3SQrtpnHb9MC&pg=PA303>).
- [35] American Psychiatric Association 2011.
- [38] Noll 2007a, p. 127 (<http://books.google.ie/books?id=jzoJxps189IC&pg=PA127>).
- [39] Dain 1980, pp. 34 (<http://books.google.ie/books?id=OJMgz7cJjLcC&pg=PA34>), 341 n. 38 (<http://books.google.ie/books?id=OJMgz7cJjLcC&pg=PA341>).
- [40] Diefendorf 1912, pp. 219–75.
- [41] ;
- [42] Makari, George. *Revolution in Mind: The Creation of Psychoanalysis*, Harper Perennial: New York, 2008.

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Additional resources

- Bibliography of scholarly histories on schizophrenia and dementia praecox, part 1 (<http://ahp.yorku.ca/?p=86>) (2000-mid 2007).

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Abnormal psychology

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Abnormal psychology is the branch of psychology that studies unusual patterns of behavior, emotion and thought, which may or may not be understood as precipitating a mental disorder. Although many behaviours could be considered as abnormal, this branch of psychology generally deals with behavior in a clinical context.^[1] There is a long history of attempts to understand and control behavior deemed to be aberrant or deviant (statistically, morally or in some other sense), and there is often cultural variation in the approach taken. The field of abnormal psychology identifies multiple causes for different conditions, employing diverse theories from the general field of psychology and elsewhere, and much still hinges on what exactly is meant by "abnormal". There has traditionally been a divide between psychological and biological explanations, reflecting a philosophical dualism in regards to the mind body problem. There have also been different approaches in trying to classify mental disorders. Abnormal includes three different categories, they are subnormal, supernormal and paranormal.^[2]

The science of abnormal psychology studies two types of behaviours: adaptive and maladaptive behaviours. Behaviours that are maladaptive suggest that some problem(s) exist, and can also imply that the individual is vulnerable and cannot cope with environmental stress, which is leading them to have problems functioning in daily life.^[3] Clinical psychology is the applied field of psychology that seeks to assess, understand and treat psychological conditions in clinical practice. The theoretical field known as 'abnormal psychology' may form a backdrop to such work, but clinical psychologists in the current field are unlikely to use the term 'abnormal' in reference to their practice. Psychopathology is a similar term to abnormal psychology but has more of an implication of an underlying pathology (disease process), and as such is a term more commonly used in the medical specialty known as psychiatry.

History

Supernatural traditions

Throughout time, societies have proposed several explanations of abnormal behavior within human beings. Beginning in some hunter-gatherer societies, animists have believed that people demonstrating abnormal behavior are possessed by malevolent spirits. This idea has been associated with trepanation, the practice of cutting a hole into the individual's skull in order to release the malevolent spirits.^[4] Although it has been difficult to define abnormal psychology, one definition includes characteristics such as statistical infrequency.^[5]

A more formalized response to spiritual beliefs about abnormality is the practice of exorcism. Performed by religious authorities, exorcism is thought of as another way to release evil spirits who cause pathological behavior within the person. In some instances, individuals exhibiting unusual thoughts or behaviors have been exiled from society or worse. Perceived witchcraft, for example, has been punished by death. Two Catholic Inquisitors wrote the *Malleus Maleficarum* (Latin for 'The Hammer Against Witches'), that was used by many Inquisitors and witch-hunters. It contained an early taxonomy of perceived deviant behavior and proposed guidelines for prosecuting deviant individuals.

Asylums

The act of placing mentally ill individuals in a separate facility known as an asylum dates to 1547, when King Henry VIII of England established the St. Mary of Bethlem asylum. Asylums remained popular throughout the Middle Ages and the Renaissance era. These early asylums were often in miserable conditions. Patients were seen as a “burden” to society and locked away and treated almost as beasts to be dealt with rather than patients needing treatment. There was scientific curiosity into abnormal behavior although it was rarely investigated in the early asylums. Inmates in these early asylums were often put on display for profit as they were viewed as less than human. The early asylums were basically modifications of the existing criminal institutions.^[citation needed]

In the late 18th century the idea of humanitarian treatment for the patients gained much favor due to the work of Philippe Pinel in France. He pushed for the idea that the patients should be treated with kindness and not the cruelty inflicted on them as if they were animals or criminals. His experimental ideas such as removing the chains from the patients were met with reluctance. The experiments in kindness proved to be a great success, which helped to bring about a reform in the way mental institutions would be run.^[citation needed]

Continuing institutionalization

Institutionalization would continue to improve throughout the 19th and 20th century due to work of many humanitarians such as Dorothea Dix, and the mental hygiene movement which promoted the physical well-being of the mental patients. "Dix more than any other figure in the nineteenth century, made people in America and virtually all of Europe aware that the insane were being subjected to incredible abuses."^[6]Wikipedia:Citing sources Through this movement millions of dollars were raised to build new institutions to house the mentally ill. Mental hospitals began to grow substantially in numbers during the 20th century as care for the mentally ill increased in them.

By 1939 there were over 400,000 patients in state mental hospitals in the USA.^[7] Hospital stays were normally quite long for the patients, with some individuals being treated for many years. These hospitals while better than the asylums of the past were still lacking in the means of effective treatment for the patients, and even though the reform movement had occurred; patients were often still met with cruel and inhumane treatment.

Things began to change in the year 1946 when Mary Jane Ward published the influential book titled “The Snake Pit” which was made into a popular movie of the same name. The book called attention to the conditions which mental patients faced and helped to spark concern in the general public to create more humane mental health care in these overcrowded hospitals.^[7]

In this same year the National Institute of Mental Health was also created which provided support for the training hospital employees and research into the conditions which afflicted the patients. During this period the Hill-Burton Acts was also passed which was a program that funded mental health hospitals. Along with the Community Health Services Act of 1963 helped with the creation of outpatient psychiatric clinics, in patient general hospitals, in addition to rehabilitation and community consultation centers.^[citation needed]

Deinstitutionalisation

In the late twentieth century however, the public view on the mentally ill was no longer in such a positive light. A large number of mental hospitals ended up closing down due to lack of funding and overpopulation. In England for example only 14 of the 130 psychiatric institutions that had been created in the early 20th century remained open at the start of the 21st century.^[7]

This trend was not only in the England and the United States but worldwide with countries like Australia feeling the pain of too many mentally ill patients and not enough treatment facilities. Recent studies have found that the prevalence of mental illness has not decreased significantly in the past 10 years, and has in fact increased in frequency regarding specific conditions such as anxiety and mood disorders.^[8]

This led to a large number of the patients being released while not being fully cured of the disorder they were hospitalized for. This became known as the phenomenon of deinstitutionalization. This movement had noble goals of

treating the individuals outside of the isolated mental hospital by placing them into communities and support systems. Another goal of this movement was to avoid the potential negative adaptations that can come with long term hospital confinements. Many professionals for example were concerned that patients would find permanent refuge in mental hospitals which would take them up when the demands of everyday life were too difficult. However, the patients moved to the community living have not fared well typically, as they often speak of how they feel “abandoned” by the doctors who used to treat them. It also has had the unfortunate effect of placing many of the patients in homelessness. Many safe havens for the deinstitutionalized mentally ill have been created but they are not as effective as needed. It is estimated that around 26.2% of people who are currently homeless have some form of a mental illness.^[9] The placing of these individuals in homelessness is of major concern as the added stress of living on the streets is not beneficial for the individual to recover from the particular disorder with which they are afflicted. In fact while some of the homeless who are able to find some temporary relief in the form of shelters, many of the homeless with a mental illness “lack safe and descent shelter”.^[10]

Explaining abnormal behavior

People have tried to explain and control abnormal behavior for thousands of years. Historically, there have been three main approaches to abnormal behavior: the supernatural, biological, and psychological traditions.^[11] Abnormal psychology revolves around two major paradigms for explaining mental disorders, the *psychological* paradigm and the *biological* paradigm. The psychological paradigm focuses more on the humanistic, cognitive and behavioral causes and effects of psychopathology. The biological paradigm includes the theories that focus more on physical factors, such as genetics and neurochemistry.

Supernatural explanations

In the supernatural tradition, also called the demonological method, abnormal behaviors are attributed to agents outside human bodies. According to this model, abnormal behaviors are caused by demons, spirits, or the influences of moon, planets, and stars. During the Stone Age, trephining was performed on those who had mental illness to literally cut the evil spirits out of the victim's head. Conversely, Ancient Chinese, Ancient Egyptians, and Hebrews, believed that these were evil demons or spirits and advocated exorcism. By the time of the Greeks and Romans, mental illnesses were thought to be caused by an imbalance of the four humors, leading to draining of fluids from the brain. During the Dark Ages, many Europeans believed that the power of witches, demons, and spirits caused abnormal behaviors. People with psychological disorders were thought to be possessed by evil spirits that had to be exorcised through religious rituals. If exorcism failed, some authorities advocated steps such as confinement, beating, and other types of torture to make the body uninhabitable by witches, demons, and spirits. The belief that witches, demons, and spirits are responsible for the abnormal behavior continued into the 15th century.^[12] Swiss alchemist, astrologer, and physician Paracelsus (1493–1541), on the other hand, rejected the idea that abnormal behaviors were caused by witches, demons, and spirits and suggested that people's mind and behaviors were influenced by the movements of the moon and stars.^[13]

This tradition is still alive today. Some people, especially in the developing countries and some followers of religious sects in the developed countries, continue to believe that supernatural powers influence human behaviors. In Western academia, the supernatural tradition has been largely replaced by the biological and psychological traditions.^[14]

Biological explanations

In the biological tradition, psychological disorders are attributed to biological causes and in the psychological tradition, disorders are attributed to faulty psychological development and to social context.^[14] The medical or biological perspective holds the belief that most or all abnormal behavior can be attributed to a medical factor; assuming all psychological disorders are diseases.^[1]

The Greek physician Hippocrates, who is considered to be the father of Western medicine, played a major role in the biological tradition. Hippocrates and his associates wrote the Hippocratic Corpus between 450 and 350 BC, in which they suggested that abnormal behaviors can be treated like any other disease. Hippocrates viewed the brain as the seat of consciousness, emotion, intelligence, and wisdom and believed that disorders involving these functions would logically be located in the brain.^[13]

These ideas of Hippocrates and his associates were later adopted by Galen, the Roman physician. Galen extended these ideas and developed a strong and influential school of thought within the biological tradition that extended well into the 18th century.

Medical: The medical approach to abnormal psychology focuses on the biological causes on mental illness. This perspective emphasizes understanding the underlying cause of disorders, which might include genetic inheritance, related physical disorders, infections and chemical imbalances. Medical treatments are often pharmacological in nature, although medication is often used in conjunction with some other type of psychotherapy. <http://psychology.about.com/od/abnormalpsychology/f/abnormal-psychology.htm>

Psychological explanations

Behavioral: The behavioral approach to abnormal psychology focuses on observable behaviors. In behavioral therapy, the focus is on reinforcing positive behaviors and not reinforcing maladaptive behaviors. This approach targets only the behavior itself, not the underlying causes.

Multiple causality

The number of different theoretical perspectives in the field of psychological abnormality has made it difficult to properly explain psychopathology. The attempt to explain all mental disorders with the same theory leads to reductionism (explaining a disorder or other complex phenomena using only a single idea or perspective).^[15] Most mental disorders are composed of several factors, which is why one must take into account several theoretical perspectives when attempting to diagnose or explain a particular behavioral abnormality or mental disorder. Explaining mental disorders with a combination of theoretical perspectives is known as multiple causality.

The diathesis–stress model^[16] emphasizes the importance of applying multiple causality to psychopathology by stressing that disorders are caused by both precipitating causes and predisposing causes. A precipitating cause is an immediate trigger that instigates a person's action or behavior. A predisposing cause is an underlying factor that interacts with the immediate factors to result in a disorder. Both causes play a key role in the development of a psychological disorder.^[15]

Recent concepts of abnormality

- *Statistical abnormality* – when a certain behavior/characteristic is relevant to a low percentage of the population. However, this does not necessarily mean that such individuals are suffering from mental illness (for example, statistical abnormalities such as extreme wealth/attractiveness)
- *Psychometric abnormality* – when a certain behavior/characteristic differs from the population's normal dispersion e.g. having an IQ of 35 could be classified as abnormal, as the population average is 100. However, this does not specify a particular mental illness.
- *Deviant behavior* – this is not always a sign of mental illness, as mental illness can occur without deviant behavior, and such behavior may occur in the absence of mental illness.
- *Combinations* – including distress, dysfunction, distorted psychological processes, inappropriate responses in given situations and causing/risking harm to oneself.^[17]

Approaches

- *Somatogenic* – abnormality is seen as a result of biological disorders in the brain.^[18] This approach has led to the development of radical biological treatments, e.g. lobotomy.
- *Psychogenic* – abnormality is caused by psychological problems. Psychoanalytic (Freud), Cathartic, Hypnotic and Humanistic Psychology (Carl Rogers, Abraham Maslow)^[19] treatments were all derived from this paradigm. This approach has, as well, led to some esoteric treatments: Franz Mesmer used to place his patients in a darkened room with music playing, then enter it wearing a flamboyant outfit and poke the "infected" body areas with a stick.

Classification

DSM-IV TR

The standard abnormal psychology and psychiatry reference book in North America is the Diagnostic and Statistical Manual of the American Psychiatric Association. The current version of the book is known as DSM IV-TR. It lists a set of disorders and provides detailed descriptions on what constitutes a disorder such as Major Depressive Disorder or anxiety disorder. It also gives general descriptions of how frequently the disorder occurs in the general population, whether it is more common in males or females and other such facts.

The DSM-IV TR identifies three key elements that must be present to constitute a mental disorder. These elements include:

- Symptoms that involve disturbances in behavior, thoughts, or emotions.
- Symptoms associated with personal distress or impairment.
- Symptoms that stem from internal dysfunctions (i.e. specifically having biological and/or psychological roots).^[20]

The diagnostic process uses five dimensions called "axes" to ascertain symptoms and overall functioning of the individual. These axes are as follows:

- **Axis I** – *Clinical disorders*, which would include major mental and learning disorders. These disorders make up what is generally acknowledged as a disorder including major depressive disorder, generalized anxiety disorder, schizophrenia, and substance dependence. To be given a diagnosis for a disorder in this axis the patient must meet the criteria for the particular disorder which is presented in the DSM in that particular disorders section. Disorders in this axis are of particular importance because they are likely to have an effect on the individual in many other axes. In fact the first 3 axes are highly related. This axis is similar to what would be considered an illness or disease in general medicine.
- **Axis II** – *Personality Disorders* and a decrease of the use of intellect disorder. This is a very broad axis which contains disorders relating to how the individual functions with the world around him or herself. This axis

provides a way of coding for long lasting maladaptive personality characteristics that could have a factor in the expression or development of a disorder on Axis I although this is not always the case. Disorders in this axis include disorders such as antisocial personality disorder, histrionic personality disorder, and paranoid personality disorder. Mental retardation is also coded in this axis although most other learning disabilities are coded in Axis I. This Axis is an example of how the Axes all interact with one another help to give an overall diagnosis for an individual.

- **Axis III** – *General medical conditions* and "Physical disorders". The conditions listed here are the ones that could potentially be relevant to the managing or understanding of the case. Axis III is often used together with an Axis I diagnosis to give a better rounded explanation of the particular disorder. An example of this can be seen in the relationship between major depressive disorder and unremitting pain caused from a chronic medical problem. This category could also include use of drugs and alcohols as these are oftentimes symptoms of a disorder themselves such as substance dependence or major depressive disorder. Due to the nature of Axis III it is often recommended that the patient visit a medical doctor when he or she is being assessed in order to determine if the problem could potentially require medical intervention such as surgery. When the first 3 axes are used multiple diagnosis are often found which is actually encouraged by the DSM.
- **Axis IV** – *Psychosocial/environmental problems*, which would contribute to the disorder. Axis IV is used to inspect the broader aspects of a person's situation. This axis will examine the social and environmental factors that could affect the person's diagnosis. Stressors are the main focus of this axis and particular attention is paid to stressors that have been present in the past year; however it is not a requirement that the stressor had to form or continued in the past year. Due to the large number of potential stressors in an individual's life, therapist often find such stressors via a checklist approach which is encouraged by the DSM. An example of the checklist approach would be examine the individual's family life, economic situation, occupation, potential legal problems and so on. It is crucial that the patient is honest in this section as environmental factors can have a huge impact on the patient especially in certain schools of therapy such as the cognitive approach.
- **Axis V** – *Global assessment of functioning (often referred to as GAF)* or "Children's Global Assessment Scale" (for children and teenagers under the age of 18). Axis V is a score given to the patient which is designed to indicate how well the individual is handling their situation at the current time. The GAF is based on a 100 point scale which the examiner will use to give the patient a score. Scores can range from 1 to 100 and depending on the score on the GAF the examiner will decide the best course of action for the patient. "According to the manual, scores higher than 70 indicate satisfactory mental health, good overall functioning, and minimal or transient symptoms or impairment, scores between 60 and 70 indicate mild symptoms or impairment, while scores between 50 and 60 indicate moderate symptoms, social or vocational problems, and scores below 50 severe impairment or symptoms".^[21] As GAF scores are the final Axis of the DSM the information present in the previous 4 axes are crucial for determining an accurate score.

ICD-10

The major international nosologic system for the classification of mental disorders can be found in the most recent version of the International Classification of Diseases, 10th revision (ICD-10). The ICD-10 has been used by World Health Organization ^[22] (WHO) Member States since 1994. Chapter five covers some 300 mental and behavioral disorders. The ICD-10's chapter five has been influenced by APA's DSM-IV and there is a great deal of concordance between the two. WHO maintains free access to the ICD-10 Online ^[23]. Below are the main categories of disorders:

- **F00–F09** Organic, including symptomatic, mental disorders
- **F10–F19** Mental and behavioral disorders due to psychoactive substance use
- **F20–F29** Schizophrenia, schizotypal and delusional disorders
- **F30–F39** Mood [affective] disorders
- **F40–F48** Neurotic, stress-related and somatoform disorders
- **F50–F59** Behavioral syndromes associated with physiological disturbances and physical factors

- **F60–F69** Disorders of adult personality and behavior
- **F70–F79** Mental retardation
- **F80–F89** Disorders of psychological development
- **F90–F98** Behavioral and emotional disorders with onset usually occurring in childhood and adolescence
- **F99** Unspecified mental disorders

Perspectives of Abnormal psychology

Psychologists may use different perspectives to try to get better understanding on abnormal psychology. Some of them may just concentrate on a single perspective. But the professionals prefer to combine two or three perspectives together in order to get significant information for better treatments.

- Behavioral- the perspective focus on observable behaviors
- Medical- the perspective focus on biological causes on mental illness
- Cognitive- the perspective focus on how internal thoughts, perceptions and reasoning contribute to psychological disorders

Etiology

Genetics

- Investigated through family studies, mainly of monozygotic (identical) and dizygotic (fraternal) twins, often in the context of adoption. Monozygotic twins should be more likely than dizygotic twins to have the same disorder because they share 100% of their genetic material, whereas dizygotic twins share only 50%. For many disorders, this is exactly what research shows. But given that monozygotic twins share 100% of their genetic material, it may be expected of them to have the same disorders 100% of the time, but in fact they have the same disorders only about 50% of the time^[24]
- These studies allow calculation of a *heritability coefficient*.

Biological causal factors

- Neurotransmitter [imbalances of neurotransmitters like (1) Norepinephrine (2) Dopamine (3) Serotonin and (4) GABA (Gamma aminobutyric acid)] and hormonal imbalances in the brain
 - Genetic vulnerabilities
 - Constitutional liabilities [physical handicaps and temperament]
 - Brain dysfunction and neural plasticity
 - Physical deprivation or disruption [deprivation of basic physiological needs]
-

Socio-cultural factors

- Effects of urban/rural dwelling, gender and minority status on state of mind

Systemic factors

- Family systems
- Negatively Expressed Emotion playing a part in schizophrenic relapse and anorexia nervosa.

Biopsychosocial factors

- Illness dependent on stress "triggers".^[25]

Therapies

Psychoanalysis (Freud)

Psychoanalytic theory is heavily based on Freudian ideas which were introduced by the famous psychologist Sigmund Freud. These ideas often represented repressed emotions and memories from a patient's childhood. According to psychoanalytic theory these repressions cause the disturbances that we experience in our daily lives and by finding the source of these disturbances, we should be able to eliminate the disturbance itself. This is accomplished by a variety of methods, with some popular ones being free association, hypnosis, and insight. The goal of these methods is to induce a catharsis or emotional release in the patient which should indicate that the source of the problem has been tapped and it can then be helped. Freud's psychosexual stages also played a key role in this form of therapy; as he would often believe that problems the patient was experiencing were due to them becoming stuck or "fixated" in a particular stage. Dreams also played a major role in this form of therapy as Freud viewed dreams as a way to gain insight into the unconscious mind. Patients were often asked to keep dream journals and to record their dreams to bring in for discussion during the next therapy session. There are many potential problems associated with this style of therapy, including resistance to the repressed memory or feeling, and negative transference onto the therapist. Psychoanalysis was carried on by many after Freud including his daughter Anna Freud and Jacques Lacan. These and many others have went on to elaborate on Freud's original theory and to add their own take on defense mechanisms or dream analysis.^[26] While psychoanalysis has fallen out of favor to more modern forms of therapy it is still used by some clinical psychologists to varying degrees.

Behavioral therapy (Wolpe)

Behavior therapy relies on the principles of behaviorism, such as involving classical and operant conditioning. Behaviorism arose in the early 20th century due to the work of psychologists such as James Watson, and B.F. Skinner. Behaviorism states that all behaviors humans do is because of a stimulus and reinforcement. While this reinforcement is normally for good behavior, it can also occur for maladaptive behavior. In this therapeutic view, the patient's maladaptive behavior has been reinforced which will cause the maladaptive behavior to be repeated. The goal of the therapy is to reinforce less maladaptive behaviors so that with time these adaptive behaviors will become the primary ones in the patient.

Humanistic therapy (Rogers)

Humanistic therapy aims to achieve self-actualization (Carl Rogers, 1961). In this style of therapy, the therapist will focus on the patient themselves as opposed to the problem which the patient is afflicted with. The overall goal of this therapy is that by treating the patient as "human" instead of client will help get to the source of the problem and hopefully resolve the problem in an effective manner. Humanistic therapy has been on the rise in recent years and has been associated with numerous positive benefits. It is considered to be one of the core elements needed for therapeutic effectiveness and a significant contributor to not only the well being of the patient but society as a whole. Some say that all of the therapeutic approaches today draw from the humanistic approach in some regard and that humanistic therapy is the best way for to treat a patient.^[27] Humanistic therapy can be used on people of all ages; however it is

very popular among children in its variant known as "play therapy". Children are often sent to therapy due to outburst that they have in a school or home setting, the theory is that by treating the child in a setting that is similar to the area that they are having their disruptive behavior, the child will be more likely to learn from the therapy and have an effective outcome. In play therapy the clinician will "play" with their client usually with toys, or a tea party. Playing is the typical behavior of a child and therefore playing with the therapist will come as a natural response to the child. In playing together the clinician will ask the patient questions but due to the setting; the questions no longer seem intrusive and therapeutic more like a normal conversation. This should help the patient realize issues they have and confess them to the therapist with less difficulty than they may experience in a traditional counselling setting.^[28]

Cognitive behavioural therapy (Beck)

Cognitive behavioural therapy aims to influence thought and cognition (Beck, 1977). This form of therapy relies on not only the components of behavioral therapy as mentioned before, but also the elements of cognitive psychology. This relies on not only the clients behavioral problems that could have arisen from conditioning; but also there negative schemas, and distorted perceptions of the world around them. These negative schemas may be causing distress in the life of the patient; for example the schemas may be giving them unrealistic expectations for how well they should perform at their job, or how they should look physically. When these expectations are not met it will often result in maladaptive behaviors such as depression, obsessive compulsions, and anxiety. With cognitive behavior therapy; the goal is to change the schemas that are causing the stress in a persons life and hopefully replace them with more realistic ones. Once the negative schemas have been replaced, it will hopefully cause a remission of the patients symptoms. CBT is considered particularly effective in the treatment of depression and has even been used lately in group settings. It is felt that using CBT in a group setting aids in giving its members a sense of support and decreasing the likelihood of them dropping out of therapy before the treatment has had time to work properly.^[29] CBT has been found to be an effective treatments for many patients even those who do not have diseases and disorders typically thought of as psychiatric ones. For example patients with the disease multiple sclerosis have found a lot of help using CBT. The treatment often helps the patients cope with the disorder they have and how they can adapt to their new lives without developing new problems such as depression or negative schemas about themselves.^[30]

According to RAND, therapies are difficult to provide to all patients in need. A lack of funding and understanding of symptoms provides a major roadblock that is not easily avoided. Individual symptoms and responses to treatments vary, creating a disconnect between patient, society and care givers/professionals.^[31]

Notes

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External links

- Abnormal Psychology Students Practice Resources (<http://minnay.com/products/>)
- Science Direct (http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6V5W-4DSW9MX-2&_user=10&_rdoc=1&_fmt=&_orig=search&_sort=d&view=c&_acct=C000050221&_version=1&_urlVersion=0&_userid=10&md5=0e24f1a1bfe7cf1b4f508e2f8f80c73f)
- Psychology Terms (<http://dictionary-psychology.com>)
- A Course in Abnormal Psychology (<http://ccvillage.buffalo.edu/Abpsy/>)

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