

43330630R



NLM 05219620 1

NATIONAL LIBRARY OF MEDICINE



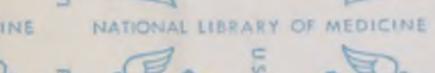
Health, Education,
U.S. Department of



Health Service



Health, Education



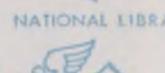
U.S. Department of



Bethesda, Md



U.S. Department of



Bethesda, Md



U.S. Department of



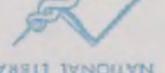
Bethesda, Md.



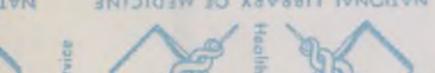
Health Service



Health, Education,



Health Service



Health, Education,
and Welfare, Public



and Welfare, Public



Health Service



Health, Education,
and Welfare, Public



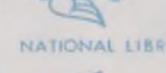
and Welfare, Public



Health Service



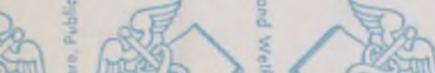
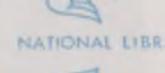
Health, Education,



Health Service



Health, Education,



U.S. Department of



Bethesda, Md.



U.S. Department of



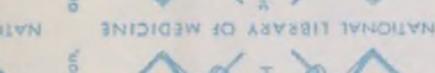
Bethesda, Md



U.S. Department of



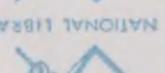
Bethesda, Md



Health Service



Health, Education,



Health Service



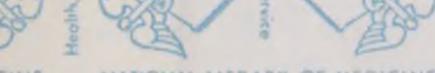
Health, Education,
and Welfare, Public



and Welfare, Public



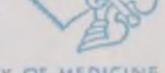
Health Service



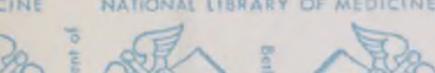
U.S. Department of



Bethesda, Md.



U.S. Department of



Bethesda, Md



U.S. Department of



Bethesda, Md



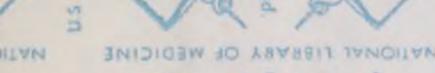
Health Service



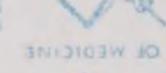
Health, Education,



Health Service



Health, Education,
and Welfare, Public



and Welfare, Public



Health Service



U.S. Department of



Bethesda, Md.



U.S. Department of



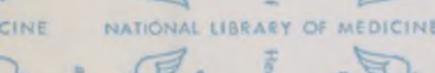
Bethesda, Md



U.S. Department of



Bethesda, Md



Health Service



Health, Education,



Health Service



Health, Education,
and Welfare, Public



and Welfare, Public



Health Service



Health, Education,
and Welfare, Public



and Welfare, Public



Health Service



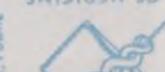
Health, Education,
and Welfare, Public



and Welfare, Public



Health Service





✓
MANUAL
of
PSYCHIATRY

for the
MEDICAL STUDENT and GENERAL PRACTITIONER

By ✓
PAUL E. BOWERS, M.S., M.D.

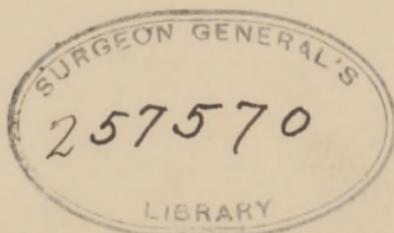
Examiner in Lunacy, State of California; Neuropsychiatrist,
Los Angeles General Hospital; Lecturer in Neuropsychiatry,
Post-Graduate Medical School of the University of California,
Los Angeles; Regional Consultant, United States Public
Health Service

[1924]

PHILADELPHIA and LONDON

W. B. SAUNDERS COMPANY

LIBRARY U. S. SURGEON
GENERAL'S OFFICE



WM
100
B786m
1924

File NO. 7264, ny. 4

Copyright, 1924, by W. B. Saunders Company

MADE IN U. S. A.

PRESS OF
W. B. SAUNDERS COMPANY
PHILADELPHIA

NOV 17 '24 ✓ R

©CIA807836C

no 2

PREFACE

THE worker in the field of medical science, whether he be student or practitioner, is frequently confronted with problems relating to mental disorders. In order to solve these problems effectively he should possess a working knowledge of psychiatry. He should be familiar with the symptomatology of mental disease and the diagnosis and treatment of the various types of mental derangement, and be able to bring sound, practical and detailed judgment to bear upon the many and divers situations that present themselves to him.

It is the purpose of this volume to give a comprehensive and systematic outline of the field of psychiatry, and to afford the student and the general practitioner a reference handbook to which they can turn for definite, detailed information upon the different aspects of mental medicine.

The material comprising the various chapters has been digested, so far as is consistent with clarity and comprehensiveness or subject matter, in order that the information may be readily available. However, nothing which would add to the value of the presentation has been sacrificed for the sake of brevity.

All controversial discussions have been excluded, in order that the information contained should be of permanent and authentic value. This greatly enhances the utility of the volume for the medical student. So far as possible, conjecture and supposition have given way to reliable conclusions and data.

I acknowledge my indebtedness to many works already in the

field, from which I have felt free to collect information which has contributed to the worth of this volume as a compensation.

PAUL E. BOWERS.

LOS ANGELES, CALIFORNIA,
October, 1924.

CONTENTS

CHAPTER I

	PAGE
PSYCHOLOGICAL INTRODUCTION	17

CHAPTER II

DEFINITION AND CLASSIFICATION OF MENTAL DISORDERS	27
---	----

CHAPTER III

CAUSES OF MENTAL DISEASE	37
------------------------------------	----

CHAPTER IV

SYMPTOMS OF MENTAL DISORDERS	44
--	----

CHAPTER V

TRAUMATIC PSYCHOSES	67
-------------------------------	----

CHAPTER VI

SENILE PSYCHOSES	72
----------------------------	----

CHAPTER VII

PSYCHOSES WITH CEREBRAL ARTERIOSCLEROSIS	79
--	----

CHAPTER VIII

GENERAL PARESIS	83
---------------------------	----

CHAPTER IX

PSYCHOSES WITH CEREBRAL SYPHILIS	95
--	----

CHAPTER X

PSYCHOSES WITH BRAIN AND NERVOUS DISEASES	102
---	-----

CHAPTER XI

PSYCHOSES DUE TO ALCOHOL, DRUGS AND OTHER EXOGENOUS TOXINS	106
--	-----

CHAPTER XII

PSYCHOSES WITH SOMATIC DISEASES	130
---	-----

CHAPTER XIII

	PAGE
MANIC-DEPRESSIVE PSYCHOSES	146

CHAPTER XIV

INVOLUTIONAL MELANCHOLIA	156
------------------------------------	-----

CHAPTER XV

DEMENTIA PRÆCOX OR SCHIZOPHRENIA	162
--	-----

CHAPTER XVI

PARANOIA AND PARANOID STATES	178
--	-----

CHAPTER XVII

EPILEPTIC PSYCHOSES	185
-------------------------------	-----

CHAPTER XVIII

THE PSYCHONEUROSES AND NEUROSES	193
---	-----

CHAPTER XIX

PSYCHOSES WITH CONSTITUTIONAL INFERIORITY	215
---	-----

CHAPTER XX

PSYCHOSES WITH MENTAL DEFICIENCY	238
--	-----

CHAPTER XXI

DIAGNOSTIC GROUPINGS OF THE SYMPTOMS OF THE PSYCHOSES	248
---	-----

CHAPTER XXII

METHODS OF EXAMINATION	260
----------------------------------	-----

CHAPTER XXIII

BINET-SIMON SCALE OF INTELLIGENCE TESTS	285
---	-----

CHAPTER XXIV

TREATMENT	298
---------------------	-----

CHAPTER XXV

RELATIONSHIP OF INSANITY TO CRIME	313
---	-----

BIBLIOGRAPHY	351
------------------------	-----

INDEX	353
-----------------	-----

MANUAL OF PSYCHIATRY

CHAPTER I

PSYCHOLOGICAL INTRODUCTION

The student and the general practitioner of medicine are familiar with the anatomy and physiology of the central nervous system, and a description of these essentials is unnecessary and out of place in a book of this size. Only the cardinal points and basic principles of the underlying psychology will be touched upon in this chapter, and these are taken up solely because it is necessary to show in what manner and to what degree the ordinary psychological functions may be disordered.

The adrenals secrete adrenalin, the liver secretes bile, and, as one noted authority has said, it is the function of the brain to secrete thought. This is a very apt and expressive analogy, but psychologically it is not quite correct. The brain is the organ of the mind and without the brain there is no expression of mental life. Impairment of the brain in the frontal lobes of the cerebrum produces certain definite losses and impairments of the intellectual capacities, which would indicate that the brain is the seat of consciousness.

The term "mind" is not susceptible to a definition which entirely and properly tells what it is and defines its powers and uses. To say the mind is the intellect is but to beg the question and use a synonym. Without entering into any abstruse theories concerning its character, which psychology has yet failed to determine, it may be somewhat defined, for the purposes of this book, by giving a definition which implies its use. The mind is

the sum total of intelligence and awareness of that intelligence, at any particular given moment; or, the mind is that expression of mental life which manifests itself through the organization of the central nervous system in the process of thinking, feeling and acting. *Consciousness* is the state of awareness, in an individual, of his personality; a recognition by the individual that he lives as distinct from other persons. The afferent nerves of the body carry the impulses of the outside world to the brain, and the carrying of these impulses and their interpretation is called *sensation*. To the interpretation of sensation psychologists have applied the term *perception*. The process of perception may be illustrated in various ways. In the room where an individual reading this book may be sitting, there may be a flower in a vase. The flower is red; it gives off an agreeable perfume. The leaves of the flower have a peculiar serrated edge, and along the stem are thorns. In the process of thinking, in which perception is the first step, the individual receives the impression of redness. He notices the agreeable perfume. To the first impression has been added a second. Other perceptions are added as the individual interprets and sees the shape and character of the leaf or the flower. On attempting to pick up the flower his finger is pricked by the thorns on the stem. Definite groups of perceptions have been united which form new *conceptions* and give the individual the idea of a rose. In grouping these ideas the memory is called into play. *Memory* is the recurrence to consciousness of past experiences, or we may say in another form that memory is the power of the mind to reproduce past states and experiences.

It was once taught by the older psychologists that the mind was composed of certain definite functions which were catalogued and pigeonholed, as it were; that the mind was made up of certain definite compartments and each compartment or faculty of the mind had a definite function to perform, and that these

different faculties could function independently of other faculties so long as the integrity of the brain was not disturbed. This idea of the mind is erroneous and is not accepted by modern psychologists. The mind may be thought of, as illustrated in the diagram, as a circle which has a continuity and intimate association even though there are three very definite duties performed by the mind which are indicated by the lines subdividing this circle. The terms of the older psychologists are of value for the purpose of description. The mind has three definite functions:

1. THE FUNCTION OF INTELLECTION, OR THINKING.
2. THE FUNCTION OF EMOTION, OR FEELING.
3. THE FUNCTION OF VOLITION, OR WILLING.

These different functions are expressions of continuous interconnections between the whole of consciousness and are not separate processes, as was once held. These functions may be graphically described as follows:

The grouping of a number of perceptions results in the formation of a new conception, and the grouping of one conception with other conceptions forms an idea. One idea is weighed, compared and associated with other ideas, and to this process the term reasoning has been applied. Reasoning (or comparing ideas) establishes a new idea, to which is applied the term judgment. The comparison of judgments results in the formation of new judgments.

Every thought or idea is attended by feelings that are agreeable or disagreeable. No thoughts are entirely neutral, so far as emotion is concerned. The emotional association of thought may be very slight or it may be extreme. The idea of the rose as given to illustrate the process of thinking cannot exist without some feeling that is pleasurable or painful. The color, the form and fragrance of the rose may be pleasurable, yet it may awake a train of ideas which are essentially painful and disagreeable.

An individual may be of artistic temperament. The beauty of the rose makes a particular appeal to a person of this type, and the individual may be stimulated with a desire to produce a likeness of this rose with paint and brush. The desire to do this skillfully entails a line of thought and feeling. The individual may be ambitious to succeed as a painter, and this ambition may be built upon his desire to care for those who are dependent upon him. This is the vicarious expression of the love and affection he has for his family and children. The other forms of emotion, such as hate, anger, jealousy, etc., need no description. We see now by this illustration that the process of thinking has been in action, the emotions have been aroused, and, in this particular instance, to every idea there has been attached more or less of a feeling of pleasure.

The individual may wish to become a successful painter in order that he may acquire both honor and money, but he cannot do so unless he exercises the power of volition or will. He procures the necessary paint, palette and brushes, and canvas upon which to paint the flower. The action of securing these things is a *deliberate, voluntary action*. As he places the flower in a vase before him he accidentally pricks his finger. His hand is instinctively withdrawn. The withdrawing of the hand was an automatic reflex action, but nevertheless belongs to the domain of volition. As he moves about the room to accomplish his purpose he starts walking. Walking is started by a deliberate action of will power, but once initiated it continues without mental effort. This is an automatic expression of the power of volition.

The painter may be ambitious to paint the flower at once, but the intellectual processes of his consciousness warn him of the fact that he cannot accomplish his aim without certain definite preparation. Before he wields the brush he must study the flower carefully, know the shape of its petals, ascertain the rela-

tion of one petal to the other. This act of the will power which restrains him from a hasty painting of the rose is the inhibitory power of the will—the power to restrain action. From the psychological viewpoint this is possibly the highest attainment of the volitional function of mind.

By this illustration it has been shown that the perceiving of the flower, the feelings that it has engendered, and the activities of the three various functions of the mind considering the rose, have all been correlated and continuous.

It is essential for the reader to get this idea, in order that he may properly understand in what manner insanity in its various forms affects these three functions of the mind. As is stated in the second chapter, in insanity there is a prolonged departure from the individual's usual manner of thinking, feeling and acting. We may further continue with the rose to illustrate these disturbances.

An individual may suffer from some form of insanity due to the introduction of a poisonous substance, such as alcohol, into the body. Delirium tremens may be produced, and the individual suffering from this psychosis may interpret the red rose to be a splotch of blood. The stem may appear to be a snake. As the result of this wrong interpretation of sensory impressions concerning the rose, the individual's emotions are aroused. He is greatly frightened. His face is blanched by fear. His heart may beat at a rapid rate. The hair on his head may rise. His teeth may chatter, and other signs of a great fear may be exhibited. Out of the disorder of his perceptions and the arising of the painful ideas concerning his misinterpretation of the rose the individual's inherent tendencies of self-preservation assert themselves and he attempts to rid himself of the snake by striking the flower with a cane or any other object that may be used as a weapon. Here there is a disorder in his conduct. The harmless flower and the vase which contains it are destroyed by

reason of the fact that the individual has in the first place thought wrongly, and in the second instance has felt wrongly about his environment, and, thirdly, his conduct has been unusual and a departure from the normal.

In the preceding paragraphs the subject of psychology has been dealt with largely in a descriptive manner. We will now turn our attention for a short while to that portion of modern psychology which deals with the question of behavior, or which has been termed behavioristic psychology. This department of the study of mental life deals with human conduct and seeks to explain the reasons for types of human behavior.

In order to know how the mind acts and what forces are behind human behavior, it will be necessary to point out in a brief way the origin and stages of development of the mentality. Just as the body develops, there is in a normal individual a corresponding development of mind. During the infantile period of the individual's life, his parents or those who take the place of his parents, whether it be individuals or the state, supply him with the necessities of life. The child does not have the capacity to acquire these necessities himself, and makes his wants known by crying or talking, depending upon his age level. As the person grows older he finds it necessary to develop certain definite powers to acquire food and clothing, and in order to do so he enters into competition with his fellows and into conflict with the conditions of his environment which hinder him from securing what he desires.

With the development of the powers of the mind, new and enlarged conceptions of life take place. The individual becomes discontented with what he has. Spurred on to accomplishment by the dynamic force of discontent, he strives to fulfill his ever-increasing demands. He finds, however, that he must conduct his struggle along lines that have been appointed and fixed by social customs, and if he deviates from the established methods

of satisfying his desires he is likely to be regarded as anti-social and criminal. The wide gulf between an individual's ambitions and his power to gratify them is the source of the conflict which is the basis of mental development.

Among both the sane and the insane two methods are pursued to secure the satisfaction of desires. One method is to do those things which will gain for the individual that which he wants. The other method is to use the fairyland of childhood and "make believe." The first mode of effort results in voluntary acts. By the second method the individual escapes the realities of life and avoids the conflicts and pains attendant upon them by day-dreaming and wishing.

As the normal individual grows older mentally he exercises the power of judgment and sacrifices the gratification of temporary desires to a well-outlined plan of accomplishment which is worth far more to him in his struggle for attainment than the mere satisfaction of an infantile whim. The desire for the immediate gratification of wishes is pushed into the background of consciousness by what the psychologists call repression. With the process of mental development the subconscious or unconscious mind is surcharged with repressed ideas and desires. To note this fact is essential in the practice of psychiatry, for out of this limbo of the unconscious spring the disorders, in many instances, of human conduct—"mental diseases."

In the various mental disorders we find that the mentally unbalanced individual does not pursue the usual lines of conflict in his endeavor to satisfy his wants. The perceptions are dulled. Often he fails to distinguish the rights of others, as is well illustrated by the conduct in paresis. In this disease the individual fails to understand the property rights of other persons and he appropriates to himself whatever may be in his reach. Stealing is often a symptom of paresis. The hysterical individual suffering from some mental trauma of a sexual nature, by the

aid of phantasy creates an unreal lover. An individual's mind, growing limited by reason of a dementing process, withdraws into itself. Those things which he would like to have, and which he cannot attain by voluntary effort, are supplied to him by the fabrications of delusional states of mind. It is the wish-fulfilling propensity which accounts for the nature of many of the delusions of the insane, and often explains the mechanism of their disordered fancies—hallucinations and delusions.

As ataxia occurs in *tabes dorsalis*, so there is found among persons suffering from mental disorders a state of mental ataxia in which there is a marked incoordination existing between the various functions of thinking, feeling and acting, and this condition of disequilibrium is responsible for many of the well-defined symptoms of insanity. The hysterical individual may suffer from *astasia abasia* because there is not the proper interaction between the processes of thinking and the functions of the volitional qualities of mind. Likewise the hysterical individual suffers from paroxysmal convulsions because of disorders of the will and the emotions. The accumulated disorders and emotional impulses are exploded in uncoordinated, unproductive muscular activities. The powers of volition are in abeyance, and because of the hysteric's self-centered attitude of mind it is impossible for him to perceive his environment in the proper manner and to make intelligent judgments.

In *dementia præcox* there is marked ataxia between the emotions and the intellectual and volitional powers of the mind. The *dementia præcox* patient may be depressed and have apparent reason to be so, yet his conduct at the time of apparent depression is in absolute opposition to the content of his consciousness. He cries when he should laugh, and vice versa.

The mind may be compared to steam in the boiler of an engine and the brain and body to the mechanism of the engine. If the steam is applied to the steam chest so that it may act upon the

piston in the proper manner, the engine is propelled smoothly along the tracks. If, however, there is an escape of steam through the safety valve or through leaky pipes leading to the steam chest, or if there is interference with the motion of the piston, the engine does not move as it should. So when that expression of life called mind manifests itself through the medium of a disordered brain, there is produced a perverse, defective or abnormal action of the mentality and an improper discharge of mental energy, resulting in disorders of conduct or mental disease.

DIAGRAMMATIC EXPLANATION OF THE MIND OR PSYCHE,
SHOWING THE MANNER OF ITS ACTIVITIES

Mentality is represented by a circle within which is a smaller circle representing the consciousness, used to indicate that the individual is aware of his own existence and conscious of the fact that he thinks, feels and acts.

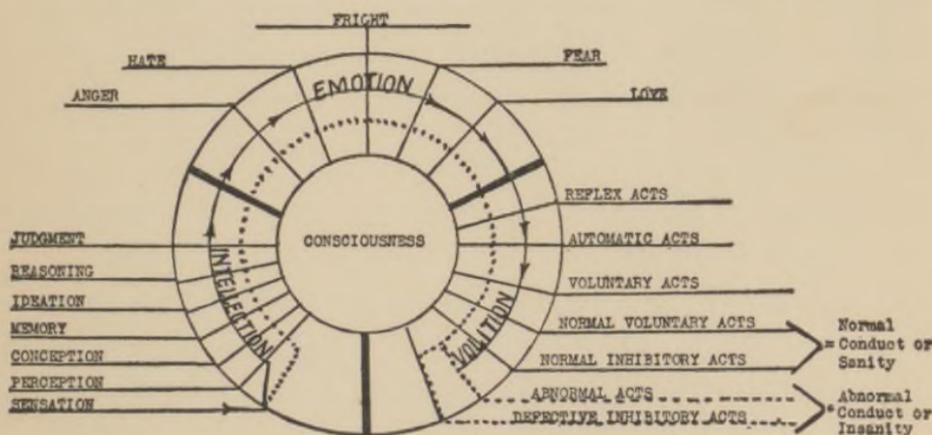


FIG. 1

From the outside world there is carried into consciousness a stimulus through the afferent nerves, and the recognition of this stimulus produces a sensation. Sensation leads to a perception. The perceptions are multiplied to form conceptions. New con-

ceptions are called into being by the process of memory, and by the comparison of present conceptions with those of the past, ideas are formed. These ideas are grouped, comparisons are made and new ideas are formed. This process of grouping ideas and comparing them is known as the process of reasoning. As the result of the process of reasoning, judgments are formed. The process of thinking, which began with sensation, is continued, and each thought is attended by some feeling which is agreeable or disagreeable. Various emotions are mentioned in this diagram for the purpose of illustration. As the result of thinking and the emotional content of the mind, definite voluntary and inhibitory acts take place. An individual's action in relation to his environment is termed conduct.

This diagram illustrates that the normal processes of thinking, feeling and acting are continuous and connected, from the first step in intellection, that of sensation, to the last step, that of acts resulting in conduct. The dotted line is used to indicate that there is some definite disorder or perversion of the intellectual, emotional or volitional function, singly or together, which results in disordered conduct or insanity.

CHAPTER II

DEFINITION AND CLASSIFICATION OF MENTAL DISORDERS

The practitioner is called upon in his daily work to solve problems and to bear responsibilities of every variety and degree, which demand for their solution a broad medical knowledge and a keen sense of diagnosis. Major surgery often becomes his duty in times of stress and necessity. The problems of public health are in his keeping. In his rôle of family physician and adviser, enigmas of the most delicate nature are submitted to him, and not the least of the problems which confront him are those pertaining to the subject of mental disease.

Often the general practitioner is called upon to pass an opinion as to whether or not an individual possesses testamentary capacity. Again, he is a member of a lunacy commission, there to certify whether or not a citizen is insane, and whether or not he should be deprived of his liberty and the right to control property. Frequently he is asked by the court to testify in the capacity of expert witness as to the sanity or insanity of an individual who has committed a crime or misdemeanor. In this rôle the physician's skill and patience are often tried to the last degree because of his limited working knowledge of mental disease and the difficult conditions under which he is compelled to testify.

The term "insanity," as generally employed, is a fruitful source of confusion and misapprehension, because one fails to discern that this word as commonly used is a legal term. When the general practitioner is called into court as a medical witness he should make plain in giving his testimony that there is a

difference between medical and legal insanity. The medical definition is one concerned with any deviation or departure of the individual from his usual or normal manner of thinking, feeling and acting. The law is concerned with what the individual does, what he may do, and whether or not he is responsible (and the method of determining this responsibility), and in what way society shall be protected from the mentally irresponsible. The law is not concerned with any pathology in a person's mental constitution or behavior unless that person's relationship to society is so altered that there is conflict with the legal rights of others. The technicalities of psychology and psychiatry do not concern the law except as they may be interpreted by the physician at the order of the Court, to aid in the administration of equity and justice.

The aim of medicine is the restoration of the individual to his normal mental status. The law seeks the protection of society and is not concerned with the individual except in his relation to the social body. It is therefore apparent that a person may be insane in the medical conception of that term, and as such require medical treatment, but unless his actions are of such a nature as to require legal restraint, he is not legally insane.

Aside from the legal aspects of insanity, the imperative necessity for the early recognition of mental disorder is obvious. If one expects to secure favorable results in the treatment of the insane, the proper medical measures and isolation must be instituted before organic changes develop in the brain substance, or before the underlying physical diseases have progressed so far as to make restoration impossible. By the early recognition of mental disorders it is possible to protect patients and their families against serious disgrace and financial loss which might otherwise be incurred. In order to perform the important duties which devolve upon the general practitioner, it is essential that

he make himself familiar with the varied manifestations of a disordered mentality.

Many times the practitioner is called upon to define the term insanity. Various attempts have been made to do so, but all definitions so far given are more or less imperfect. A perfect definition of insanity is impossible. The following one is to the author the most practical and it meets at least a majority of the medical and legal requirements and for this reason it may be of service here:

“Insanity” is a legal and generic term which is used to define the group of diseases or psychotic reactions in which there is a disorder of the mind due to disease of the brain or other organs of the body, “manifesting itself by a more or less prolonged departure from the individual’s usual manner of thinking, feeling and acting,” and resulting in a lessened capacity for adaptation to his environment, to the degree that the individual may be certified before a legal authority, that he may be deprived of his civil rights.

It will be noticed that the definition emphasizes the DEPARTURE from the usual. This may show itself in a change of characteristics, emotions, morals and conduct, or it may be evidenced by an exaggeration of the natural tendencies. It is necessary that this departure be more or less *prolonged*, or else the definition would include many temporary deviations of thinking, feeling and acting, such as those resulting from the temporary effects of alcohol, the delirium of fever, the conditions of confusion and the unconsciousness following traumatism. These transient departures do not constitute legal insanity. This definition speaks of the individual’s normal mental status. We cannot compare the behavior of one individual with that of another, for no two individuals think, act or feel alike under the same environment. It is therefore necessary, in our attempt to diagnose an individual’s mental status, that we compare his

present actions with his past behavior, and in relation to the usual standards of his race and nationality.

Mental disorders have been classified upon the following bases:

ETIOLOGICAL

PSYCHOLOGICAL

PATHOLOGICAL

CLINICAL.

ETIOLOGICAL CLASSIFICATION

None of these classifications can be complete or strictly accurate for all mental disorders. The etiological factor may apparently be the same and yet in various psychoses very widely different types of disease may be produced, as is the case with the etiological factor alcohol. This drug does produce many varieties of mental disorder. The varieties are dependent upon the reaction of the individual to the drug. Alcohol may be the exciting factor for the production of delirium tremens, alcoholic hallucinosis, Korsakow's psychosis and other forms.

Syphilis produces a variety of mental symptoms. Often two etiological factors will act together in the production of a mental disorder, and in some forms of alienation the etiological factor can not with absolute certainty be determined.

PSYCHOLOGICAL CLASSIFICATION

Attempts have been made, especially in recent years, to classify mental diseases upon a psychological basis, and while a classification upon such foundation answers in a number of instances it fails in others. A psychological explanation of syphilitic psychoses is not satisfactory, because the all-important factor in this group of mental disorders is syphilis, and the recognition of syphilis as the causative factor determines in a large measure the treatment the patient is to receive. Psychology may explain

the mechanism of the patient's delusions or hallucinations, but it has no therapeutic value in this instance. On the other hand, the psychological analysis of hysteria is of great material value in assisting the hysterical patient in making an efficient adjustment to the society in which he lives.

PATHOLOGICAL CLASSIFICATION

In general medicine the safest classification of mental diseases is made upon the pathological basis. Only a few of the mental diseases can with absolute certainty be classified from such a viewpoint, because we have thus far failed to discover sufficient pathology in the brain substance or any other parts of the body to account for the symptoms the patient may exhibit. Often the symptoms are far in excess of the slight pathological conditions that are found, and the reverse is true. The pathology of dementia præcox is still a matter of question. Certain pathological conditions have been found to exist with the dementia præcox group of diseases, yet it is difficult to distinguish between the anatomy that is associated with this disease and that which stands in etiological relationship to it.

CLINICAL CLASSIFICATION

The oldest and most popular method of classifying diseases has been upon the basis of clinical findings. Certain groups of symptoms have been found to occur with great regularity when certain etiological factors were present, and this grouping has been more or less constant. As a result of this uniform grouping of symptoms certain forms of mental disorder were thought to be definite clinical entities, and to each group of symptoms there was given a definite label. The naming of mental disorders has been essential in the development of psychiatry and has served to arrange the phenomena of mental medicine in a more or less concise, definite and orderly manner so that a work-

ing basis was possible. However, it is at once apparent that this method is likewise faulty. A state of mania or depression may occur as a part of the clinical picture of all the psychoses, yet it would be fundamentally wrong to call every state of alienation, melancholia, because the patient exhibited depressive symptoms. Obviously it is likewise wrong to call all diseases paranoia in which delusions of persecution are found. Classifying mental diseases upon symptoms alone has often resulted in the overvaluation of certain symptoms and the consequent obscuring of the etiological factor of the disease, to the injury of the patient. In former times, when a patient's mental disorder was labeled, the clinician was often inclined to think that his duty had been done. This was only too true of dementia præcox. Too often the patient was placed in a hospital for the insane, and looked upon as hopelessly ill, because his disease had been classified as dementia præcox. This nihilistic attitude is rapidly passing away under the modern dynamic trend of psychiatry.

The modern tendency in psychiatry is to use names as vehicles of thought, chiefly so that there may be an agreement of definition for practical working, but the greatest effort is put forth to study the individual in relation to his life history and his manner of adjustment to his environment. We seek to get a view of the patient in longitudinal section rather than in cross section. We study his type of reaction to social conditions. The individual is analyzed not upon a single classification, as was often attempted in former days, but with a view to discover, if possible, the etiology which lies at the base of his trouble. [This can only be done by a careful investigation of the etiological and pathological conditions found, the psychological analysis of the mechanism of his symptoms and the proper grouping and arranging of the symptoms which the patient exhibits. In other words, very briefly, an attempt is made to understand the patient and not merely to classify his disease. The classification of

mental diseases which recognizes and embraces all four aspects of the problem just touched upon is the one that is most satisfactory for the teaching and the practice of psychiatry.

In this volume the classification of mental diseases as outlined by the American Psychiatric Association will be followed, except for slight modification. This classification has been approved by the National Committee for Mental Hygiene, and is being used by the most progressive institutions in America. The chapters outlined will follow the arrangement here shown:

PSYCHOSES, TRAUMATIC

- Traumatic delirium
- Traumatic constitution
- Post-traumatic mental enfeeblement.

PSYCHOSES, SENILE

- Simple deterioration
- Presbyophrenic type
- Delirious and confused states
- Depressed and agitated states in addition to deterioration
- Paranoid states
- Pre-senile types.

PSYCHOSES WITH CEREBRAL ARTERIOSCLEROSIS

GENERAL PARALYSIS

- Tabetic type
- Cerebral type.

PSYCHOSES WITH CEREBRAL SYPHILIS

PSYCHOSES WITH HUNTINGTON'S CHOREA

PSYCHOSES WITH BRAIN TUMOR

PSYCHOSES WITH OTHER BRAIN OR NERVOUS DISEASES.

- Cerebral embolism
- Paralysis agitans
- Meningitis, tubercular or other forms
- Multiple sclerosis

Tabes Dorsalis

Acute chorea.

PSYCHOSES-INTOXICATION

Pathological intoxication

Delirium tremens

Korsakow's psychosis

Acute hallucinosis,

Chronic hallucinosis

Acute paranoid type

Chronic paranoid type

Alcoholic deterioration

Other types, acute or chronic

Opium (and derivatives), cocaine, bromides, etc., alone or combined

Metals, as lead, arsenic, etc.

Gases

Other exogenous toxins.

PSYCHOSES WITH PELLAGRA

PSYCHOSES WITH OTHER SOMATIC DISEASES

Delirium with infectious diseases

Post-infectious psychosis

Exhaustion-delirium

Delirium of unknown origin

Cardio-renal diseases

Diseases of the ductless glands

Other diseases or conditions.

MANIC-DEPRESSIVE PSYCHOSES

Manic type

Depressive type

Stupor

Mixed type

Circular type.

INVOLUTION MELANCHOLIA

DEMENTIA PRÆCOX (Simple type)

Paranoid type

Catatonic type

Hebephrenic type.

PARANOIA

PARANOID STATE

PSYCHOSES, EPILEPTIC

Deterioration

Clouded states

Other conditions.

PSYCHOSES, HYSTERICAL

PSYCHASTHENIA

NEURASTHENIA

ANXIETY NEUROSES

PSYCHOSES WITH CONSTITUTIONAL PSYCHOPATHIC INFERIORITY

PSYCHOSES WITH MENTAL DEFICIENCY

UNDIAGNOSED PSYCHOSIS

EPILEPSY WITHOUT PSYCHOSIS

ALCOHOLISM WITHOUT PSYCHOSIS

DRUG ADDICTION WITHOUT PSYCHOSIS

CONSTITUTIONAL PSYCHOPATHIC INFERIORITY WITHOUT PSYCHOSIS

MENTAL DEFICIENCY WITHOUT PSYCHOSIS

Idiocy

Imbecility.

SYNOPTICAL TABLE OF THE CAUSES OF MENTAL DISEASES

Causes of Mental Diseases	Predisposing Factors	General	{ Stress of civilization Age Sex Education Habits Sexual life Climate Civil condition
		Individual	{ Inherited predisposition Acquired predisposition
	Exciting Factors	Psychic	{ Repressed painful ideas Great emotional shock Worry Anxiety Sexual trauma Religious excitement
		Physiological	{ Puberty Menstruation Pregnancy Childbirth Lactation Climacteric Senility
		Pathological	{ Syphilis Epilepsy Hysteria Influenza Malaria Tuberculosis Typhoid fever Autointoxication Perverted internal secretion Exhaustion Focal infections Cariou teeth
	Exogenous intoxications		{ Alcohol Morphine Cocaine Laudanum Cannabis indica Various other narcotic drugs Arsenic Lead Mercury
			Traumatic

CHAPTER III

CAUSES OF MENTAL DISEASE

The causes of insanity may be divided into two main classes—predisposing and exciting—as in all forms of disease. The predisposing causes are those inherent qualities of an individual's constitution which render him susceptible to the development of insanity in the presence of favorable circumstances. The exciting factors are those agencies or conditions which actually precipitate a mental disorder. The mind of an individual who is predisposed to insanity is like a delicately balanced scale. The exciting factor is comparable to a weight which disturbs the equilibrium of the scale.

PREDISPOSING CAUSES

Individual Causes.—It has been found that an inherited predisposition to insanity is present in about 50 to 90 per cent of all cases. Heredity, as relates to insanity, is the transmission of certain mental or physical qualities from the parents to the children which predispose them to mental disorders. Heredity may be divided into similar and dissimilar forms. In similar heredity the offspring may suffer from the same disease which afflicted the progenitors. In dissimilar heredity the identical disease is not inherited, but some other neuropathic taint is found in the offspring. For example, the child of an epileptic father may be subject to the development of hysteria or some form of dementia præcox.

Mendelian Hypothesis.—In what human characters has Mendelian inheritance already been proven? The most clearly

established Mendelian character in man is eye-color, in which brown is dominant over blue, owing to the presence or absence of pigment on the interior surface of the iris. Other characters which seem to follow Mendelian lines are: color-blindness, hair color and curliness, albinism, brachydaetylysm, syndactylysm, polydaetylysm, keratosis, hæmophilia, congenital stationary night blindness, certain forms of deaf-mutism, cataract, and Huntington's chorea. Pathological traits seem in the main to be dominant. Retinitis pigmentosa, albinism and alkaptonuria seem to be recessive. Hæmophilia is peculiarly "sex limited," being dominant in the male and recessive in the female, and is, therefore, transmitted through the female, but affects the male.

It has been agreed by the most prominent alienists that many forms of nervous and mental diseases are apparently hereditary. Among these disorders are chorea, manic-depressive insanity, dementia præcox, epilepsy and feeble-mindedness. It has also been shown that a neuropathic constitution which renders individuals susceptible to acute mental diseases is also an inheritable condition. The truth of these two statements has been thoroughly established.

In accordance with the general principle of the Mendelian hypothesis it would be quite possible to foretell the character of the progeny of certain matings. The accompanying chart (Fig. 2) indicates the various unions and their offspring. The squares represent males; the circles females; a white square or circle represents a normal individual; a solid black square or circle indicates a neuropathic individual capable of transmitting neuropathic tendencies.

I. Both parents normal, all the children will be normal.

II. Both parents defective, all the children will be defective.

III. One parent being normal, but with a neuropathic taint from one grandparent, and the other parent defective, half of the children will be apparently normal, but capable of trans-

MEDELIAN INHERITANCE CHART.

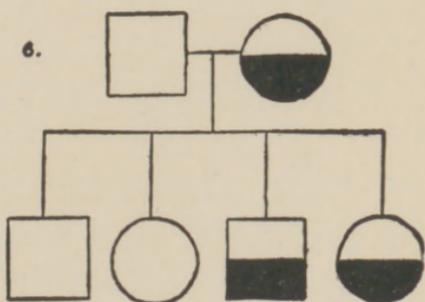
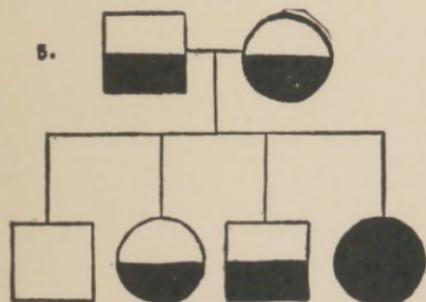
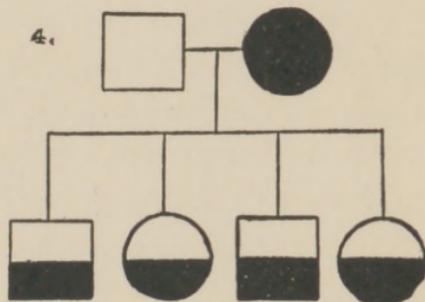
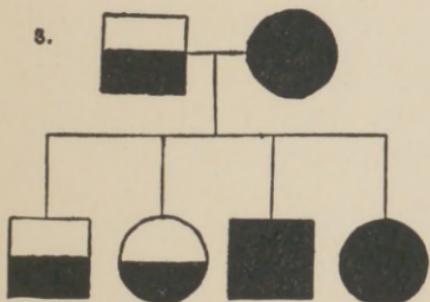
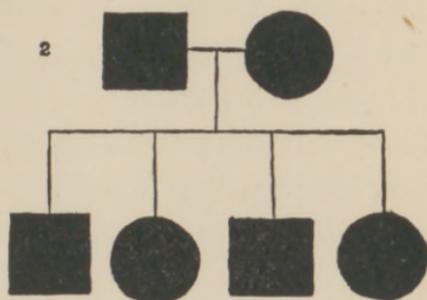
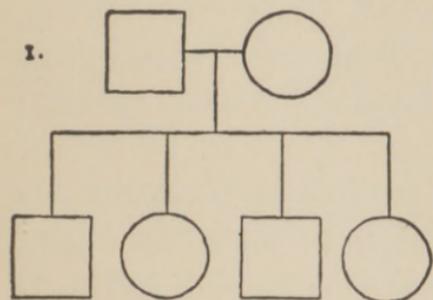


FIG. 2

mitting the neuropathic constitution to their offspring, and half will be neuropathic.

IV. One parent being normal and of pure normal ancestry, and the other parent neuropathic, all of the children will be apparently normal but capable of transmitting the neuropathic constitution to their offspring.

V. Both parents being normal, but each with a neuropathic taint from one grandparent, one-fourth of the children will be normal and not capable of transmitting the neuropathic constitution to their offspring, one-half will be apparently normal but capable of transmitting the neuropathic constitution to their offspring, and the remaining one-fourth will be defective.

VI. One parent being normal and of pure normal ancestry, and the other parent apparently normal but with a neuropathic taint from one grandparent, half of the children will be normal and incapable of transmitting the neuropathic constitution to their offspring, and one-half will be apparently normal but capable of transmitting the neuropathic constitution to their offspring.

Climate.—Climate does not have a direct influence on the development of insanity, but the excessive heat conditions which occur in tropical regions so undermine the vitality of certain persons that they are rendered more susceptible to mental alienation. According to some authorities people who live in northern climates are more given to depressive forms of insanity than the races which live in southern zones, who seem to be more subject to maniacal episodes. This may, however, be due to racial characteristics and not to climatic conditions.

Civil Conditions.—We find more insane among single than among married persons. This is perhaps due to the fact that the single individuals are given to greater irregularity of habits, especially those relating to alcohol and sexual practices. Yet

it must be borne in mind that many individuals are unmarried because of neuropathic tendencies and sexual abnormalities.

Civilization.—The stress of modern life which has rendered more keen and acute the struggle for existence and which has created a taste for liquors, drugs, idleness and debauch, has also favored the increase of mental disorder. The great centers of population, with their hurry, excitement, worry and unnatural modes of living, contribute to the population of our hospitals for the insane in a far greater ratio than do the rural districts. Extreme isolation, however, has been found to be associated with depressive types of mental disorder.

Education.—Excessive study or an ill-balanced mode of education has a tendency to give opportunity to the expression of inherited nervous defect. It must be borne in mind that although the educated classes furnish but a relatively small percentage of patients in public institutions for the psychopathic, the number of patients from these classes is far greater in private sanitariums.

EXCITING CAUSES

Psychic Causes.—Great mental shock, long continued worry, anxiety, excessive grief, mental sexual trauma, all exert an influence for the development of insanity. These agencies must not be overestimated, however, for they are sufficient, usually, to produce mental alienation only when they act upon fertile and predisposed soil.

Physiological Causes.—The physiological stress which attends puberty (both sexes included), menstruation, pregnancy, childbirth, lactation and the menopause are sometimes attended by mental disturbances which frequently result in more or less permanent mental disorders.

Pathological Causes.—Certain of the infectious diseases are frequently followed by a train of mental symptoms. This is

particularly true of influenza, typhoid fever and malaria. Syphilis may be attended by psychotic symptoms at any stage of its course. Approximately 25 per cent of all admissions to institutions are due to the direct and indirect influence of syphilitic disease.

The post-febrile insanities may be due to exhaustion or nervous fatigue which attend them or to the disastrous effects of the infectious agent on the central nervous system. Perhaps it would be more correct to say that the febrile insanities are due to the effects of both factors.

Traumatic and Surgical Causes.—Some cases of insanity have a more or less well-defined onset dating from some injury to the head or spinal column. Great loss of blood attended by exhaustion acts as an exciting cause. Insolation and electric shock often contribute in a measure to mental disease. It has been established by clinical experience that operations on the eye or genitalia, chronic irritating conditions due to uncared-for surgical needs, such as lacerations of the generative organs in the female, impacted teeth, cord and brain tumors, are exciting and causal factors for the production of mental disorders.

Toxic Causes.—Under the head of toxic causes we have two varieties. First, the exogenous class, or those deleterious substances which are taken into the body. Within this class we may include alcohol, cocaine, morphine, cannabis indica, chloral, and other drugs. Arsenic, mercury and other metallic drugs have been agents in producing psychoses. Second, the endogenous class, composed of those poisons which originate within the body. This class exerts its untoward influence by deranging the body metabolism and poisoning the body fluids. Disturbances of the function of the endocrine glands, the testicles or the ovaries, and chronic focal infections such as diseased tonsils, carious teeth and similar sources of pus dissemination, are examples of this type. Conditions of autointoxication develop

from a function of the liver, kidneys and intestines to such an extent that the general nervous system may be markedly affected.

GENERAL CONSIDERATIONS

It must be remembered, however, in considering the causes of insanity, that none of them act singly or alone. Alcohol, syphilis and bad heredity are often found in combination. An individual with a stable nervous system may withstand trauma, but an individual with a poorly synthesized nervous organization may develop psychotic symptoms following the slightest degree of injury. All factors—psychic, physiological, pathological, toxic and traumatic—which may be active in the possible production of insanity in a given case, must be carefully studied in conjunction with the effects of heredity and environmental influences.

CHAPTER IV

SYMPTOMS OF MENTAL DISORDERS

The symptoms of mental disorder may be divided into two classes, psychic and somatic. The mental symptoms may be divided into disorders of intellection, disorders of emotion and disorders of volition. The somatic symptoms may be divided into physical and neurological groups.

DISORDERS OF INTELLECTION

Disorders of Consciousness.—First among the disorders of intellection are the disturbances of consciousness:

1. CLOUDING OF CONSCIOUSNESS.
2. CONFUSION.
3. DELIRIOUS STATES.
4. STUPOROUS STATES.
5. STATES OF SOMNOLENCE.
6. COMATOSE STATES.
7. SYNCOPE.
8. LETHARGY.
9. DREAM STATES.

Clouding of Consciousness.—This is a condition of mind in which the perceptions of environment are faulty, owing to a dulling of perception; a defect in the mechanism of sensation which gives the brain but an imperfect visualization of external stimulation. Consciousness may be clouded by alcohol or drugs, or it may be affected by endogenous poisons circulating in the blood. Disturbances of consciousness may be slight or extreme.

Confusion.—In states of confusion the patient is in a daze. He imperfectly perceives his environment. His voluntary attention is markedly impaired. Conversation is incoherent and disconnected. The speech is fragmentary and contradictory. In this condition the patient has hallucinations, delusions and illusions. He is unable to make a decision and is quite helpless because of this state of indecision.

Delirious States.—In this condition there is rapid change of the emotions. The patient is alternately happy, elated, depressed, irritable and apprehensive. His speech is rambling and incoherent and is usually concerned with his feelings. There is great restlessness. The patient picks at the bedclothes and fumbles with objects within his reach. Delusions and illusions of a transient character are noted. There is usually a history of physical illness in these cases, or the patient is found to be ill. These delirious states are generally accompanied by elevations of temperature.

Stuporous States.—These are conditions which attend mental disorders, notably in dementia præcox and in the depressive phase of manic depressive insanity. In the milder types of stupor consciousness is not usually disturbed. It remains clear, the patient being aware of what is going on about him. Yet he remains in a state of more or less cloudiness, apparently taking no cognizance of his environment. In some forms of stupor consciousness is greatly clouded. The patient is disoriented as to time, place and persons, and all voluntary motion is abolished.

States of Somnolence.—Somnolence is a condition of incomplete sleep, from which a patient may be roused by energetic stimulation. As soon as the stimulation subsides the patient falls again into the condition of somnolence.

Comatose States.—Coma is a state of complete loss of consciousness from which the patient cannot be aroused even by the most powerful stimulation. It is attended by stertorous breath-

ing, loss or impairment of sphincteric control, and cyanosis of the face. This condition occurs in poisoning from alcohol, morphine, cocaine, chloral and veronal, and in apoplexy, fracture of the skull, meningitis, diabetes, Bright's disease, eclampsia, syphilis and brain tumor.

In all cases of coma the urine should be immediately examined and the patient given a careful general examination. In coma the pupillary, corneal, skin and tendon reflexes are diminished or abolished.

The term coma is often very loosely used and applied to the various types of more or less profound loss of consciousness. Several types of coma have been differentiated. They are as follows:

Opium Coma.—PULSE.—At first slow and full; becomes very rapid and thready.

RESPIRATION.—Noisy at first; slow; finally from three to twelve per minute; then irregular.

TEMPERATURE.—Normal, usually, with a rise before death.

PUPILS.—Pinpoint type; miotic; no light reaction. Often dilate before death.

REFLEXES.—Abolished or diminished.

FACE.—Dusky; cyanotic.

EXTREMITIES.—Usually cold and cyanotic.

ODOR.—May have odor of opium or paregoric.

URINE.—May show traces of opium or its alkaloids.

The coma may be of a mild, moderate or profound type. If not profound, the patient may be able to answer questions shouted at him and to respond to mild stimulation. In profound coma there is no response and the condition often ends in death.

Alcoholic Coma.—PULSE.—At first rapid and full, becoming thready and feeble.

RESPIRATION.—Noisy and full, later becoming rapid and shallow in fatal cases.

TEMPERATURE.—Usually normal. May be sub-normal. In fatal cases it is sub-normal.

PUPILS.—May be dilated, irregular in outline, unequal in size—no uniformity.

REFLEXES.—Usually normal. May be irregular or absent. Coma is often associated with organic disease of the brain.

FACE.—At first flushed and then pale. In chronic alcoholics there is a flushed or cyanotic face, marked by dilated capillaries.

EXTREMITIES.—Cold, covered with a clammy perspiration.

ODOR.—Odor of alcoholic liquor on the breath.

URINE.—Usually negative.

Epileptic Coma.—PULSE.—Usually full and strong. Rate increased in status. Irregular, rapid and feeble.

RESPIRATION.—Rapid at first, then decreased, then stertorous.

TEMPERATURE.—Normal or slightly above normal. In status it may be several degrees above normal.

PUPILS.—May be contracted, dilated, and may not respond to light. Cornea is insensitive.

REFLEXES.—Diminished or absent.

FACE.—First cyanotic, then pale, later suffused. Head turned to the side. Bloody saliva present. Tongue and cheeks bitten; scars on face.

EXTREMITIES.—Warm; hands purple.

ODOR.—There is no characteristic odor.

URINE.—Loaded with phosphates and other organic material.

SPHINCTERIC CONTROL.—Often lost, especially of the bladder.

PREVIOUS HISTORY.—Usually a history of epileptic or convulsive attacks.

The coma is usually of short duration, except in cases of status, where it may last from a few hours to two or three days.

Hysterical Coma.—PULSE.—Normal.

RESPIRATION.—Spasmodic. Violent movements of the chest are often noted. Never stertorous.

TEMPERATURE.—Normal.

PUPILS.—Respond to light. Cornea is insensitive at times.

REFLEXES.—Present. May be slightly increased.

FACE.—Normal. Color, pale; occasionally cyanotic because the patient unconsciously holds his breath.

EXTREMITIES.—Negative.

ODOR.—No characteristic odor.

URINE.—Pale, limpid, excessive.

SPHINCTERIC CONTROL.—Not lost.

PREVIOUS HISTORY.—History of emotional disturbance; convulsive attacks.

The coma is of short duration and never profound. The patient can be restored to consciousness by shouting, stimulation by pin pricks, a dash of cold water or a spray of ether.

Uremic Coma.—PULSE.—Rapid; full. High tension at first, then irregular, thready and feeble.

RESPIRATION.—Full, deep, increased in rate, then becoming slow and irregular. Cheyne-Stokes breathing.

TEMPERATURE.—First normal, then sub-normal. Occasionally elevated just at death.

PUPILS.—No uniformity. Pupils may be normal, contracted, or widely dilated. More often they are contracted.

REFLEXES.—Diminished or in abeyance.

FACE.—Cyanotic, then pale. Usually edematous.

EXTREMITIES.—Edematous, cyanotic, rigid.

ODOR.—Breath offensive—odor of urine.

URINE.—Contains albumen and casts, epithelial cells and ammoniacal salts.

SPHINCTERIC CONTROL.—May be lost.

PREVIOUS HISTORY.—Headache, dizziness, vertigo, choked disc.

Apoplectic Coma.—PULSE.—Full, strong, growing weaker with the length of coma.

RESPIRATION.—Slow, stertorous, often Cheyne-Stokes.

TEMPERATURE.—Usually above normal.

PUPILS.—Do not react to light. Unequal in size, usually dilated. Conjugate deviation of the eyes.

REFLEXES.—Unequal, increased or absent on the paralyzed side, according to the location of the lesion.

FACE.—Paralyzed on one side; drooping of the angle of the mouth; absence of wrinkles; flapping of the cheek.

EXTREMITIES.—Paralysis in one or both extremities; flaccidity of the paralyzed side; hemiplegia.

ODOR.—No characteristic odor of the breath.

URINE.—Negative, usually. May show casts, albumen, granular cells.

SPHINCTERIC CONTROL.—Usually retained.

PREVIOUS HISTORY.—Patient past fifty years of age. Evidence of arteriosclerosis. Coma abrupt. Signs of cerebral arteriosclerosis.

Paretic Coma.—PULSE.—Rapid, feeble, thready.

RESPIRATION.—Shallow; rapid.

TEMPERATURE.—Normal or elevated.

PUPILS.—Rigid, as a rule. May respond slowly to light. Unequal in size and irregular in outline.

REFLEXES.—May be increased, diminished, absent or unequal.

FACE.—Masklike; lines effaced; pale.

EXTREMITIES.—Warm or cold, depending on the general condition of the patient. Often marked with syphilitic scars.

ODOR.—No characteristic odor of the breath. There may be odor about the patient due to the fact that he is untidy and soils himself.

URINE.—May show casts, albumen and ammoniacal salts.

SPHINCTERIC CONTROL.—Lost.

PREVIOUS HISTORY.—Often a history of syphilis. Positive Wassermann of the blood and spinal fluid. History of the presence of the neurological signs of paresis. Syncope. Convulsions.

Diabetic Coma.—PULSE.—Full; strong; often bounding. Later weak and thready.

RESPIRATION.—Normal, deep, or frequently increased.

TEMPERATURE.—Usually subnormal.

REFLEXES.—Tendon reflexes present.

FACE.—Pale.

EXTREMITIES.—Of the same temperature as rest of body; usually subnormal.

ODOR.—Breath has sweetish, fruity odor.

URINE.—Contains sugar.

SPHINCTERIC CONTROL.—May or may not be lost.

PREVIOUS HISTORY.—History of the classical signs of diabetes.

Syncope.—Syncope is a temporary suspension of consciousness due to cerebral anemia.

Lethargy.—Lethargy is a condition of drowsiness of mental origin. This condition follows mental and physical shock. It is associated with muscular relaxation and tremor of the eyelids, isolated movements of groups of muscles or a limb, and a condition of incomplete anesthesia of the body. There is usually but slight change in the appearance of the skin.

Dream States.—In these conditions there is a defect of consciousness in which the environment is imperfectly perceived. The condition that exists just before passing from consciousness into sleep or waking out of sleep into consciousness is typical of the dream state.

Orientation.—When consciousness is very much disturbed, orientation will be defective.

Spatial Orientation.—When an individual fully appreciates his position with reference to persons, to objects, to buildings, to cities, etc., he is oriented in the spatial sphere.

Personal Orientation.—When a person is fully conscious of his own identity and the identity of others about him, he is personally oriented.

Temporal Orientation.—When a subject knows the time of day, day of the week, the month and the year, he is oriented in the temporal sphere. An individual may be disoriented in one or all of the spheres. He may be partially oriented in all the spheres. Disturbances of orientation are common in mental diseases.

Hallucinations.—An hallucination is a false perception subjective in character, not based on an external reality; i. e., an individual believes he sees a picture on the wall, when there is nothing to be mistaken for a picture; human voices are thought to be heard by the patient when no sounds are present. Hallucinations of the general feelings or of the special senses are common. They may be bilateral when the sense organs are double, as in the case of the eye or ear. The hallucinations may be unilateral when affecting one organ only, or the hallucination may be different in each organ. There are as many varieties of hallucinations as there are sense organs. They are—

HALLUCINATIONS OF SIGHT

HALLUCINATIONS OF HEARING

HALLUCINATIONS OF TASTE

HALLUCINATIONS OF SMELL

HALLUCINATIONS OF TOUCH

HALLUCINATIONS OF FEELING (SOMATIC)

Illusions.—An illusion is a perverted perception, objective in character, occurring when a sensory stimulation is misinterpreted. For example, a picture on the wall is thought to be a telephone. A peculiar taste in the mouth is thought to be poison. A cane on the floor is interpreted to be a snake.

Delusions.—A delusion is a false belief. Such beliefs are sometimes entertained by sane persons. A delusion of the insane is a false belief due to disease and is retained by its possessor in the presence of physical demonstration or evidence that it is

false. Many false beliefs exist among normal individuals. The negro often believes in ghosts and witchcraft and other superstitions. A neurasthenic class believes in Christian Science and kindred doctrines. These errors of belief, however, are not to be confused with insane delusions whose origin and consequences bear a pathological stamp. Delusions may be divided arbitrarily into a number of classes according to their characteristics. The following classification will serve the practitioner's needs.

A systematized delusion is one which is supported by its possessor with more or less logical argument. This form of delusion is usually intimately associated with the whole of consciousness and therefore exerts a powerful influence on the conduct of its possessor.

An unsystematized delusion is one that is not supported by argument but merely stated by its possessor to be a fact. This type of delusion is most common and is found in the majority of mental disorders.

A fixed delusion is one more or less permanent in character and is usually systematized.

For practical purposes delusions may be classified as follows:

DELUSIONS OF PERSECUTION

DELUSIONS OF SUSPICION

DELUSIONS OF DEPRESSION

DELUSIONS OF A GRANDIOSE NATURE

DELUSIONS OF AN EROTIC NATURE

DELUSIONS OF A RELIGIOUS NATURE

DELUSIONS REGARDING PERSONALITY.

Memory.—In most of the psychoses memory shows some defect. Loss of memory may be partial or complete for a short space of time. It may be periodic, progressive, total, permanent in character, for recent and remote events, for the particular, for the general, for the simple and the complex.

Amnesia.—Loss of memory is termed amnesia.

Retrograde Amnesia.—This type of amnesia is usually due to illness or injury and has a fairly well-defined beginning and ending.

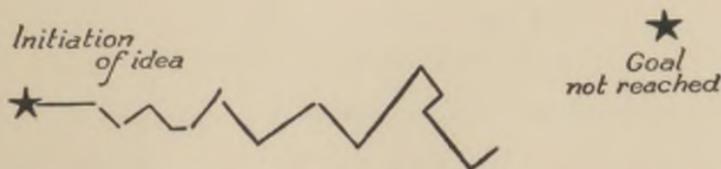
Anterograde Amnesia.—In this type of amnesia the patient is unable to retain memories of experiences. It is a continuous process and is encountered in states of dementia.

Hyperamnesia.—In certain exalted and euphoric states of consciousness the power of memory is apparently increased.

Paramnesia.—This is a term applied to that condition of mind which exists when a person believes that he remembers events or circumstances which never happened. This condition is also termed retrospective falsification.

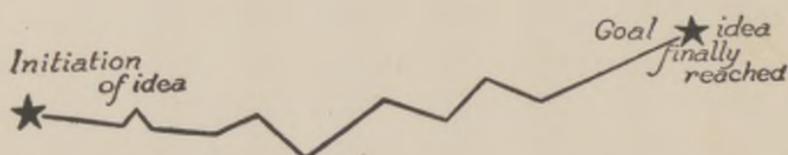
Alcoholic Amnesia.—This condition has been observed in persons who are chronic users of alcoholic beverages. Persons so afflicted may appear to be in a normal state of mind, but in these states of amnesia acts are committed which are not recalled after consciousness has been fully recovered.

Incoherent Ideation or Flight of Ideas.—When this condition obtains the patient is unable to express concisely a definite or goal idea, because there are other ideas rushing into consciousness, "all seeking for expression but none gaining the mastery." As a rule the conversation is full of irrelevant and disconnected statements, as "I am a Mason," "I saw a man," "The tree is," "Do you belong to the church?" "How do you like the fish?"



Circumstantiality.—In this condition of mind the goal idea is finally reached, but the conversation is full of unimportant

detail that is not related to the subject. Circumstantiality is common in the senile and in the illiterate.



Aprosexia.—This is a term applied to the condition of inability to concentrate the mind upon a subject for any length of time. When this condition persists it is regarded as a symptom of mental deterioration.

Hyperprosexia.—This is the name given to the mental condition that exists when the mind is occupied by one thought or idea to the exclusion of others.

Disorders of Personality.—Many patients frequently believe that they are other persons than themselves. It is common to find, in hospitals for the insane, patients who believe themselves to be celebrities of history, as Christ, Napoleon, Moses, or other noted personages.

Depersonalization.—This is a term applied to the condition of mind in which the patient denies the existence of his personality or believes that certain organs of his body are missing or that they belong to other persons or to animals.

Multiple Personality.—This is a state of mind in which the patient seems to have a double or multiple consciousness. These apparent personalities are usually separated from one another by complete amnesia, and the possessor is not aware of his dual personality.

Ganser's Symptom.—This peculiar symptom, observed by Ganser, is one in which the patient gives approximately correct answers to questions. This symptom occurs very frequently in hysteria, in states of constitutional inferiority and in dementia

præcox. If the patient displaying this symptom were asked what is nine times nine, he would likely say it was eighty or eighty-three, or that four times ten is thirty-eight, or five times six is twenty-nine. If the question concerned orientation in the temporal sphere he would be likely to say that the year is 1921 when he should have said 1922. If asked the day of the week he is likely to mention a day later or earlier than the actual day.

Obsessions.—These are persistent ideas that come into consciousness, over which the patient has no control. There are many varieties of obsessions and they very frequently occur in apparently normal individuals. Obsessions may be divided into the following classes:

MYSOPHOBIA, FEAR OF DIRT

CLAUSTROPHOBIA, FEAR OF ENCLOSED PLACES

PYROPHOBIA, FEAR OF FIRE

AGORAPHOBIA, FEAR OF OPEN SPACES

SITOPHOBIA, FEAR OF FOOD

SYPHILOPHOBIA, FEAR OF SYPHILIS

METALLOPHOBIA, FEAR OF METALS.

There are as many types of phobias as there are varieties of fear.

Retardation of Thought.—*Initial Retardation.*—Initial retardation is that condition in which the thinking processes are set in motion slowly.

Executive Retardation.—Executive retardation exists when the thought or action, once having been expressed or commenced, is slowly and deliberately performed.

Paralysis of Thought.—In this condition all mental processes are practically inert, as in the terminal stages of general dementia.

Blocking of Thought.—Thought block is noted in dementia præcox. The patients explain that they find great difficulty in

expressing themselves because "the avenues of thinking are obstructed."

DISORDERS OF EMOTION

All special qualities of the mind, such as egoism, pride, malice, philanthropy, hatred, love, anger, are subject to abnormal expression or repression in mental disorder. The following disorders are the ones most commonly exhibited:

Pathological Elation.—This condition is frequently seen in the insane. It is a state of happiness or satisfaction not in harmony with the condition of the patient or his environment.

Marked Depression.—This is a pathological state of anxiety and unhappiness that is not in accord with the physical condition of the patient or his environment.

Emotional Deterioration.—This is a pathological condition in which the emotions fail to respond to those stimuli which would in health arouse a reaction. The death of a relative, the loss of a fortune, or a disagreeable environment have but little influence on a person so afflicted.

Mercurial Disposition.—This condition is often observed in hysteria, in some forms of dementia præcox and in senile states. Patients so affected are given to laughter, tears and excessive anger. A rapid change of their minds takes place within the space of a few minutes, under the most trivial stimulation.

Morbid Anger.—This condition is often noted in the insane and the feebleminded. The slightest trifles are often sufficient to stir them to excessive and transient outbreaks of temper that sometimes lead to crime.

Emotional Poverty.—This condition is noted especially in dementia præcox. There is a marked diminution in such qualities of the mind as love, honor, altruism, charity and kindred sentiments, under stimuli which would be adequate to provoke such sentiments in the sane.

DISORDERS OF VOLITION

Decreased Psychomotor Activity.—In this condition there is a decrease of all motor activity. The patient thinks and acts in a slow, deliberate manner.

Increased Psychomotor Activity.—In this state the patient thinks rapidly but usually incoherently. He is restless, constantly active, and his endeavors are usually without purpose and definite accomplishment.

Negativism.—This is a condition of mind in which the patient endeavors to do the opposite of that which is asked of him. He even opposes the normal physiological desires. In the active form of this trouble he offers resistance when compelled to act.

Suggestibility.—In this condition the patient's volition is so defective that he is thereby rendered abnormally susceptible to suggestion. Often his limbs may be placed in various uncomfortable positions, in which they will remain until the force of gravity and muscular fatigue draw them down. This condition is known as *flexibilitas cerea*.

Impulsions.—This is the term used to express that mental condition in which the patient feels irresistibly impelled to do certain acts, usually of a disagreeable nature.

Compulsions.—This is a condition similar to impulsion. The patient feels compelled to do certain definite, foolish acts. When he resists the inclination he experiences a sensation of exhaustion and dizziness. With the completion of the compulsive act these symptoms disappear.

Stereotypy.—Stereotypy is the continued repetition of senseless acts. It occurs in three forms.

Stereotypy of Speech, or Echolalia.—This is the constant repetition of certain words or phrases. The term *verbigeration* is also applied to this mannerism.

Stereotypy of Movement, or Echopraxia.—The repetition of

senseless movements. The term mannerism is also applied to this condition.

Stereotypy of Attitude.—This term is applied to that condition in which the patient maintains certain bodily attitudes. The patient usually resists any efforts made to change these positions or attitudes.

Perseveration.—This is the constant repetition in writing or speech of some word or phrase in response to a question.

Complex.—The average individual has his content of mind arranged in a fairly orderly manner. He groups certain ideas about objects in a more or less definite way. When the word "automobile" is brought to his attention he has a constellation of ideas or a grouping of perceptions concerning an automobile. He thinks of the size of the machine, its color, shape, weight, horsepower and mechanism. The higher the mental development of an individual, the better his ideas are grouped and arranged. The contrary is true of those poorly endowed mentally, or without education. All ideas are more or less pleasurable or painful, according to their character, and the quality of feeling or emotion concerning a group of perceptions is the mental substance that binds it together. Every group of ideas is erected upon a background of feeling or emotion. Every individual has had, during his life, experiences which are more or less painful, and he usually tries to push these painful conceptions or groups of ideas into the background, out of consciousness. After a group of ideas has been pushed into the background, out of the main body of consciousness, it continues to have an independent existence, and between it and the main body of consciousness there is established a mental conflict of which the individual may not be aware. In other words, there is a cleavage of consciousness or disassociation of consciousness. The conflict between the main body of consciousness and the disassociated group of painful ideas seeks an avenue of expression, of which the individual

may be unconscious, and there may develop, by reason of this vicarious expression, a neurosis or psychosis. Patients come to the psychiatrist many times with very queer and apparently unexplainable symptoms, and if no organic or functional disease can be discovered as a basis of the psychosis or neurosis, it is necessary for the psychiatrist to discover whether or not there is a mental conflict, or what has been termed a submerged complex or disassociated state.

The identification of this complex is often difficult, for the complex itself, or the group of painful ideas, is disguised in peculiar forms of symptoms or symbols. The following may serve as an illustration:

During youth an extremely religious individual, under the stress of a great cosmic urge, indulged in illicit sexual intercourse. After the act was committed, owing to the individual's moral training, her conscience severely criticized her action. She attempted to repress the memory of the illicit intercourse and to press it into the background, out of the main body of consciousness. The submerged complex or the repressed idea sought for expression. The individual's conception of morality and respect for moral conventions tried to keep the painful idea from coming into the foreground, and as a result of the struggle between the sinful memory and the attempt of conscience to repress it, there developed a marked state of mental conflict. Finally the painful idea succeeded in gaining the mastery of the situation, so to speak, but came into consciousness in a disguised manner, in this instance in the form of an intolerance of anything that had to do with sexual life or experiences, and the individual became exceedingly prudish.

In another case that came under the observation of the author a young woman of extreme piety indulged in periodic sprees of wine-drinking, cigarette-smoking and masturbation, the result of which was a highly neurotic state. By a process of psycho-

analysis it was discovered that the young woman had at the age of fourteen indulged in illicit intercourse. All through adolescence this idea was extremely painful to her, and a great effort was made to push all ideas of sexual matters into the background. The young woman became a religious zealot and took advantage of every possible opportunity to attend divine worship, in an effort to crowd out of consciousness the repressed erotic desire which the first sexual experience had awakened. For a month or six weeks at a time the patient was able to restrain her sexual impulses by faithful church attendance and the reading of religious literature to the exclusion of all else. Periodically the repressed idea would overcome the efforts of a great portion of conscious restraint, and the young woman would then indulge privately in alcoholic sprees, cigarette-smoking and excessive masturbation. In this way her sexual desires were vicariously gratified and her reputation for chastity preserved.

THE SOMATIC SYMPTOMS OF MENTAL DISORDERS GENERAL PHYSICAL STATUS

State of Nutrition.—In melancholia, in states of delirium and in the third stage of paresis there is generally great loss of weight attended by anemia of the skin and mucous membranes. In chronic alcoholism there may or may not be an increase of weight, associated with reddening of the face and dilatation of the facial capillaries. In arteriosclerotic insanity and senile dementia there is generally a wasting of the body tissues. In dementia we may have a disturbance of the vasomotor system. There is lividity and cyanosis of the extremities. Occasionally we find the condition of dermatographia. This, however, may occur in perfectly healthy individuals. Bed sores are common in general paresis. Among the insane we find disturbance of metabolism due to imbalance of the endocrine glands which produce the various well-known conditions of myxedema, giant-

ism and eunuchoidism. We also find the anatomical stigmata of degeneracy, such as deformities of the cranium as regards size and shape, asymmetry of the face, Mongolian development of the face, inferior and superior prognathism, cleft palate, hare-lip and dental anomalies, evidences of inherited syphilis, Hutchinson's teeth, rhagades about the mouth, Morel and Darwinian ears, polydactylism, syndactylism, brachydactylism and malformation and lack of development of the genital organs.

Internal Organs.—Diseases of the heart are common among the insane and especially common in the syphilitic psychoses. Aortic aneurism and aortitis frequently attend paresis.

Pulse.—Bradycardia is common in states of mental depression, coma and stupor and in organic diseases of the brain and spinal cord. A rapid pulse is observed in neurasthenia, hysteria and psychasthenia. In arteriosclerotic dementia there is likely to be an increase in the blood pressure.

Respiration.—In hysteria there is often an increase in the respiratory rate, and conditions resembling asthma. Owing to the convulsive movements of the chest in paroxysms of hysteria, the respiration is often heaving, jerking and irregular.

Vomiting.—Vomiting frequently attends brain disease. It is quite common in tumor of the cerebellum. The gastric crises of tabes and paresis are well known. Regurgitation of the food is a frequent symptom of hysteria. There is usually no nausea attendant upon hysterical vomiting.

Anorexia.—This is common in diseases attended by mental depression and hysteria. It may be of such intensity as to lead to the refusal of food.

Bulimia.—This is an excessive and unnatural appetite for food. It is frequently exhibited in maniacal and demented states, and is very common in paresis.

Meteorism.—This condition is quite often observed in the feeble-minded and in demented and hysterical patients.

Changes of Temperature.—Fluctuations in the body temperature are encountered very frequently in mental diseases. Transient conditions of pyrexia are frequent in paresis, infectious psychoses, abscess of the brain, apoplexy, following epileptic convulsions, and in status epilepticus.

NEUROLOGICAL SYMPTOMS

Only the most important neurological symptoms associated with the psychoses have been mentioned, and for full detail of their mechanism the student is referred to texts on neurology.

Pupillary Disturbance.—The average pupil is from 3–5 mm. in diameter. Irregular and unequal pupils are found in general paresis, tabes and the syphilitic psychoses. Inequality of the pupils may be observed, however, in persons of normal health, but the inequality in such instances does not usually exceed $\frac{1}{2}$ mm. In chronic morphinism the pupil is usually very much contracted (the pin-point pupil). Very frequently the Argyll-Robertson pupil is observed in paresis and in the syphilitic psychoses as well as in tabes dorsalis. The student should familiarize himself with the proper methods of examining the pupils, and the use of the ophthalmoscope.

Iridoplegia.—Rigidity of the pupil always suggests the presence of organic disease of the nervous system and occurs most frequently in paresis, tabes and the syphilitic psychoses. Sluggishness of the pupillary reaction may be a premonitory symptom of iridoplegia.

Amaurosis.—This condition is sometimes psychogenic. It is occasionally found in hysteria. Psychogenic blindness may come on gradually or suddenly and may disappear in the same manner. Blindness appears in organic disease of the visual apparatus and the optic tracts, as in optic atrophy, occurring in tabes and in albuminuric retinitis.

Concentric Constriction of the Visual Field.—This symptom is noted in organic disease of the brain, choked disc, optic atrophy, in hysteria, and occasionally in neurasthenia.

Dysarthria.—Dysarthria is usually found in paresis. With this disease there is generally a twitching of the muscles of the mouth and a wrinkling of the facial muscles in general. In hysteria is often found a condition of stammering. Scanning speech is observed in disseminated sclerosis. Plateau speech is observed in epilepsy. In this condition the conversation is carried along in a monotone, with an occasional elevation of the voice. In the aged there is often a stumbling and reduplication of syllables and transposition of letters and words. This also occurs in paresis.

Aphasia.—Aphasia is a defect shown by the loss of power to express words or ideas in speech, writing or symbols, or to comprehend spoken or written language. The type of aphasia depends on the location of the lesion, which is somewhere in the cortex of the left hemisphere in about the speech centers or their connecting tracts. More than thirty forms have been described, according to the character of the clinical symptoms. Aphasia occurs occasionally in infectious diseases that are attended by meningeal involvement and in cases of trauma to the cortex from falls or blows on the head. It is most frequently encountered in the organic dementias and the syphilitic psychoses.

Ageusia.—Ageusia is the loss of the sense of taste. This condition is often found in the organic dementias and in neurosyphilis.

Anosmia.—This is the loss of the sense of smell and is usually found associated with ageusia; also in local disease of the nasal tract.

Asterognosis.—Asterognosis is the inability to recognize, when the eyes are closed, common objects which may be placed in the hand. It is due to organic disease in the association tracts

of the cortex and to disease of the optic thalamus. It is frequently found in syphilitic psychoses and in paresis.

Apraxia.—Apraxia is a loss of the ability to obey simple commands, such as picking up a book or shutting a door, when no condition of ataxia or paralysis is present. This condition is noted in the syphilitic psychoses, in arteriosclerotic dementia and in Alzheimer's disease.

Paralexia.—In this condition the patient leaves out words or inserts wrong words while reading from the printed page. It occurs in the organic dementias, particularly paresis. Patients displaying this symptom are often able to read but cannot express what they have read.

Agraphia, Paragraphia, Dysgraphia.—In agraphia and paragraphia there are errors in writing due to transposition of letters or words, and due to forgetfulness on the part of the patient. Dysgraphia is due to the inability to write because of tremors or ataxia and corresponds to dysarthria. These conditions are found in organic dementia and in paresis.

Convulsions, Spasms.—Spasms and convulsions of certain groups of muscles are observed in meningitis and in paresis. General convulsions are observed in epilepsy, hysteria and paresis. They will be described in the symptomatology of the diseases in which they occur.

Tremors.—Tremors are due to fatigue, emotional disturbance, intoxications, goitre and organic disease of the nervous system. They occur in senile dementia, paresis, paralysis agitans and disseminated sclerosis. In hysteria and neurasthenia coarse tremors of the body, limbs and hands and fine tremors about the face are observed.

Reflexes.—*Superficial.*—These are the corneal, plantar, abdominal and cremasteric. In testing the corneal reflex the cornea may be lightly touched with a hair. It is absent in coma, in narcosis and in diseases of the Gasserian ganglion. It is often

absent in hysteria. The plantar reflex is elicited by stroking the sole of the foot gently with the finger or a pencil or other instrument. As the result of this stimulation there is a flexion of all the toes. If there is disease in the pyramidal tracts there will be an extension of the great toe, while the other toes may remain passive or be flexed toward the dorsal surface of the foot. In individuals over three years of age the Babinski reflex is an indication of organic nerve disease. It is occasionally observed in paresis and the syphilitic psychoses. The other superficial reflexes are of little value in the diagnosis of mental diseases.

Patellar Reflex.—This reflex should always be tested. It is increased in neurasthenia and nervous states and in nervous individuals under conditions of fear and fright. It is absent in well-developed cases of tabes. It is often increased, unequal or absent in paresis and the syphilitic psychoses.

Sphincteric Control.—Control of the bladder and the rectum is disordered in tabes, paresis and the syphilitic psychoses. Incontinence may occur during an epileptic convulsion. Enuresis is the involuntary reflex evacuation of the bladder which occurs in individuals of constitutional inferiority and in children.

Headache.—*Cephalalgia.*—This may be diffused or localized; may appear as a tight band around the head; may or may not be attended by vomiting. It occurs in neurosyphilis, brain tumor, meningitis, abscess, arteriosclerosis, uremia, anemia, drug poisoning, neurasthenia, hysteria and migraine. This symptom will be described under the individual psychoses. Headaches that are constant call for a careful Wassermann test of the blood and an examination of the urine and the fundus of the eye.

Formications.—Formications, tinglings and numbness occur in organic and functional psychoses. Great care should be exercised in searching out their origin.

Dizziness.—This condition is a frequent symptom in organic disease of the nervous system (tabes dorsalis, paresis, syphilitic psychoses, epilepsy). It is also found in hysteria, neurasthenia, psychasthenia and the anxiety neuroses.

Disturbance of Sensibility.—These conditions are found in functional and organic disease of the central nervous system. Careful diagnostic methods will distinguish between organic and functional disturbances.

CHAPTER V

TRAUMATIC PSYCHOSES

Definition.—The term traumatic psychoses has been applied to groups of psychotic, neurotic and physical symptoms of a more or less definite clinical character, the origin of which may be traced to some trauma, particularly of the head or spine.

The symptoms are so well defined that these disorders may be regarded as definite clinical entities, though it is true that hysteria, neurasthenia, dementia præcox, manic depressive psychosis and paresis may apparently be the sequelæ of injuries that have acted merely as precipitating factors. These diseases are to be eliminated by a process of exclusion. Certain psychotic states follow operations, particularly those upon the eye and about the face or genitals. These are to be classified with the traumatic psychoses group.

There are four main types of psychotic disturbance associated with trauma. They are as follows:

1. POST TRAUMATIC DELIRIUM.
2. TRAUMATIC PSYCHOSIS.
3. POST TRAUMATIC CONSTITUTION.
4. POST TRAUMATIC MENTAL ENFEEBLEMENT.

Etiology.—These psychoses occur more frequently in males than in females, owing to the fact that men, by reason of their hazardous occupations, are more often injured. Persons of unstable nervous organism seem to be more susceptible to the development of these disorders, because of their undue reaction to trauma.

Pathology.—The following pathological conditions have been found at autopsy: œdema of the brain and meninges; minute

hemorrhages in the cortex at the site of the injury immediately after the injury, and remote from the time of injury, scars containing blood pigment; cystic cavities in the brain substance; areas of softening; patches of gliosis, and degenerative changes of the nervous elements.

Symptomatology.—1. *Post Traumatic Delirium.*—Often there develops, after an injury or operation, a more or less protracted delirium which owes its origin to the inflammatory reaction involving the membranes and the brain substance—a localized meningoencephalitis. Frequently this delirium is characterized by extensive confabulations.

2. *Traumatic Psychosis.*—Immediately following an injury to the head or spine, there may develop a state of unconsciousness of indefinite duration. When consciousness is regained the patient usually fails to remember anything of the accident or happenings of a short time before the accident. Soon after the trauma the patient is apparently restored to a normal condition, and for weeks, months, or even years, he may display no signs of mental failure. There may, however, be focal lesions attended by paralysis of some group of muscles or a limb.

When the true traumatic psychosis does develop the first symptom of mental disorder noted is an insidious change in the patient's disposition. He becomes irritable and morose, has periods of despondency or depression, worries about his health, financial matters and kindred affairs. His moral sense becomes weakened, and to allay his unpleasant and distraught feelings he often resorts to the excessive use of alcoholic beverages, to which he shows a marked pathological reaction. The intellectual powers generally fail; memory becomes impaired; reason and judgment share in the deteriorative process. A degree of emotional indifference is often noted, the patient taking little interest in his environment or his family. It becomes impossible for him to carry on his former occupation. These symptoms may con-

tinue to increase until there is developed a condition of apathetic dementia.

Crime frequently occurs as a part of the symptom complex, and the traumatic psychotic state is often expressed by the perpetration of crimes and misdemeanors.

The physical symptoms which gradually but progressively develop are quite pronounced. The patient complains of insomnia, vertigo and tinnitus aurium. He is easily fatigued. Great muscular weakness is present. Tremors of the tongue and hands are noted. The reflexes are increased and the pupils respond slowly to the routine tests for light and accommodation.

Friedman's Complex.—Friedman has observed that after trauma a certain group of symptoms develop which he attributes to vasomotor disturbance. This group of symptoms is comprised of fullness in the head, headache, vertigo, irritability, insomnia, excessive reaction to mental or physical labor, progressive change in the character, intolerance of alcoholic liquors and a marked memory defect (retrograde amnesia). Occasionally the headache is expressed by a sensation of fullness, or as though a tight band encircled the head. The sensation of constriction or fullness is increased when the patient stoops over. The outbreaks of temper resemble those of epilepsy.

3. *Post Traumatic Constitution.*—Individuals who have suffered from trauma to the head, spine, or other portions of the body exhibit a peculiar tendency to violent outbreaks of temper and mental instability (the explosive diathesis of Kaplan). Often there are manifested hysteroid, epileptoid and paranoid states which are attended by vasomotor disturbance, fatigability and persistent headaches.

4. *Post Traumatic Mental Enfeeblement.*—Often there are no very definite psychotic symptoms, but there develops a marked state of mental enfeeblement in which there is a gradual deterioration of the mental powers. The patient becomes forgetful,

perception is dulled and ideation is limited. The affairs of the external world concern him less and less as time goes on, and with this general let-down there is usually marked impairment of reason and judgment and a reduction in the patient's powers to make adequate adjustments to his environment.

Differential Diagnosis.—*Paresis.*—This disease is distinguished by the history and evidence of syphilis, the neurological findings, and, in a majority of cases, a positive reaction to the Wassermann test of the blood serum and spinal fluid. The grandiose ideas, states of euphoria and periods of emotional excitement which characterize paresis are absent in traumatic insanity.

Dementia Præcox.—Usually occurs early in life. Is marked by progressive mental failure, marked emotional defect, mannerisms, negativistic states, transient, unsystematized delusions and hallucinations of an absurd character.

Manic Depressive Insanity.—This disorder is marked by periods of depression and elation which may alternate. The tendency to deterioration is relatively slight. Recovery from the individual attacks is the rule.

Hysteria.—Hysterical individuals develop psychotic states after blows on the head, but the symptoms of hysteria are present. Some or all of the following symptoms are usually found: the hysterical clonus, globus hystericus, heightened susceptibility to external stimulation, alternate periods of depression and elation without due cause, concentric constriction of the visual fields, disturbances of sensation, convulsive attacks, and the other evidences of this psychosis. Mankopf's symptom is sometimes observed in hysteria. If pressure is exerted at the site of the injury there will be no quickening of the pulse. If there has been real injury the pulse rate will be quickened. This is not a reliable test.

It must be borne in mind that trauma sometimes serves as the

exciting factor for the development of the above-mentioned diseases.

Psychological Analysis of the Traumatic Psychoses.— Perception may be slightly or extensively impaired. Ideation is defective and less rapid than formerly. The emotions are unstable and mercurial. Will power is weakened and defective. The power of inhibition is markedly impaired, as is the capacity for decisive action. Mental life is reduced to a lower level.

Prognosis.—This disorder usually progresses for some time and is then arrested at a stage of more or less permanent mental weakness. Chances of recovery are unfavorable. Death usually occurs by some intercurrent disease.

Treatment.—Operative measures as a rule afford but little relief in the traumatic psychoses. However, operative procedure is of some service in a few cases providing it is undertaken early in the course of the disorder if there are focal symptoms present. At times the patient needs rest and quiet and change of scenery. Mild hypnotics may be employed to overcome insomnia. Hydrotherapy may be employed in the form of daily hot baths or showers, followed by cold spray and brisk rubbing. Psychotherapy is of great value and is employed with the view in mind to re-educate the patient, to allay his fears, and to direct his more or less blunted mental powers and his reduced productive ability into channels of useful endeavor. Brooding about litigation is decidedly harmful to the patient and should be discouraged.

Occupational therapy should always be tried. The patient's mind and hands should be trained in work that is not likely to bring him into conflict with his environment. Horticulture, agriculture or other manual work may be attempted, as the life history of the patient indicates.

If the patient is a source of danger to himself or to others, he should receive institutional treatment.

CHAPTER VI

SENILE PSYCHOSES

Definition.—The senile psychoses are a group of well-defined chronic, progressive mental disorders which develop in aged persons when the normal physiological processes of physical and mental decay have been exceeded. The chief mental characteristics are impairment of memory, especially for recent events, disorders of orientation, defect of attention, irritability and instability of the emotions, states of depression, paranoid trends and disorders of conduct. There are several types of the senile psychoses. These more or less overlap, yet the clinical symptoms warrant the following classification:

1. SIMPLE DETERIORATION.
2. PRESBYOPHRENIC TYPE.
3. DELIRIOUS AND CONFUSED TYPE.
4. DEPRESSED AND AGITATED TYPE.
5. PARANOID TYPE.
6. PRESENILE TYPE (Alzheimer's Disease).

Etiology.—Age is not altogether determined by the number of years that a person has lived. Some persons are physiologically younger at the age of seventy than are others at fifty. This difference depends upon the degree of arteriosclerosis present in the cerebrovascular system. Senile psychosis makes its appearance usually between the ages of sixty and seventy-five. Heredity exerts a strong influence in the production of this disorder. About 50 per cent of all patients have a history of neuropathic taint. It has been noted that there is a tendency among some families toward longevity. In others the span of

life is shorter because the senile changes occur earlier in the circulatory system. Hardship, exposure, alcoholism and syphilis are important factors in the development of arteriosclerosis. Febrile diseases and emotional and physical shocks are often precipitating factors for the production of these psychoses.

Pathology.—The following pathological conditions have been demonstrated at autopsy:

Gross Pathology

1. Decrease of brain weight from 200 to 500 grammes.
2. Atrophy of the brain.
3. Shrinking of the convolutions.
4. Widening of the sulci.
5. Adhesions of the dura mater to the skull.
6. Increased Pacchionian granulations.
7. Thickening of the dura mater and the pia mater.
8. Cystic degeneration of choroid plexus.
9. Granulation of the ependyma.
10. Dilatation of ventricles.
11. Increase of fluid in subarachnoid space.
12. Sclerosis of basal blood vessels.
13. Thrombosis.
14. Areas of softening of the cortex.
15. Increase of connective tissue in the kidneys and other organs.
16. Myocarditis.

Microscopic Pathology

1. Degenerative changes of nerve cells; vacuolization and atrophy of nucleus of the neuroglia cells.
2. Gland-like enlargements of the axis cylinders.
3. Formation of yellow pigment about axis cylinders.
4. Increase of neuroglia.
5. Disappearance of tangential fibers.
6. Miliary necroses.
7. Calcareous plaques in pia.
8. Atrophy of the nerve cells in spinal cord.
9. Atrophy of the fiber tracts of spinal cord.

Symptomatology.—The symptoms of these diseases are usually introduced by a prodromal period lasting several months and characterized by expressions of irritability and insomnia, and frequent attacks of dizziness. The patient becomes very seclusive; he shuns the society of his former friends and acquaintances. He complains of malaise, muscular weakness and anorexia.

The patient's mental power gradually decreases and the

memory becomes defective, especially for recent events, although the scenes and memories of early childhood are usually well retained. The patient lives entirely in the past, failing to realize the present. The names and the number of his children are forgotten, and the events of early morning cannot be remembered through the day. In order to fill the gaps in memory we find a senile dement resorting to fabrications. If asked the date his usual reply will be, "I don't know; I have not looked at the calendar." In many cases it is noted that the patient is unable to find his way to the dining table or to his bed, and out of doors he wanders aimlessly about the streets, unable to locate his home.

Added to this condition of senile dementia we find in some cases delusions of persecution. The most common delusions are those which relate to property. The senile entertain beliefs that they will be robbed; that secret enemies are plotting their ruin; that they will be murdered; and many other paranoid beliefs of a similar nature. Acting under the influence of such false ideas these patients spend their time in barring the windows and doors of their homes, and in devising all sorts of schemes to prevent bodily and financial misfortune from overtaking them. They wander about their homes at night, fully armed, inspecting the premises for fear they have overlooked the barricading of some entrance which might afford thieves an opportunity to enter. As a result of these nocturnal excursions they often suffer severe bodily injuries by falling down stairs or over furniture, or by setting their clothing on fire while carrying about lanterns, matches or candles.

There is marked change in the emotions. Patients lack the usual sympathy exhibited by normal persons. The death of a relative fails to impress them; they are indifferent to the sorrows and calamities of others; home and friends no longer interest them. Exhibitions of penuriousness are common; patients be-

come miserly. They are obstinate, self-willed, stubborn, very easily irritated, dogmatic, and roused to outbreaks of temper on the slightest provocation. The moral feelings share in the process of degeneration. Often senile demented are obscene in their language, make sexual assaults on little children, make indecent exposures, and are easily led by designing females to enter into marriage contracts. All manner of disorders of conduct are to be expected.

Physical Symptoms.—The signs of physical decay are present. The body is generally emaciated; the skin is dry and harsh. The hair is gray or white; the superficial blood vessels are sclerosed. The temporal arteries are tortuous and easily seen, and opacities of the vitreous body and cataracts of the crystalline lens are common. The eyes generally show the arcus senilis. Areas of paresthesia and anesthesia are found in different parts of the body, and epileptiform convulsions are not infrequent. The convulsions may be of a major or minor character, and sometimes are of the Jacksonian variety. Focal lesions are often noted and are usually attended by motor aphasia, verbal deafness, paraphasia and dysgraphia. Transient hemiplegias are known to occur, and permanent paralysis may develop, due to softening of the cerebral cortex. The focal symptoms occur most frequently in those cases marked by periods of confusion.

These are the symptoms in general. The various types which have been enumerated show special groupings of symptoms, which follow.

Simple Deterioration.—This is a common form. The memory is much impaired. The mental capacities are reduced. The patient becomes egocentric, is very irritable and fault-finding, and displays marked psychomotor activity. The symptoms are usually worse at night. Orientation is not much disturbed in this form.

Presbyophrenic Type.—This type of senile dementia bears a

close resemblance to Karsakow's psychosis. The patient is markedly disoriented in the spheres of time and place, and he fills in the gaps of memory by elaborate falsifications. Often a bedridden patient will explain to his physician or to those about him that he was out the night before to a dinner party, or that he has just returned from a long hunting trip. The impairment of memory is pronounced and the patient continually makes contradictory statements and is given to exaggerations.

Delirious and Confused Types.—In these types there are marked confusional states, associated with fleeting delusions and hallucinations. The patients are active, restless, noisy, and display marked periods of irritability. It is quite difficult to restrain them, and often the psychomotor activity is so great that they soon exhaust themselves, and death is not an infrequent result.

Depressed and Agitated Types.—The patients suffering from this form are usually very greatly depressed, but keep in a constant state of movement, such as weaving back and forth in their chairs, wringing their hands or pacing the floor.

Paranoid Type.—In this form, as the name indicates, the delusions are decidedly paranoid. The false beliefs are usually of a grandiose or persecutory nature. Delusions of marital infidelity are common.

Presenile Type (Alzheimer's Disease).—Alzheimer described, in 1906, the symptom complex which bears his name. He found that the symptoms usually manifested themselves between the ages of forty and sixty. The chief symptom is a rapidly progressing dementia which is punctuated by periods of excitement and depression. The patient is usually completely disoriented in some sphere, or there may be incomplete disorientation in all spheres. Focal symptoms are quite common. The patient has particular difficulty in speaking distinctly. Often there is aphasia or paraphasia and asymbolia. The general body muscles

become stiff, the gait becomes slightly spastic, and convulsions are occasionally developed. Apraxia has been noted in this condition. Some authors are inclined to regard this disease as a distinct entity, but it is the consensus of opinion that this symptom complex is but an expression of an oncoming senile dementia or arteriosclerosis.

Diagnosis.—The diagnosis of the senile psychoses is not usually difficult. The age and general appearance of the patient indicate the nature of disorder.

Paranoia begins earlier in life and the signs of mental decay are not usually present, though the paranoiac may suffer from senile dementia. The usual course of paranoia is not found in senile dementia.

A condition of simple dementia is frequently an attendant of the senium and is not to be confused with the senile psychoses.

General paresis occurs most commonly about the fourth decade of life. The evidences of syphilis are found in paresis. The Wassermann test is practically always positive with the blood and spinal fluid. There is an increase in the cell count of the spinal fluid; also an increase in the albumen and globulin content. The neurological findings are characteristic, but occasionally they bear a close resemblance to the focal disturbances of senile dementia.

Manic depressive psychosis usually occurs earlier in life. It is characterized by recurring attacks of depression and mania. Manic depressive psychoses are not attended by states of dementia.

In arteriosclerotic dementia the differentiation is more difficult. The focal lesions are more common in arteriosclerotic dementia, irritability is more frequent, and the degree of dementia is not so marked.

Psychological Analysis.—General impairment of perception, defects of consciousness, disorders of memory, reduction of

capacities for reason and judgment, affective disturbances, dilapidation of ethical perceptions, disorders of conduct, and failure of ability to make necessary adjustments to environment.

Prognosis.—The senile psychoses usually last from one to four years, death finally occurring from exhaustion or from some intercurrent disease such as senile pneumonia, chronic colitis, decubitus or cystitis.

Treatment.—The treatment in these cases is custodial, dietetic and hygienic. Patients should be carefully watched so that they may not injure themselves or others; great precautions should be taken to see that they do not wander about their homes at night and that they do not set fire to property. They should receive plenty of wholesome, easily digestible, nourishing food; the clothing should be warm, to prevent chilling of the body. For the treatment of insomnia, which is usually a most intractable symptom, warm milk or other light nourishment may be given at bedtime, together with hypnotic remedies, as paraldehyde, chloralamide, veronal and other sedative drugs. Brandy and whiskey in small doses may be cautiously given with good effect. Prolonged warm baths may be employed with caution in cases of extreme restlessness and violence. Patients who are markedly hard to control should be committed to state hospitals for the insane or to similar institutions.

CHAPTER VII

PSYCHOSES WITH CEREBRAL ARTERIOSCLEROSIS

Definition.—This is a chronic, progressive group of psychoses which occur usually about the sixtieth year and which are marked by pronounced impairment, great emotional instability, episodes of confusion and focal lesions. There are four main forms of these psychoses, as follows:

1. ARTERIOSCLEROTIC BRAIN ATROPHY.
2. SUBCORTICAL ENCEPHALITIS.
2. PERIVASCULAR GLIOSIS.
4. SENILE CORTICAL DEVASTATION.

Etiology.—These diseased conditions, as the names imply, are dependent upon degenerative changes in the cerebral arterial system. Alcohol, syphilis, and various toxemias and endogenous poisons that are prominent in the production of arteriosclerosis are important in the production of these psychoses. Hereditary predisposition, excesses, exposure and overwork are also important etiological factors. Males are most frequently affected.

Pathology

Gross Pathology

1. Thickening of the cerebral vessels.
2. Thickening of the dura mater and pia mater.
3. Atrophy of the brain.
4. Areas of softening.
5. Loss in brain weight.
6. Hemorrhagic softening in brain substance.
7. Dilatation of the ventricles.
8. Cardiac hypertrophy or dilatation.
9. Interstitial nephritis.

Microscopic Pathology

1. Increase of neuroglia.
2. Thickening of the capillary vessel walls.
3. Pigmentation of the cortical cells.
4. Increase of connective tissue in lymph spaces.
5. Increase in granular cells.
6. Vacuolization of white matter.

Symptomatology.—*Arteriosclerotic Brain Atrophy.*—The main symptoms of this type are dizziness, headache, mental fatigue and failure of memory. This form usually ends in a state of profound dementia. Focal symptoms are common.

Subcortical Encephalitis.—In this type, which is due to changes in the long medullary arteries, we have attacks of confusion, temporary aphasias and paralyses and occasional epileptoid convulsions.

Perivascular Gliosis.—In this type the symptoms are essentially the same as in other forms of arteriosclerotic insanity. The pathology shows an increase of the neuroglia about the diseased blood vessels and a destruction of the nerve cells and their processes.

Senile Cortical Devastation.—As the name implies, there is gross destruction of the cortex in or about the cerebral vessels. Often the whole lobe or portions of the lobe are involved. Many focal lesions are present, which, according to their location, produce blindness or deafness, or paralyses in various portions of the body.

General Symptomatology.—There is a wide variation of the symptoms. The disease finally leads to dementia. Before this terminal stage there are marked periods of confusion, dizziness and forgetfulness, and states of irritability which alternate with periods of good humor and lucidity during which the patient is usually able to care for himself. Emotional instability is a marked symptom of this disease, and the changes in the emotions are very sudden and excessive. Tears and laughter may often be produced by suggestion within the space of a minute. Sometimes the disease progresses very slowly, and this is true of those cases where the individual leads a quiet, regular life and receives early treatment. Apoplectic attacks are common and with each attack the mental powers decrease, until in the end the patient must be cared for as an infant. Conditions of aphasia, agraphia,

apraxia and mind blindness are very frequent, and these symptoms make the mental deterioration appear more profound than it really is. Occasionally very rapidly developing forms are encountered. These are ushered in with apoplectiform seizures, violent headaches, periods of anxiety and marked delusions of persecution. In this form the patients are often suicidal and homicidal. If the progress of the disease is not arrested, death soon occurs. As a rule the course of the disease is about four years, although death may occur within six months.

Diagnosis.—The diagnosis is many times quite difficult because of the resemblance to other diseases of the senium.

Paresis.—It is difficult to distinguish this disease from paresis during the early stages. In paresis we expect the usual syphilitic reactions of the blood and spinal fluid and an increased cell count. In paresis the lesions of the cortex are diffused, while in arteriosclerotic psychosis they are scattered.

Syphilitic Psychoses.—It is quite difficult in the early stages to differentiate arteriosclerotic dementia from the syphilitic psychoses. The syphilitic psychoses as a rule present a positive Wassermann of the blood and spinal fluid and an increased cell count. The mental symptoms develop at a slower rate, and the mental disturbances are less profound in the syphilitic psychoses. The pupillary anomalies are more constant in brain syphilis than in arteriosclerotic dementia.

Senile Psychosis.—The focal changes are not so pronounced in the senile psychoses. The patient is usually older and the symptoms of dementia are more profound.

Psychological Analysis.—Varying degrees of impairment of perception. Disorders of consciousness, emotional disturbances, reduction of the powers of reason and judgment and deviations in conduct.

Prognosis.—The prognosis is unfavorable.

Treatment.—The treatment is chiefly dietetic, hygienic and symptomatic. Foods should be of a simple sort. The use of alcohol and tobacco should be interdicted. The emunctory organs should receive careful attention. Hypnotics and sedatives may be employed with hydrotherapy to control the insomnia and excitement. In the terminal stages of this disease it becomes necessary to commit the patients to hospitals for the insane.

The medication is largely symptomatic. Potassium iodide may be tried, but its value is rather questionable. Foods which contain cholesterin should be reduced to a minimum. Laboratory experiments would indicate that the use of potassium iodide is contraindicated on the ground that arterial sclerosis is due to the deposit of cholesterin within the walls of the arterial vessels, and that the iodides form insoluble compounds with cholesterin. Further laboratory experiments have shown that the hypophosphites are capable of reducing arterial sclerosis in animals, and limited experiments with human beings have demonstrated that a cholesterin free diet and the use of hypophosphites is of value in reducing the blood pressure in arteriosclerotic patients. However, we are to bear in mind the results of long clinical experience. It has been held by various authorities that potassium iodide is very serviceable in arteriosclerotic conditions, and the conclusions of these clinicians are not to be hastily discredited. It may be, however, that the cases in which potassium iodide exerted a beneficial effect were those in which the arteriosclerosis was of luetic origin.

CHAPTER VIII

GENERAL PARESIS

Definition.—General paresis is a chronic psychosis usually appearing in middle life, characterized by progressive mental deterioration leading to complete dementia and terminating fatally. It is attended by irritative and paralytic symptoms due to gross changes in the cerebrospinal nervous system. Death usually occurs within thirty-six months.

Juvenile paresis is now known to be of not infrequent occurrence. It makes its appearance usually before the age of twenty years. The majority of the cases develop between the ages of ten and twenty years. It is attended by essentially the same progressive psychotic symptoms and nervous phenomena found in adult paretics. It always ends in death, after running a course of from two to four years.

Etiology.—This disease is due to syphilis. It is more common in the male than in the female. The greatest number of cases develop between the ages of thirty and fifty years, but it may occur in any decade of life. It appears usually in from ten to twenty years after infection with syphilis. Syphilitics who use alcohol seem to be far more susceptible to the development of this disease. It is often found to have been precipitated by blows or falls on the head or spinal column, and other injuries to the body. Conservative American authorities have estimated that from 15 to 25 per cent of the admissions to hospitals for the insane are due to paresis. European institutions show a still higher rate of admission of paretics.

Pathology

Gross Pathology

1. Exostoses of the cranial bones.
2. Hyperostoses.
3. Atrophy of the cortex.
4. Broadening of the fissures.
5. Atrophy of the frontal lobes of the brain.
6. Decrease in the weight of the brain.
7. Inflammation of and gross changes in the meninges.
8. The brain and meninges have a moth-eaten appearance.
9. Thickening of the meninges.
10. Increase in the Pacchionian granulations.
11. Dilatation of the ventricles.
12. Granulation of the ependyma.
13. The presence of opalescent, milky fluid in the meninges.
14. Softening of the brain substance.
15. The presence of spirochaete pallida in the brain substance.
16. Fragility of the bones.
17. Degenerative changes of heart muscle and aorta.
18. Degenerative changes in kidneys and liver.

Microscopic Pathology

1. Proliferation of capillaries.
 2. Cell sclerosis in cortex.
 3. Increase in the neuroglia.
 4. Destruction of the myelin sheath.
 5. Atrophy of the nerve fibers.
 6. Presence of plasma cells in the dilated lymph spaces.
 7. Presence of spider cells.
 8. Presence of yellow pigment.
- The spinal cord shares in the same process as does the brain substance and its meninges, but to a lesser degree.

Blood.—The blood in practically all cases shows a positive Wassermann reaction. There are, however, occasional exceptions. The ingestion by the patient of alcohol a few hours before the taking of the blood for a Wassermann test may modify the results and a negative may be obtained. Vigorous anti-syphilitic treatment may temporarily produce a negative Wassermann of the blood.

Cerebrospinal Fluid.—As a rule the cerebrospinal fluid in paresis shows a positive Wassermann reaction, though there are some exceptions. There is usually an increase in the number of

lymphocytes. A cell count above five should rouse suspicions of the presence of some form of meningitis. The chemical examination shows usually an increase in the globulin content. From a laboratory point of view, before making a diagnosis of paresis there should be definite positive findings:

1. The Wassermann of the blood should be positive.
2. The Wassermann of the cerebrospinal fluid should be positive.
3. There should be an increase in the cell count of the cerebrospinal fluid.
4. There should be an increase of the globulin content of the spinal fluid.

These tests are to be interpreted in conjunction with the clinical symptoms. The diagnosis of general paresis and other types of nerve syphilis is not to be made on the laboratory findings alone. Errors in technic are always possible. It has been established by Solomon and by Klauder, and it has been the experience of the author, that there are conditions of nerve syphilis in which the cerebrospinal fluid may be negative at the time the patient comes under the observation of the clinician. This statement is true of general paresis, tabes dorsalis, syphilitic epilepsy, Erb's syphilitic spastic paraplegia, syphilitic nerve palsies, cerebral gumma and the syphilitic psychoses.

Symptomatology.—*General Symptomatology.*—General paresis occurs in four relatively distinct forms, differentiated according to the character of the predominating symptoms. These differences in the expression of paresis seem to depend upon the personality of the patient. The forms are as follows:

DEMENTED FORM

EXPANSIVE FORM

AGITATED FORM

DEPRESSED FORM.

The disease is usually slow in its onset; there is a gradual change in the patient's disposition. He fails to react in a normal manner to his environment. The mentality seems to be enveloped in a stupor. There is generally a reversal of the individual's usual traits of character; the formerly moral man becomes dissolute; the honest man becomes a prevaricator; the ambitious person becomes lazy. The mental processes show dilapidation. Voluntary attention fails. The memory becomes poor. Judgment is impaired. The patient complains of extreme fatigue on slight exertion. His ability to comprehend the situations in which he lives grows progressively feeble. He finds it difficult to take on new ideas. He indulges in fabrications to account for changes of which he has no memory. At first patients usually have some insight into their condition; they recognize the fact that they are irritated by trifles and that they are lacking in their usual capacity to accomplish work, but this state does not ordinarily last very long. The deteriorating process is more or less rapid. Paretics commit grave offenses against the law, make foolish investments, write checks for immense amounts of money, commit overt sexual acts, and otherwise conduct themselves abnormally. The picture presented is that which attends gradual failure of mental power.

Neurological Symptoms.—In the beginning stage the patient suffers from headache and dizziness and has feelings of pressure within the head. The senses of smell and taste are often perverted; it is difficult for the patient to distinguish between substances that are sweet, sour, salty or bitter. There are disturbances in the sensations. The patient often has a feeling of burning in various parts of the body; later the skin becomes insensitive to pin pricks and there may be scattered spots of anesthesia throughout the body. The motor symptoms are quite pronounced. Paralytic and convulsive attacks occur in about 50 per cent of the cases. Often there are Jacksonian convulsions of

some group of muscles or some member of the body. Apoplectic-form seizures are not infrequent. These are usually accompanied by loss of consciousness, high temperature and stertorous breathing.

The muscles of the face become flaccid; the lines of expression are erased; the face has a washed-out appearance. There is a fine tremor about the naso-labial fold. The voice changes; it becomes monotonous. The speech is defective. The patient stumbles over the usual test words and phrases. As the disease progresses the patient chews his tongue and grinds his teeth. There are often transient paralyses of the eye muscles. The pupils become unequal in about 50 per cent of all cases. Argyll-Robertson pupils are very common. The patient loses his ability to perform delicate movements. The handwriting becomes an illegible scrawl. His gait becomes shuffling and slouchy. If he turns about quickly he stumbles or loses his balance. He finds difficulty in buttoning his clothes properly. The tendon reflexes are at first usually exaggerated, and tapping the tendons is often sufficient to set all the muscles in the body jerking. There is inequality of the patellar reflexes. Later these may be lost altogether. The vasomotor disturbances are frequent. There is flushing of the face with rushes of blood to the head. There is cyanosis of the extremities and dermatographia. The tendency to bed sores is quite pronounced. At first the sleep is much disturbed. Later on the patient becomes very sluggish and finds great difficulty in keeping awake during the day. The nutrition at first suffers a deteriorating process, but as the disease progresses the patient usually develops a voracious appetite, swallows his food without chewing it, and seems to lose the sense of taste.

The symptoms described comprise the general symptom complex. According to the grouping and the predominant charac-

teristics of the symptoms and their rate of development, the four forms that have been mentioned are differentiated.

Demented Form.—In this type there is generally an absence of delusions and hallucinations. The disease progresses rapidly to a state of complete dementia, usually without any remissions. There are occasional periods of restlessness and excitement, often punctuated by states of depression. This form comes on insidiously. The symptoms at first are those of neurasthenia. The patient has feelings of incapacity, has headaches, is drowsy, forgetful, often confused. He shows marked errors in judgment, loses his ethical sensibilities, finds it difficult to pursue his daily work, which he slights or neglects altogether. As the disease progresses consciousness becomes clouded and confused. There may frequently appear transitory hallucinations and delusions which may be largely affected by suggestion. They play no prominent part, however, in this type of the disease. There is a lack of capacity for earning a livelihood, and due to their marked inability to adjust themselves to the environment in which they live, the patients are absolutely helpless and must be cared for constantly by friends or relatives or be committed to institutions. This type of the disease forms about 40 per cent of the cases of paresis. Of these cases perhaps one-half live more than twenty-four months. Approximately one-fifth of them die within the first year.

Expansive Form.—In this form, delusions of a grandiose nature are present. There is a tendency to remission and the disease runs a more prolonged course. The patient shows the usual signs of dementia, following a short period of depression in which delusions of persecution and anxiety predominate. The patient develops ideas of an expansive type. There is a marked state of euphoria. He becomes quite active. He may explain that he has the strongest body in the world; that he has the greatest intellect; that he is the most wonderful musician; that

he is a great legal light; that he possesses millions of dollars; that he owns the institution in which he is a patient; that he owns half of the universe; that he has houses full of diamonds. These delusions increase from day to day, and the patient fails to see their utter absurdity. He becomes rather irritable and combative at times when he is not allowed to behave in accordance with his delusions. No idea is too extravagant for these patients to have. They are disoriented, usually, as to time and place. They are too busy with their grandiose ideas to take any notice of persons or conditions within their environment. There is increased psychomotor activity. Patients write great piles of letters, send numerous telegrams, are very talkative, pace wildly up and down their wards, often shout and curse at other inmates, sometimes mutilate their bodies. But these periods of excitement soon pass off, leaving the patient calm and peaceful. Crimes are common with this type. Patients are given to theft; they appropriate anything within their reach without any apparent knowledge of the quality of their acts. They are inclined to make sexual assaults. This type of the disease is found in from 15 to 25 per cent of all cases. About two-thirds of these cases live more than two years. Remissions occur in perhaps one-third of all cases of this type.

Agitated Form.—This form has a relatively sudden onset. There is great psychomotor activity, often attended by delusions of grandeur. Consciousness is usually clouded. Patients who were formerly quiet and slow in movement suddenly become extremely energetic; often think that they have had a new birth; that they have the strength of a thousand men; that they are creators of the universe; that they have fabulous wealth. In conjunction with these expansive delusions patients complain of pains throughout the body; say that ingenious tortures have been devised to make them suffer; that they have some weird disease; that they are suffering a process of purification. They

are rarely depressed on account of these ideas. They are given to singing, shouting and impulsive actions, and indulge in ceaseless and unproductive activities. They tear the bedclothing, tear their clothes, break up furniture, and commit sexual excesses of all kinds. Their extreme restlessness interferes with the taking of food and there is rapid loss of weight and strength. The agitation is so great in some cases that the name of Galloping Paresis has been applied. Patients of this type live but a few months at most. They are never still a minute. They make all manner of extravagant and reckless movements, bruise their bodies in their excitement, run into the walls of their rooms, refuse food and do not sleep. The wounds and scratches they inflict upon themselves often become infected. In addition to other symptoms they show evidences of profound autointoxication and infection. This form of paresis occurs in from 10 to 15 per cent of all cases. Remissions appear in about one case out of four. Approximately two-thirds of the patients die within two years.

Depressed Form.—Associated with the general symptoms of paresis there are in this type periods of marked despondency and depression. The delusions that exist are of a depressive nature. This type of the disease begins slowly by a gradual decrease in the mental powers. The patient complains of persistent headache and great weariness on slight exertion. He is hypochondriacal, constantly worried about himself, fears that he is suffering from an incurable disease. He complains that his blood is dried up; that he has syphilis and must not be touched by anyone; that the members of his body rot off; that his brain decays; that his stomach is clogged up; that he exhales poisonous gases and gives off poisonous fumes from his body; that parts of his body turn to stone. Often the patient has a self-accusatory delusion. He tells his friends that he is the greatest sinner in the world; that he has committed a sin against the

Holy Ghost; that he must suffer extremely because of his sins; that he has neglected his friends and relatives and children. Patients believe that they are to be hanged, electrocuted or quartered, and are in a constant of terror. They hear persons talking about them, saying that they are thieves, robbers and murderers. They hear the voice of God threatening them with terrible punishment, and have other ideas of a similar nature. As a rule consciousness is clouded. Orientation is incomplete. They keep apart from others, lie on the floor in a heap, crawl under the bed, bury their heads in the bedclothes, disfigure the genital organs and otherwise mutilate their bodies. They often cry and moan for weeks at a time, and appear to be greatly depressed when quiet. As the psychomotor activity subsides the patients go into a more or less stuporous state, become perfectly quiet, refuse all food and fail to attend to the wants of nature. All symptoms take on a depressive, fearful coloring. This type of general paresis is found in about 25 per cent of all cases. It occurs in the fourth decade usually. Remissions are observed in about 10 to 15 per cent of the cases. From 60 to 80 per cent of the patients afflicted with this type die within twenty-four months.

Diagnosis.—In well-developed cases of paresis little or no difficulty is encountered in making a diagnosis. The change of disposition, the gradual failure of mental powers, the existence of bizarre delusions, the utter lack of judgment, and the inability of the individual to adjust himself to his environment, the neurological signs such as disorders of the tendon reflexes, sluggishness, irregularity and inequality of the pupils or the presence of the Argyll-Robertson pupil, conditions of ataxia and tremor, together with a positive Wassermann reaction of the blood serum and spinal fluid and an increased cell count of the spinal fluid, leave no room for doubt.

Cerebral Syphilis.—The differentiation between cerebral syph-

ilis and paresis is quite difficult in the early stages of these disorders. In fact, a thorough course of antisyphilitic treatment is the only test that can be made. In cerebral syphilis the headaches are usually worse at night. The lesions in the brain are generally focal and the cranial nerves below the third are the ones usually affected. The bizarre delusions are absent and the mental deterioration is very much less. The Wassermann reaction of the spinal fluid is frequently negative. Response to treatment is often quite marked in cerebral syphilis.

Manic Depressive Insanity.—This disorder does not present the neurological signs of paresis nor evidences of dementia. There is usually a history of repeated attacks.

Senile Dementia.—This psychosis occurs during the senium and the course is prolonged. The delusions are not grandiose nor are they so bizarre and absurd as in paresis. The characteristic neurological symptoms of paresis are absent and the spinal fluid is negative to the Wassermann test.

Arteriosclerotic Dementia.—In paresis the apoplectic insults occur after the disease has been fully established. In arteriosclerotic dementia these attacks often precede the mental disturbances. In paresis grandiose delusions and states of euphoria are common, while in arteriosclerotic dementia quite the reverse is true. The arteriosclerotic dement often retains his mental powers to a considerable degree and is more able than the paretic to conduct himself in accord with social customs. Focal symptoms, chief among which are aphasia, hemianopsis, astereognosis, spasms and contractures, are more common in arteriosclerotic dementia.

Neurasthenia.—In this disorder the characteristic neurological signs of paresis are absent. The paretic is rarely worried about his condition and never does he have a true insight into his disorder after it has been fairly well established. The neurasthenic is always worried and greatly concerned about his aches,

pains and uncomfortable sensations and is constantly seeking medical attention.

Alcoholism.—Here the diagnosis from the clinical symptoms alone is somewhat difficult, especially in those conditions that have been labeled alcoholic pseudo-paresis, in which pupillary and reflex disturbances are found. These parietic-like symptoms disappear on the withdrawal of alcohol. Spinal fluid examination will usually clear the diagnosis.

Psychological Analysis.—Sensation and perception are markedly impaired and finally abolished in the later stages of the disease. Memory is disordered. Ideation, at first lively, though erratic, becomes feeble and is later entirely lost. Reason and judgment are hopelessly impaired. Absurd and bizarre delusions are common. The emotions are profoundly impaired and unstable, leading to disorders of conduct. Finally, if the patient does not die of some intercurrent disorder, mental activity practically disappears and he lives a merely vegetative existence.

General Course.—The course is arbitrarily divided into three periods, but the lines of division are more or less indistinct. First is the stage of onset, in which the symptoms are those of neurasthenia. As the disease progresses the symptoms take on the character of the second stage and become very acute. In the third or terminal stage of dementia all mentality is lost. The patient is in reality but an animated lump of clay and is usually bedridden and filthy. He becomes extremely emaciated, and contractures of the body muscles are general. At any time during this stage of the disease the patient may have paralytic attacks of a transient or permanent character. Occasionally patients die in convulsions in the beginning stages of the disease. Often periods of remission are observed, which may last for several months. Patients then usually have some insight into their condition and the experiences of their illness appear to

them as a dream. The periods of remission last usually about three or four months and occasionally as long as a year.

Prognosis.—The prognosis is absolutely unfavorable. In the majority of cases death occurs within two years. A few cases survive as long as six years. In cases surviving longer than this period of time there is grave doubt that a correct diagnosis has been made. Occasionally there are periods of remission and lucid intervals which last from one month to twelve.

Treatment.—This psychosis is at all stages best treated in a sanitarium, for the patient is a potential danger to himself and others. Just as soon as the diagnosis has been properly determined, a competent guardian or trustee should be appointed to care for the patient's business affairs and for his person.

As the differentiation between the exudative and parenchymatous types of nerve syphilis is not always possible by methods of neuropsychiatric examination, intense anti-syphilitic treatment is always to be instituted, provided the condition of the patient warrants it. An attitude of therapeutic nihilism is not to be entertained. Mercury may be given by inunction, intravenously or intramuscularly. Salvarsan or neosalvarsan may be employed both intravenously and intraspinally. Clinicians now generally concede that the intravenous method of treatment is just as effective as the intraspinal and less dangerous.

Hydrotherapy is of advantage in controlling the occasional excitements of paresis and in preventing the development of bed sores.

Medication, aside from specific treatment, is symptomatic. Sedative drugs are to be given to control convulsive attacks and insomnia.

CHAPTER IX

PSYCHOSES WITH CEREBRAL SYPHILIS

Definition.—Syphilis may be attended at any period of its course by a train of mental symptoms which directly owe their origin to the disease itself. According to the predominant pathological characteristics, four types, more or less definite, have been recognized, as follows:

- MENINGITIC TYPE
- ENDARTERITIC TYPE
- GUMMATOUS TYPE
- MIXED TYPE.

Meningitic Type.—Syphilitic psychoses of the meningitic type are attended by states of delirium, stupidity and confusion, preceded by feelings of fullness in the head, dizziness, headaches, vague pains about the body and usually involvement of some cranial nerve.

Endarteritic Type.—In this type there are focal symptoms which correspond to the vascular areas involved. This form of cerebral lues is the most frequently observed, and it resembles cerebral arteriosclerosis very closely in its clinical manifestations.

Gummatous Type.—In this type slow-developing focal lesions are found, which give rise to various pressure symptoms such as hemiplegia, convulsions, aphasia and hemianopsia, according to the location of the gummata. It is often difficult to distinguish this form of cerebral lues from non-luetic types of brain tumor and from diffuse forms of the meningitic type.

Mixed Type.—Many cases of brain syphilis exhibit symptoms of all three of the types just described.

Etiology.—Men are more frequently affected than women. Persons who have neglected treatment entirely, or who have received insufficient therapy, or who have indulged regularly in alcoholic liquors, seem to be particularly susceptible to the development of brain syphilis. Trauma is apparently a potent factor in precipitating nerve syphilis. Hardship and exposure seem to play a similar role. Some persons, by reason of their cortical inferiority, seem to be so constituted as to favor the development of cerebral syphilis.

Pathology.—The following described pathological conditions have been found by various pathologists:

- | | |
|------------------------------------|---|
| 1. Thickening of the skull. | 7. Luetic endocarditis. |
| 2. Thickening of the meninges. | 8. Endarteritis of the smaller blood vessels. |
| 3. Encephalitis. | 9. Histopathological changes in the cortex. |
| 4. Gummata, any location. | |
| 5. Periarteritis and endarteritis. | |
| 6. Changes in the basal ganglia. | |

Symptomatology.—The symptoms of the syphilitic psychoses will be described according to the time of their appearance with reference to the several stages of syphilis.

Primary Stage.—It is very rare for mental symptoms to make their appearance during the stage of chancre, yet psychotic disturbances are sometimes noticed. If the patient be a neuropathic individual, the knowledge that he has acquired syphilis may serve as a powerful psychogenetic factor in the production of a very acute depression which is independent of the toxins of syphilis itself. As a result marked states of hysteria are noticed, the patient loses his appetite, suffers from insomnia, becomes dizzy at intervals and shows well-developed signs of asthenia. A true anxiety neurosis is developed. The syphilophobia becomes so persistent and painful that the patient visits one physician after another, hoping to learn that there has possibly been

a mistake in the diagnosis. These unfortunate persons are often the victims of quacks. Occasionally they commit suicide.

Secondary Stage.—Psychopathic states are more common during the secondary period. They may appear in the form of a delirium in which there is a great increase in the psychomotor activity, ranging from simple cerebral excitement to states of mania attended by automatic agitation, incoherence and violence. After this state of mental alienation there may follow a condition of sluggishness and lethargy, a clouding of consciousness, defective ideation and a perversion of the sentiments. Often the patient is irritable, exceedingly morose and sullen. He may entertain delusions of persecution. He may be fearful of poisoning or of secret enemies. The delusions are usually attended by olfactory, gustatory and aural hallucinations. Often patients complain that their food is poisoned or that foul odors and poisonous gases are injected into their rooms. Periods of confusion are noted. In some cases there is headache, insomnia and loss of memory. In patients with the psychotic symptoms described we generally find that there is a slight elevation of temperature. With the subsidence of the acute physical symptoms of the secondary stage the mental phenomena usually disappear. Criminal acts of a violent nature are occasionally committed by these patients. While the author was Superintendent of the Indiana Hospital for Insane Criminals four persons were committed to that institution for acts that were directly the result of these syphilitic psychotic states. Two had committed murder, one had attempted assault and battery to rape, and the fourth had been convicted of bigamy. Confusion, irritability, disorientation and blunting of the moral attributes of the mind were the characteristic symptoms. In each case the secondary skin eruption had been absent but a short while.

Tertiary and Quaternary States.—The mental disturbances that occur during these periods are usually attended by evi-

dences of organic disease of the central nervous system. Focal lesions of the nervous system are likely to be found. The symptoms that will be described are in addition to those mentioned in the chapter on paresis. Kraepelin describes a condition to which he has applied the term syphilitic neurasthenia, in which the usual signs of neurasthenia are exhibited. There is a general feeling of malaise, with vague pains about the body, lack of power to think clearly and for any length of time, insomnia, transient periods of dizziness, thickness of speech, disturbances of temperature and frequent attacks of nausea. The symptoms resemble somewhat the psychotic disturbances of an acute infection. Examination of the spinal fluid usually shows an increased cell count and a positive Wassermann reaction.

According to Plaut there are ten distinct syphilitic psychotic pictures:

1. *Simple Syphilitic Mental Enfeeblement*.—This condition is found in persons who have suffered from monoplegia or hemiplegia, and in the majority of instances occurs between the twenty-fifth and thirty-fifth years. There is a general impairment of the mental powers. Forgetfulness and indifference are the chief characteristics.

2. *Syphilitic Pseudo Paresis*.—This condition very closely resembles paresis. Auditory hallucinations are characteristic. The examination of the spinal fluid and the general course of the disease differentiate it from true paresis.

3. *Syphilitic Paranoia*.—This form occurs very frequently with tabes dorsalis. The patient entertains delusions of persecution and occasionally has auditory hallucinations and disturbances of smell and taste. The general mental powers are not much impaired. The patient is usually able to adjust himself to his environment. This condition persists quite a long time in certain individuals.

4. *Syphilitic Paranoia Occurring in the Absence of Tabes*

Dorsalis.—This form resembles the alcoholic psychoses. Delusions of marital infidelity are characteristic.

5. *Syphilitic Epilepsy*.—In this form the convexity of the brain is generally involved. There is endarteritis of the small vessels of the cortex. If the larger vessels share in the process paralysis sometimes occur. This form is sometimes difficult to distinguish from true epilepsy. The Wassermann examination of the blood and spinal fluid will serve to make the differentiation.

6. *Transient States of Confusion Attended by Hallucinations*.—The hallucinations may be of any form but are usually confined to the olfactory and gustatory types. This form very closely resembles the epileptic types of brain lues.

7. *Psychotic States Associated with Syphilitic Disease of the Heart or Aorta*.—Here we find states of depression, irritability, restlessness, and periods of confusion. Distress in the chest and pain about the heart and down the left arm attend the mental symptoms.

8. *Manic Depressive States Due to Syphilis*.—Periods of depression, elation and excitement are often observed. Associated with these are states of irritability and bizarre delusions.

9. *Psychogenetic States Due to the Morbid Fear of Syphilis*.—There is a marked syphilophobia with its attendant symptoms, as described in the first portion of this chapter.

10. *Psychopathic States Due to Inherited Syphilis*.—Individuals of syphilitic inheritance present all manner of anomalous mental states ranging from imbecility to a fair degree of mental endowment associated with marked eccentricities. The signs of inherited syphilis are usually evident.

Diagnosis.—It is at once apparent that it will be difficult in many instances to distinguish these more or less arbitrary groups from general paresis. Certain facts are to be borne in mind. Syphilis of the cerebral blood vessels occurs as a rule

much earlier than paresis. The focal symptoms are more characteristic and prominent than in paresis. The nocturnal headaches which suddenly appear and disappear are characteristic of the syphilitic psychoses. Many times the differential diagnosis can be made only after the results of treatment have been observed. In paresis anti-syphilitic medication as a rule is unavailing. In the syphilitic psychoses there may be recoveries or very marked improvement except where there has been extensive destruction of the nervous elements.

Treatment.—In every case very active anti-syphilitic treatment should be instituted. It must be borne in mind, however, that the patient is to be treated rather than the syphilis, and the treatment should be graduated, modified and regulated to suit the needs of the individual case. Mercury may be given by inunction, by mouth and by injection. Treatment by inunction gives better results than treatment by mouth. But inunction is uncleanly and takes time. The patient is very likely to take his treatment half-heartedly if he is not carefully watched. Another objection to the method is that secrecy cannot very well be observed. If mercury is employed by injection, the soluble and insoluble forms may be given, as preferred by the physician. The patient is very rapidly brought under the influence of mercury by the use of soluble salts, as bichloride, succinimide and cyanide. Cyanide of mercury may be given intravenously with good results. The patient should receive a course of injections varying from twenty to thirty if the individual doses range from a fourth to a half grain. The injections may be given intravenously every day, every other day, or twice a week. After five grains of mercury have been injected into either a vein or a muscle, the patient should be given a rest of thirty or sixty days and the treatment then continued according to his needs.

Salvarsan and neo-salvarsan may be given along with the

mercury or after the course of mercury is completed. From six to twelve injections of the neo-salvarsan should be given at a course. The doses should be of the minimum to begin with and increased until the point of toleration and the limit of safety have been reached. The injection may be given intraspinaly, but this treatment has not been found to give any better results than the intravenous method. After the arsenical course has been completed the patient should have a rest of a month or sixty days and should then have another course of treatment. Bi-weekly examinations of the urine should be made to discover whether or not damage is being done to the kidney. A Wassermann test of the blood and spinal fluid should be made at frequent intervals, to regulate treatment and to note progress.

The spirochetes seem to develop an immunity to both mercury and arsenic when either of these drugs is given alone, but this resistance of the syphilitic protozoa is destroyed by the mixed form of treatment. It is well to give potassium iodide throughout the course of treatment, in doses of from 15 to 60 grains three times a day, according to the needs of the patient. The potassium iodide should be well diluted with milk or water to avoid stomach symptoms.

The rules of hygiene should be followed during treatment of the disease. Tonics and symptomatic medication are to be employed as the conditions demand. Daily hot baths, Turkish baths or weekly bakes in electric cabinets are of great benefit in promoting absorption and elimination of the antisypilitic drugs.

Those cases which cannot be controlled or safely cared for at home or in general hospitals should be committed to hospitals for the insane.

CHAPTER X

PSYCHOSES WITH BRAIN AND NERVOUS DISEASES

Certain diseases of the brain and nervous system are accompanied by a variety of psychotic symptoms. The most common of these diseases are the following:

BRAIN TUMOR

CEREBRAL EMBOLISM, THROMBOSIS AND HEMORRHAGE

PARALYSIS AGITANS

MENINGITIS, TUBERCULAR OR OTHER TYPES

BRAIN ABSCESS

MULTIPLE SCLEROSIS

TABES DORSALIS

HUNTINGTON'S CHOREA

SYDENHAM'S CHOREA.

Brain Tumor.—In addition to the nervous symptoms that attend brain tumor, such as headache, dizziness, vomiting, choked disc, interlacing of the color fields and slowing of the pulse, there has been observed in about two-thirds of all cases the development of psychotic symptoms. These are likely to occur if the tumor is located in the prefrontal region or in the anterior lobes of the cerebrum. Usually with the development of brain tumor there is a diminution of the mental powers, failure of the initiative, and forgetfulness. The patient loses his capacity for mental and physical work and often becomes drowsy and stuporous. At times he is very much confused and goes about in a dazed condition. Sometimes he assumes catatonic attitudes. Often he is grandiose, loquacious and euphoric. He is inclined to indulge

in witticisms and sarcastic remarks. Blind patients suffering with brain tumor often have visual hallucinations. Tumors of the cerebellum occasionally produce mental symptoms of mild confusion and hysterical states.

The mental symptoms occasionally obscure the diagnosis of brain tumor. Sometimes brain tumor is diagnosed as paresis and the reverse is true. The diagnosis of tumor is to be made by localizing the symptoms and by the evidences of choked disc. Paresis is to be ruled out by an examination of the blood and spinal fluid and a careful consideration of the nervous symptoms.

Cerebral Embolism, Thrombosis and Hemorrhage.—Mental symptoms are frequently developed in these three conditions. The symptoms exhibited depend upon the portion of the brain affected; the type of nerve lesion will correspond to the localization areas involved. We may have speech disorders, any type of aphasia, or epileptoid convulsions. Hemiplegia is often present. The mental symptoms in general are those that have been described under the arteriosclerotic and senile insanities. There is generally failure of the mental powers, with emotional instability shown by marked irritability and states of depression. Periods of mild confusion often attend these conditions. Paresis attended by focal lesions is to be carefully ruled out.

Paralysis Agitans.—The course of this disease is marked by a gradual impairment of the mental powers. Periods of depression, states of mild confusion and hallucinations of sight, taste and smell are frequently observed.

Meningitis, Tubercular or Other Types.—In tuberculosis we find patients exhibiting feelings of well-being out of all proportion to their physical state. Conditions of exaltation are frequently noted in dying tuberculous patients. More often the tuberculous patient is irritable, fault-finding and difficult to control. He goes to excess in matters of exercise in his endeavor to regain his health. He is also given to alcoholic and sexual

excesses. Delirious states are noted, which appear and disappear with the elevation and subsidence of fever. Periods of confusion are frequent, and they have been known to prelude physical symptoms. The confusion is usually attended by depressive and persecutory beliefs. When the disease invades the meninges the customary signs of tuberculosis meningitis are observed. It is to be remembered that dementia præcox is frequently associated with pulmonary tuberculosis.

Brain Abscess.—Brain abscesses are often attended by psychotic symptoms which vary in degree and type with the location of the abscess and the character of the pus-producing organism. The patient is restless, delirious and confused. Convulsions are sometimes noted which are not easy to distinguish from those of epilepsy or hysteria. The history of the case and the localization of the nerve symptoms will be of assistance in the diagnosis.

Multiple Sclerosis.—This disease is usually attended by a slow developing dementia. Auditory hallucinations and delusions of persecution are frequently noticed. Expansive ideas have been observed by some authorities. Great care must be exercised in differentiating this disease from paresis.

Tabes Dorsalis.—The majority of tabetic patients maintain their mental integrity for the greater part. Many of them are able to follow vocations that require full functioning of the mental powers. If psychotic symptoms develop the disease has ascended the cord and attacked the cerebral cortex and a revision of the diagnosis is necessary, changing it to cerebrospinal syphilis or paresis, as the case may be. In order to secure relief from their pains tabetics often use alcohol, morphine, cocaine and other drugs to excess, therefore symptoms of drug psychosis are not uncommon. Any one of the essential psychoses may be added to the original disease of tabes dorsalis.

Huntington's Chorea.—Associated with this disease are occasionally well-developed mental symptoms in addition to the

gradual process of mental impairment. The patient becomes forgetful and easily irritated. At times he is confused. He often complains of auditory hallucinations. Occasionally he develops delusions of persecution and exhibits suicidal tendencies.

Sydenham's Chorea.—Emotional instability, irritability, fretfulness and lack of patience are characteristic mental symptoms of this disease. In addition to these usual states, there are frequently developed hallucinatory periods during which the patient suffers from insomnia and terrifying dreams. Occasionally there are periods of violence with states of confusion. Marked paranoid states have been observed, particularly in girls at the age of puberty. There are developed in rare instances stuporous conditions and states of exhaustion. Patients who have received excessive treatment sometimes show evidences of arsenic poisoning.

Treatment.—In each instance the underlying brain or nervous disease is to be treated primarily and the psychotic disturbances should receive the necessary symptomatic medication in addition to physiotherapy, dietetic and hygienic measures and the indicated custodial care.

CHAPTER XI

PSYCHOSES DUE TO ALCOHOL, DRUGS AND OTHER EXOGENOUS TOXINS

General Definition.—This is a group of psychoses resulting from the ingestion of narcotic and sedative drugs such as alcohol, opium or its derivatives, cocaine, chloral, bromides and veronal, and other exogenous poisons such as arsenic, mercury, lead and noxious gases. The chief symptoms produced by the use of these drugs and poisons are states of delirium and confusion, conditions of hallucinosis, paranoid reactions and mental deterioration.

Alcohol.—The use of alcohol has been responsible for the production of about 20 per cent of all cases committed to institutions for the insane. There is, however, a tendency on the part of the careless observer to overestimate the direct and indirect influence of this drug in the production of insanity. Not every psychosis associated with the use of alcohol should be regarded as an alcoholic psychosis, for alcoholism is often a symptom of the other essential psychoses. Its excessive use is frequently a part of the symptom complex of general paralysis, dementia præcox, manic-depressive insanity and epilepsy.

Psychology of Alcoholism.—It has long been believed by the medical profession, as well as by the laity, that the ingestion of alcohol was followed by a brief period of stimulation lasting from a few minutes to an hour, depending on the amount taken and the personal resistance of the imbiber. Careful research concerning the phenomena of alcoholism has led to the following conclusions: Alcohol is not a stimulant. Alcohol is a sedative and paralyzant. The stimulation is apparent only and the sensations of well-being and euphoria are due to psychic inhibition.

The processes of sensation and perception are rendered faulty and inaccurate. The physical worker and the student may have the subjective sensations that their muscular and mental powers, respectively, are increased for a brief time, whereas such is not the case. The feelings of physical and mental exhaustion are blunted and numbed only. As the condition of alcoholic paralysis increases, the psychic inhibition is further shown by a slowing down of ideation, failure of attention, rambling, incoherent conversation, marked emotional irritability and disorders of conduct. The automatic functions next suffer in the paralyzing process. The patient becomes clumsy, staggers, reels and often falls. The speech becomes thick and indistinct. Finally the patient sinks into a sleep or even into coma. On awakening he is exhausted and distressed and the experiences of his debauch are for the most part forgotten or very hazily remembered. Conviviality and curiosity are often responsible for the formation of the liquor habit. Constitutional psychopathic inferiors and neurotics drink to "drown their troubles." They meet the painful realities of life by blunting their sensations and perceptions, or they seek unusual pleasures as they tire of the commonplace.

There are at least twelve different types of psychoses or pathological reactions due to the use of alcohol. These reactions depend upon the personal equation and are an index to the cerebral resistance. They are fairly definite and allow of clinical differentiation into the following group:

PATHOLOGICAL INTOXICATION

DELIRIUM TREMENS

KORSAKOW'S PSYCHOSIS

ACUTE ALCOHOLIC HALLUCINOSIS

CHRONIC ALCOHOLIC HALLUCINOSIS

ACUTE ALCOHOLIC PARANOIA

CHRONIC ALCOHOLIC PARANOIA

ALCOHOLIC EPILEPSY

ALCOHOLIC PSEUDO-PARESIS

ALCOHOLIC DREAM STATES

ALCOHOLIC DETERIORATION

DIPSOMANIA.

PATHOLOGICAL INTOXICATION

Definition.—This is a state of morbid drunkenness which may follow the ingestion of either a large or a small amount of alcoholic liquor.

Etiology.—Males are more frequently affected than females owing to the fact that men are more given to the use of alcoholic beverages. Some persons exhibit a marked susceptibility to the effects of liquor. Individuals of low mental capacity as a rule display a feeble resistance to the effects of alcohol.

Pathology*Gross Pathology*

Congestion of the meninges
Sub-pial hemorrhage.

Microscopic Pathology

Degenerative changes in cortical cells as shown by:
Swelling of the nuclei
Amalgamation of the Nissl granules
Peripheral chromatolysis
Distention of blood vessels
Motor cells of the cord show similar changes.

The pathological changes enumerated have been found by animal experimentation with alcohol, and in persons who have met accidental death during an acute state of drunkenness.

Symptomatology.—Pathological intoxication is characterized by a marked period of restlessness, excitement and increased psychomotor activity, and occasionally by furore or frenzy. Hysterical conditions are common. The patient becomes confused and dazed. He may pass into a state of coma. Sometimes epileptic convulsions are observed. Disagreeable hallucinations and paranoid delusions often color the picture. The psychosis

is usually of short duration and the patient is very likely to have no memory of his conduct during the psychosis or but an indistinct recollection of it.

Treatment.—Empty the stomach by the use of pump or apomorphine if the general condition of the patient warrants it. A thorough purge by calomel and a saline cathartic is then in order. During treatment the patient should be isolated and carefully watched. The heart should be examined from time to time. If coma develops, stimulation by drugs is to be employed, together with the external application of heat and friction.

DELIRIUM TREMENS

Definition.—Delirium tremens is an acute psychosis usually associated with alcoholism. It is attended by disorders of consciousness, illusions and hallucinations of sight and hearing, restlessness, motor excitement, tremors, and ataxic disturbances.

Etiology.—Males are more frequently affected than females. The disorder appears not to be due to alcoholism alone. It may develop weeks after the use of liquor has been discontinued. States of autointoxication due to constipation or dysfunction of the liver and kidneys are factors in its production. Chronic drinkers frequently develop this psychosis following trauma or infectious disease.

Pathology

Gross Pathology

1. Venous stasis of cerebral vessels.
2. Edema of the brain.
3. Fatty degeneration of the heart muscle.
4. Cirrhosis of the liver.
5. Chronic interstitial nephritis.
6. Hyperplasia of the spleen.

Microscopic Pathology

1. Degeneration of the cortical cells.
2. Vacuolization of the cells.
3. Increase in the glia.
4. Atrophy of the radial fibers of the central convolution of the cerebellum.
5. Destruction of the cortical and Purkinji cells.

Symptomatology.—The onset of this disorder may be sudden or it may develop slowly, preceded by a prodromal period of insomnia, anorexia and general restlessness. The delirium is usually introduced by great excitement, confusion and incoherence of ideas. Marked tremor of the muscles is noted, particularly those of the face, tongue and hands, though all the muscles may be involved. As the disease progresses the excitement and confusion increase, the pulse becomes rapid and the skin hot and red and covered with profuse, disagreeable perspiration. Consciousness is often clouded and complete disorientation is occasionally encountered. Hallucinations of the most terrifying nature appear. The victim believes he sees snakes and reptiles of all sorts, complains of insects crawling under his skin, and picks at the bedclothes to rid them of vermin and mice. The patient hears voices threatening him with bodily harm, and carries on incoherent and wild conversations with imaginary foes. Often attempts are made to escape from his bed and room, and vicious and dangerous assaults upon his attendants are by no means uncommon. As the excitement and agitation increase the patient shouts and screams at the top of his voice until he is utterly fatigued. In some cases this motor agitation is absent. The symptoms are more acute at night than in the daytime. The patient's physical condition is one of exhaustion. The temperature may be slightly above normal and sometimes ranges from 100 to 103 degrees Fahrenheit. The pulse is rapid and feeble and precordial distress is common. Albuminuria is found in approximately 50 per cent of all cases, and in many instances leukocytosis has been observed during the height of the delirium.

The disease generally lasts from three to five days and about 90 per cent of all cases recover. In the favorable cases the delirium is terminated by a prolonged and restless sleep. In fatal forms the patient sinks into a profound coma and stupor which ends in death.

Treatment.—Isolation and custodial care, rest in bed, light, nutritious food. There should be symptomatic medication to overcome restlessness, excitement and insomnia. Prolonged warm baths may be judiciously employed for the same purpose. The heart should be regularly examined and cardiac stimulants used as indicated.

KORSAKOW'S PSYCHOSIS

Definition and Etiology.—This is a psychosis which is often developed upon the basis of chronic alcoholism, but it may owe its origin to other toxic states due to infectious diseases such as tuberculosis, influenza, diabetes, typhoid fever and metallic poisons. It may or may not be accompanied by a polyneuritis. It occurs in either a delirious or a non-delirious form. In the non-delirious form there are disturbances of orientation, marked susceptibility to external stimulation and suggestion, and falsification of memory. The delirious type somewhat resembles delirium tremens.

Pathology

Gross Pathology

Gross evidences of degenerative changes in the

Cortex

Basal ganglia

Spinal cord and

Peripheral nerves

Acute hemorrhagic encephalitis.

Microscopic Pathology

Degenerative changes in the cortical cells

Minute hemorrhages in the central gray matter

Degenerative changes in the nerve fibers of the central convolutions

Atrophy of the nerve fibers in the column of Goll

Degenerative changes in the peripheral nerves.

Symptomatology.—The symptoms usually appear after an alcoholic debauch or follow a state of delirium tremens. The power of attention is markedly disordered, as are orientation and memory. The memory defect is peculiar, inasmuch as the patient fills in the lapses of memory with all manner of untrue

statements which are related with apparent clearness of mind. A bedridden patient will tell the examiner the most marvelous stories of adventure and activity in which he has just been engaged. The patient is highly susceptible to suggestion and will invent fabrications to fit the occasion when stimulated by being questioned. Various forms of Korsakow's psychosis have been designated, depending upon the predominating symptom. In some the chief symptom is forgetfulness; in others, confusional states are most marked. Delusional tendencies are the chief traits of other forms. Some patients exhibit marked states of anxiety, and conditions of dementia have been found.

Physical Symptoms.—The patient generally shows the signs of polyneuritis, such as wrist drop, foot drop, hyperesthesia, aphasia, incoordination, positive Romberg, unequal pupils and occasionally Argyll-Robertson pupils.

Diagnosis.—Falsifications of memory, disorientation, wrist drop, and a history of alcoholism or infectious disease make the diagnosis easy after general paresis has been ruled out by a Wassermann examination of the blood and spinal fluid.

Treatment.—Withdrawal of alcoholic beverages where these are the cause, free elimination by catharsis and diuresis, rest in bed during the acute stage. The diet should be light and nutritious. Warm baths, massage, passive movements and gymnastics should be employed in the later stages to overcome or improve muscular disabilities. Tonic medication should be given as indicated.

ACUTE ALCOHOLIC HALLUCINOSIS

Definition.—This is an acute psychosis which frequently develops in chronic alcoholics. It may come on suddenly after a debauch or it may have a slow onset. It often follows an attack of delirium tremens. It is characterized chiefly by auditory

hallucinations and loosely woven delusions of persecution. As a rule consciousness is not much disturbed.

Etiology.—Alcoholic excesses and abstinence from food during periods of debauch. Males are more frequently affected than females. In the majority of instances the disease occurs in middle life. About 50 per cent of the alcoholic psychoses found in hospitals for the insane are of this type.

Mental Symptoms.—The primary symptoms are auditory hallucinations of a disagreeable nature. The patient hears voices accusing him of sexual acts such as rape, incest, sodomy and masturbation. These voices seem to come out of the air, out of the walls, from radiators, from clocks, or from any object within the environment. Hallucinations of taste and smell are frequent and the patient often complains of disagreeable substances in the air, water or food. Visual hallucinations are rarely present.

The delusions entertained by the patient are of a disagreeable, persecutory nature, as are the hallucinations. The subject of this disease often believes his food is poisoned by his enemies in order to produce nocturnal emissions. He may believe that his wife is unfaithful to him or that his children and relatives seek his misfortune. His conduct is so ordered by these painful and delusional beliefs that occasionally vicious assaults are made upon his supposed enemies.

In some cases great depression accompanies the delusions and hallucinations, and as a result attempts at suicide are not infrequent. Anxious states and ideas of impending danger are occasionally noted, but conditions of elation and euphoria are rarely seen. Consciousness remains fairly clear in most cases and orientation is not usually disturbed.

Physical Symptoms.—These are quite characteristic. Insomnia and headaches are marked. The patient loses weight by rea-

son of his restlessness, lack of food and loss of sleep. Tremors of the tongue, face and body muscles are frequent. The reflexes as a rule are increased.

Course and Prognosis.—This depends largely on the physical condition of the patient. The usual duration is from ten to fifteen days. In asthenic subjects the course is prolonged and may become sub-acute, and in this class of cases the prognosis is guardedly favorable. This is especially true when the psychosis is attended by acute infectious diseases such as pneumonia or erysipelas.

Diagnosis.—In delirium tremens the predominating hallucinations are usually of a visual character. Orientation is more likely to be disordered in delirium tremens than it is in alcoholic hallucinosis.

In dementia præcox the development of the psychosis is more gradual. There is considerable evidence of mental deterioration and there are states of negativism, mutism and catatonia. Marked emotional indifference is characteristic of dementia præcox, whereas the emotional depression of alcoholic hallucinosis is decidedly painful and distressing.

In general paresis we have the customary neurological signs and marked dilapidation of the mental powers.

In paranoia the delusional system is very slowly developed and in many cases the history of prolonged alcoholic excesses may be ruled out.

Treatment.—Alcohol should be withdrawn altogether. The insomnia should be combated by the use of hydrotherapy in the form of hot and cold showers, prolonged tub baths, warm packs, and the employment of bromides, chloral and other sedatives. The heart should receive careful attention and strychnine and digitalis should be employed as indicated. The diet should be nutritious but of a light character.

CHRONIC ALCOHOLIC HALLUCINOSIS

This is to be regarded as a sub-acute form of the acute alcoholic hallucinosis. It is rather infrequently observed. The symptoms in the main are essentially the same as in the acute form, except that the emotional states of anxiety, distress and apprehension are less marked and disturbances of conduct more rare because of the lessened emotional response to the hallucinations and delusions.

ACUTE ALCOHOLIC PARANOIA

This is a paranoid state developing upon the chronic use of alcohol, attended by delusions of persecution which relate to marital infidelity and jealousy. The patient entertains all sorts of delusions of infidelity concerning his wife. He interprets the simplest acts of social and business intercourse to be bona fide evidences of adultery on the part of his mate. He watches the mail carrier when he delivers the mail, is suspicious of the grocer, of his neighbors, of street car conductors, or of any person who may have the most trifling social or business relations with his wife. The patient ceases to care for his children because he thinks they are the offspring of his wife's paramour. Hallucinations are quite common. The patient hears his enemies talking about him. The noises about his home, in the factory, in his office, or wherever he may be, are interpreted to be voices which speak evil of him. Hallucinations of smell are common. He believes that noxious odors are introduced into his room. For this reason he plugs up keyholes and cracks in the windows. Again, he may believe that his food is poisoned and take his meals at a restaurant rather than at home, for fear his wife and her lover may attempt to poison him. As a rule consciousness remains clear. Reason and judgment are impaired. Many times the patient's behavior is not in harmony with his expressed de-

lusional beliefs, for he may continue to live in peace with his family in spite of the delusions of infidelity and persecution.

Course and Prognosis.—The delusional beliefs usually remain fixed in the patient's mind, but the emotional responses are lessened when the individual is placed in a quiet environment and alcohol is withdrawn. Because of this the relatives and friends of the patient are often led to believe that a permanent cure has been effected. If the patient is placed in irritating circumstances or environments or again resumes the use of alcoholic liquor, the symptoms recur.

Diagnosis.—Sometimes the diagnosis is fairly difficult because the chronic use of alcohol leads to the disruption of home and marital ties, and the conduct of the marital mate may be such as to suggest that the patient has some foundation for his delusional beliefs. He may be able to present arguments for his beliefs in a fairly logical manner and the mental deterioration may be of the slightest degree, so that his deductions and conclusions may sound quite reasonable. Careful consideration of the case and investigation of the circumstances will generally show whether the beliefs have a morbid basis. When actual infidelity does occur the patient is often quite indifferent.

In dementia præcox we occasionally encounter delusions of jealousy and infidelity, but the delusional beliefs are not presented as logically and reasonably as they are in alcoholic paranoia. The withdrawal of alcohol results in a subsidence of the symptoms in the alcoholic disease, which is not the case in dementia præcox.

True paranoia is usually of slow development and the delusions of persecution are more systematized and are not affected by the withdrawal of alcohol.

Treatment.—Immediate withdrawal of alcohol and the placing of the individual in a private or state institution where he

may be carefully watched to prevent assaults and attacks upon innocent persons.

CHRONIC ALCOHOLIC PARANOIA

This disease may take on a sub-acute form and the delusions of persecution and infidelity may persist after the withdrawal of alcoholic liquors.

ALCOHOLIC EPILEPSY

Frequently convulsions occur in chronic alcoholics, scarcely distinguishable from the convulsions of idiopathic epilepsy. Upon withdrawal of alcohol the epileptoid convulsions cease.

ALCOHOLIC PSEUDO-PARESIS

The chronic use of alcohol is frequently attended by a state of mental deterioration which is associated with marked disorders of the tendon and skin reflexes, with anomalies of the pupils, disorders of speech, disorders of locomotion, tremors and transient paralyzes. Clinically it is extremely difficult to differentiate this condition from true paresis, for the paretic is often given to alcoholic excesses. In making a diagnosis a careful history must be obtained. The onset of paresis is usually slower. In alcoholic pseudo-paresis the signs of polyneuritis are commonly found, while in paresis these symptoms are relatively rare. The Wassermann of the blood and spinal fluid is usually positive in paresis, and the cell count is usually increased and the globulin test positive. Paresis is progressive and ends in death, while the course of alcoholic pseudo-paresis may be arrested, at least to some degree, by the withdrawal of alcohol. Alcoholic pseudo-paresis usually terminates in a state of alcoholic dementia.

ALCOHOLIC DREAM STATES

The following mentioned conditions may occur as a result of the excessive or prolonged use of alcoholics: automatism, som-

nambulism, amnesia, dual personality and catalepsy. In these conditions the alcoholic individual may take long journeys, engage in his usual occupations, make business transactions, and even commit crimes. When these states have passed the individual has no memory of what may have occurred during their existence. Cases of this sort often furnish the basis for medico-legal contentions.

ALCOHOLIC DETERIORATION

This is a state of insidious, progressive mental enfeeblement attended by impairment of memory, emotional deterioration and instability, lack of power of application to work, and impairment of reason and judgment. Occasionally hallucinations and delusions are developed.

Etiology.—Chronic alcoholism is usually an evidence of a defective nervous organization. At least 50 per cent of chronic alcoholics are the offspring of tainted stock. Occasionally injuries to the head, spine or other portions of the body may precipitate the chronic use of alcohol. Males are more often affected than females. Social customs and conviviality have no doubt been responsible for the development of chronic alcoholism in individuals of unstable nervous systems.

Pathology

Gross Pathology

1. Reduction in brain weight.
2. Leptomeningitis.
3. Pachymeningitis.
4. Shrinking of the convolutions.
5. Dilatation of the ventricles.
6. Sclerosis of the cerebral blood vessels.
7. Endarteritis.
8. Cirrhosis of the liver.
9. Chronic nephritis.
10. Chronic gastritis.
11. Myocardial degeneration.
12. General arteriosclerosis.

Microscopic Pathology

1. Increase of neuroglia.
2. Degenerative changes in the nerve cells.
3. Destruction of nerve cells.

Symptomatology.—There is a gradual change in the habitual drinker's character and mental capacities. He finds it difficult to apply himself to his usual daily labor, cannot concentrate his mind as formerly, shows a lessened capacity for attention to detail, and cannot acquire information. The memory fails, reason and judgment become markedly impaired, and because of his failure to conceive circumstances in their true relations delusions are developed. Due to faulty perceptions, hallucinations are occasionally encountered. There is a marked change in the moral characteristics of the individual. A formerly goodnatured person becomes morose, sullen, and given to outbreaks of temper. He ceases to care for his personal appearance; is dirty and unkempt. His clothes are not properly fastened and arranged and are often stained with food. His sense of honor is lost; he is given to lying. At times he is ready with promises to cease indulgence in liquor, but he straightway forgets his promises. He invents all sorts of excuses to use alcohol; says that it is necessary for the continuance of his daily labor; that he takes it to keep him warm, or if his work is in foundries or bakeshops, that he takes it to keep cool. Disappointments and failures in business are given as excuses for alcoholic indulgence. The economic and social degradation of his family are of little moment to him. His mental incapacity in time becomes so great that he is unable to carry on his usual occupation. He sinks lower and lower in the social scale, and in order to get liquor will pawn his belongings and steal the property of others.

Physical Symptoms.—The physical condition of the chronic alcoholic usually proclaims his use of the drug. The capillaries of the face are prominent and distended, the face is usually flushed and purple and the nose may be markedly reddened. Occasionally extreme pallor of the face is found. There is tremor of the facial muscles and general muscular weakness. The gait is shambling and slovenly, the speech is generally thick and de-

fective, and symptoms of peripheral neuritis are often present. The patient complains of formications, numbness and tinglings about the body. The course of the nerves may become painful. Convulsive attacks occur in about 15 per cent of all cases.

Course and Prognosis.—The course is usually chronic and is in ratio to the amount of mental deterioration present. The more marked the mental dilapidation the less hope for recovery. About 25 per cent of chronic alcoholics make social recoveries if they are placed in institutions for long periods of time.

Diagnosis.—The history of the case and the typical mental, physical and moral degeneration make the diagnosis fairly certain and easy.

Treatment.—The use of alcohol should be immediately stopped. The patient should be placed in an institution and isolated from his friends and family. The sudden withdrawal of alcohol may be attended by symptoms of collapse, anorexia, insomnia and extreme nervousness, but this condition can be readily met by the employment of heart stimulants, bitter tonics containing capsicum, and other mild stimulants. The diet should be light and nutritious. The emunctory organs should be kept active. Daily baths are beneficial. Psychotherapy is of advantage in many cases. The patient should be encouraged and strengthened to meet his alcoholic temptations. This can best be done by the method of psychoanalysis.

DIPSOMANIA

Definition and Etiology.—Dipsomania is the periodic indulgence in alcoholic beverages, due to morbid, irresistible impulses, occurring in persons of constitutionally inferior makeup.

Pathology.—There is no demonstrable pathology.

Symptomatology.—The victim of this disorder drinks because he is mentally abnormal, whereas the chronic alcoholic becomes mentally affected because he drinks. For months the dipsoma-

niac refrains completely from the use of alcohol. Then suddenly he goes on a terrific alcoholic debauch, during which he will drink alcohol in any form in which he can procure it, including hair tonics, perfumes, flavoring extracts or any substances containing alcohol. During this time he gives himself up entirely to the satisfying of his intense morbid cravings, to the complete neglect of his business and his family. Usually he stops his spree as precipitately as he started it, but there may be a tapering-off process lasting several days.

Treatment.—The attack may occasionally be warded off if the patient will notify his friends in time to institute abortive measures such as rest from work for a few days, change of scenery, thorough catharsis with calomel followed by a saline purgative, warm baths and showers and careful administration of bromides to secure sedation and sleep. Once the spree is started it seems that it must run its course. At its termination the patient should be given a vigorous cathartic, hydrotherapy in the form of Turkish baths and hot and cold showers, and bromide therapy and other symptomatic medication as needed.

COCAINISM

Definition.—Cocainism is a state of intoxication produced by the excessive or habitual use of cocaine or other alkaloid of erythroxyton coca. This drug is seldom used alone and often in combination with alcohol and morphine, so that the clinical picture is not always clear cut or unmodified.

Etiology.—The cocaine habit is sometimes formed when cocaine has been incautiously used in the treatment of morphinism. It would seem that the use of cocaine is increasing, but this has not yet been proven. About 80 per cent of individuals who use this drug have previously used alcohol or morphine, and the histories of about 75 per cent of users show the evidences of tainted heredity. The drug is taken by means of a hypo-

dermic needle and by mouth, and it is a frequent practice among criminals, vagrants and prostitutes to snuff it from the back of the hand into the nares. The latter method often produces a marked catarrh and occasionally an ulcerated condition of the mucous membrane of the nose.

Pathology.—There is no characteristic pathology.

Symptomatology.—The mental symptoms of cocaineism differ but little from those of morphinism. The action of cocaine is more rapid than that of morphine, and the feeling of wellbeing and contentment is more pronounced, but the period of euphoria is shorter. The pupils are usually dilated, the pulse rate is increased, the patient is hilarious and talkative and exceedingly goodnatured, and his general behavior indicates that he is under the influence of some drug.

The first manifestation of the chronic use of cocaine is a condition of extreme restlessness followed by a period of irritability. The patient's behavior becomes erratic and his conversation incoherent and irrelevant. The will power is weakened, the moral sense becomes dull and perverted and the victim is given to lying and stealing. He occasionally commits crimes and misdemeanors of a sexual nature. States of mental confusion attended by somatic delusions and hallucinations are common. The patient often complains of worms and bugs crawling under his skin. This particular form of paresthesia is known as the "cocaine bug." Delusions of infidelity are quite common. Often the patient believes that his personal rights are not respected; that his enemies follow him about the streets. Many other similar paranoid ideas are encountered.

The continued use of cocaine is attended by a condition of weakness, emaciation and anemia. The skin is usually cachexic. Needle scars are found in various parts of the body. Often scars of old abscesses, due to the use of an unsterilized needle, are found. The pulse is usually weak and rapid. Nystagmus is a

frequent symptom. The pupils are generally dilated and the eyes unusually bright. The sudden withdrawal of the drug from an individual who has long used it may produce a condition of marked nervousness, great physical distress, vomiting and headaches, attended by a paranoid state during which the individual is potentially dangerous.

Course and Prognosis.—The majority of cocaine users are individuals of unstable nervous systems, and for this reason permanent recovery is not usual.

Treatment.—The individual should be placed in an institution or in an environment where he can be absolutely controlled. The drug should be withdrawn at once, provided no symptoms of collapse present themselves. The tapering method of withdrawing the drug is not successful. With this method, as soon as the drug has been reduced to the smallest amount the patients have an apparent recurrence of their former symptoms and the "cure" has to be repeated. The heart should be carefully watched and heart stimulants such as strychnine, camphor and alcohol should be given if their use is indicated. Insomnia may be overcome by the judicious use of bromides and small doses of veronal, chloral or trional in combination with prolonged warm baths. The diet should be light and nutritious. The individual should be confined long enough to enable him to recruit his moral powers against relapses.

MORPHINISM

Definition.—Morphinism is a chronic intoxication which develops in the habitual users of opium or its alkaloids.

Etiology.—The morphine habit is formed in neuropathic individuals who resort to the use of the drug for the relief of physical pains such as those which occur in locomotor ataxia, persistent neuralgia and rheumatism, or to overcome prolonged fatigue, worry and insomnia. The formation of the habit in

persons of a certain class is due to curiosity and an appetite for new sensations, and to the train of pleasant symptoms which follow the first use of morphine. Morphinism is about equal in the two sexes. In rare instances physicians are no doubt responsible for the formation of this habit, through use of the too ready hypodermic needle. It is a regrettable fact that about 15 per cent of the habitués of this drug are physicians, dentists, pharmacists and professional nurses. About 50 per cent of the users of this drug are individuals of unstable nervous organizations.

Pathology.—The pathology is not characteristic. Vascular congestion of the brain and its membranes with serus effusion into the ventricles have been found in those who have died from opium poisoning. The cerebral cortex is shrunken and anemic. There is an increase of the neuralgia. The heart muscle shows degenerative changes.

Symptomatology.—The use of morphine or its alkaloids is at first followed by a state of mild euphoria, but as the habit becomes intensified increasing doses must be taken in order to produce a feeling of wellbeing. In the course of the disease the pleasant sensations are lost and a condition of depression follows. This condition the victim tries to alleviate by a further increase of the dosage of the drug. Instead of finding relief he soon learns that the larger doses serve only to increase his mental depression and the other symptoms which he seeks to alleviate. As the habit progresses the symptoms become more marked and distressing. The patient's mental powers become feeble; he is unable to concentrate and is easily fatigued mentally. Losses of memory are common, and hallucinations and delusions occur. The emotions are unstable and are subject to alterations between depression and elation. States of irritability are observed and the sleep is disturbed by terrifying dreams. The moral qualities of the mind suffer in the deteriorative process. The will power is weakened and a propensity for lying and stealing

is exhibited. Sexual crimes are not uncommon. It is a common practice for the patients to sleep during the daytime and remain awake and restless at night. They are talkative, faultfinding, critical and obstinate. They supplement the use of morphine with alcohol. They are unable to follow their usual occupations because of the impairment of their mental powers.

Physical Symptoms.—The patient loses his appetite; suffers from attacks of gastralgia. Periods of diarrhoea are observed in many instances, and loss of weight and strength progress with the advance of the disease. Disturbances of the visual powers are often noted. The pupils are usually much contracted. The patellar reflexes are often absent. Headaches and vertigo are constant symptoms and albuminuria and glycosuria due to transient renal congestion is seen in some cases. Itching is frequent after the taking of morphine or opium. Insomnia is a usual symptom. Patients often fill their nights with the making of plans to obtain the drug and wild schemes to procure money. Hallucinations of sight frequently occur at night. Patients complain of vertigo, dizzy attacks and headaches.

Course and Prognosis.—Individuals of robust constitution can withstand the ravages of this disease for a fairly long time before there are marked signs of impaired mental and physical health. Less vigorous persons of asthenic constitution may die of malnutrition and inanition or heart failure in the course of twelve months. Occasionally individuals die from an overdose of morphine, but this is rare, because the increase of the dose is usually gradual. Death has sometimes followed the abrupt withdrawal of the drug. The prognosis is unfavorable in about 90 per cent of the cases. There may be temporary improvement on abstinence from the drug, but the patients relapse whenever an opportunity to secure the drug affords itself.

Diagnosis.—This can usually be made from the history of the case. Individuals who present alternate periods of excessive

wellbeing and depression without apparent cause, are to be regarded with suspicion. It must be borne in mind that the victim of this disease will practice all manner of deceit to hide his habit. In the case of women it is well to remember that the vagina has been used to hide the drug and hypodermic needle. The use of the drug may be detected by the examination of the urine and the stomach contents. The skin usually has a yellowish-gray appearance and the pupils are of the pinpoint variety. The body should be carefully examined for evidences of the use of the hypodermic needle.

Treatment.—Three methods may be employed in the treatment of morphinism so far as the withdrawal of the drug is concerned.

First.—The abrupt withdrawal of the drug. This method as a rule can be followed with robust individuals. In vigorous persons mental symptoms and physical collapse rarely follow this practice.

Second.—The rapid withdrawal of the drug. The drug is reduced each day by graduated amounts for six or seven days until its use is entirely discontinued.

Third.—The slow withdrawal of the drug. In this method the amount of the drug taken is reduced gradually from day to day. This method is applicable in the treatment of very weak and emaciated patients or those who suffer from chronic, incurable or painful diseases such as tabes dorsalis, brain tumor and cancer. It is imperative that these cases should be isolated and that strict supervision should be maintained by trustworthy attendants to prevent the patient from securing the drug. The diet should consist of easily digestible, nutritious food; the patient's strength should be supported by tonics (elixir of iron, quinine and strychnine may be used to advantage). Bromides may be employed to relieve any unpleasant symptoms that follow the withdrawal of the drug. Sulfonal, veronal and paraldehyd are

useful in combating insomnia. Massage, baths and graduated exercise are useful in the convalescent stage. Psychotherapy is of great value in the treatment of these cases.

PSYCHOSES AND PSYCHOTIC STATES DUE TO OTHER DRUGS AND METALS

Psychotic disturbances have followed the temporary or chronic poisoning with various drugs and metals. The list is long, but since the mental disturbances have outstanding symptoms in common, they will be described as a whole, very briefly.

The most prominent among these poisons are veronal, sulfonal, trional, luminal, chloral hydrate, paraldehyd, chloroform, ether, phenacetin, antipyrin, chloralamid, belladonna, atropin, hyoscyamus, hyacine, quinine, iodiform, santonin, carbonic acid gas, mercury, lead, arsenic and bromides.

The general symptoms of these acute intoxications are dream-like states, delirious conditions, disturbances in the psychosensory field, bizarre delusions, auditory hallucinations, changing emotional states (from one of good humor to one of irritability) and conditions of motor excitement.

The predominant symptoms of the more important poisonings will be mentioned.

Lead Poisoning.—This condition is characterized by headaches, restlessness, delirium, visual hallucinations, delusions of persecution, clouding of consciousness and convulsive attacks which resemble those of epilepsy.

Physical Signs.—There is marked tremor of the body muscles in general, twitching of the muscles of the face, inarticulate speech, insomnia which is often followed by clouding of consciousness, and coma. There is often wrist drop and ankle drop, atrophy of the muscles of the hand, the steppage gait, and incomplete or complete paralysis of the legs. This condition frequently occurs in lead workers.

Chloroform Intoxication.—A dreamlike state is produced by the chronic use of chloroform and hallucinations of sight are common.

Santonin Poisoning.—In chronic poisoning of this drug visual hallucinations develop, and all objects within the field of vision appear to be yellow.

Cannabis Indica Poisoning.—In this condition there is produced a dreamlike state in which the patient has phantastic but usually pleasant hallucinations. The muscle sense is usually disordered, as is the sense of taste.

Carbonic Acid Gas Poisoning.—The mental disturbances are of short duration and are accompanied by hallucinations of a sexual nature.

Belladonna and Atropin Poisoning.—The poisoning is characterized by delirious states, great motor restlessness and states of euphoria. In some instances the patient is very much depressed. Psychotic disturbances are of very short duration, as the individual either promptly recovers or dies from the intoxication.

Veronal Poisoning.—The patient develops a dreamlike state and often goes into a profound stupor which occasionally ends in death. Often the patient is greatly incoordinated. He stumbles and staggers about like a drunken man and talks in an irrelevant manner. The pupils are widely dilated.

Bromide Poisoning.—A dreamlike state is produced which is often attended by delirium. The patient is usually disoriented in one or more spheres. As a rule there are delusions of persecution, reference and influence, and auditory hallucinations are frequent. The patient is given to falsifications.

Chronic Arsenical Poisoning.—This occurs in individuals who work with dyes in the manufacture of colored paper and textiles. It is attended by paralysis similar to that of lead poisoning with the exception that the lower extremities are more

often affected than the upper. There is the usual steppage gait, and weakness of the wrists and fingers. Tingling and numbness of the extremities is common. The chief mental symptoms are states of delirium, confusion, headaches, malaise and giddiness.

Treatment.—This should consist in the immediate withdrawal of the drug or metal and the application of the physiological or chemical antidote. There should be free elimination by flushing of the bowels, kidneys and skin, and hydrotherapy in the form of prolonged baths and hot packs. The patient's strength and vitality are to be supported by appropriate tonics, and sedatives are to be judiciously employed to control delirium and insomnia if hydrotherapy is not sufficient to accomplish this. The course of these intoxications is from a few days to several months.

CHAPTER XII

PSYCHOSES WITH SOMATIC DISEASES

Definition.—Within this group are included the psychotic states which attend the infectious diseases, constitutional disorders, states of exhaustion and diseases of the endocrine glands. With respect to their etiology and symptoms they are classified as follows:

DELIRIUM WITH INFECTIOUS DISEASES

POST-INFECTIOUS PSYCHOSES

EXHAUSTION DELIRIUM

DELIRIUM OF UNKNOWN ORIGIN

CARDIO-RENAL DISEASE

DISEASE OF THE DUCTLESS GLANDS

OTHER DISEASES OR CONDITIONS TO BE SPECIFIED, WHICH
INCLUDE

- a.* Diabetes.
- b.* Gout.
- c.* Gastrointestinal disorders.
- d.* Pellagra.
- e.* Rheumatic fever.
- f.* Malaria.
- g.* Pregnancy, parturition, puerperium and lactation.
- h.* Influenza.
- i.* Lethargic encephalitis.

Etiology.—The factors in the production of these psychotic states are the

Resistance of the patient.

Degree of temperature elevation.

Virulence of the infecting organism.

Of these three, the most important factor is the condition of instability and lack of resistance of the nervous system. An individual's mental stamina is oftentimes measured by the resistance which his nervous system offers to infectious diseases. Women and children develop the infection psychoses more often than men, but individuals of both sexes who are delicately organized are equally susceptible. A very slight temperature is sufficient to produce confusion and delirium in some individuals, while others are able to withstand temperatures above 104 without the slightest exhibition of mental symptoms. Infectious diseases attended by the formation of pus are much more likely to produce psychotic symptoms.

Pathology

Gross Pathology

The gross pathology is that which is characteristic of the disease producing the psychotic symptoms. For instance, at autopsy we find the morbid anatomy of pneumonia and nephritis.

Microscopic Pathology

There are found degenerative changes in the cortical cells. Sometimes the absence of these cells is noted, and a condition is observed which is similar to the morphological nerve changes in animals which have been subjected to excessive heat.

Symptomatology.—According to the time of appearance of the symptoms which are associated with these diseases they are classified as prefebrile, febrile and postfebrile.

DELIRIUM WITH INFECTIOUS DISEASES

Prefebrile Delirium.—Early in the stages of febrile diseases, even before fever has become manifest or before the temperature has been elevated more than a degree, psychic disturbances develop. The symptoms are due to the action of bacteria or to the action of other toxic agents. The chief mental manifestations

are headache, malaise, confusion, delirium, transient hallucinations and changeable delusions of a disagreeable nature, irritability, and states of depression or excitement. To the ensemble of these symptoms the term initial delirium has been applied. Occasionally typhoid fever is first evidenced by psychotic symptoms of the type just described.

Febrile Delirium.—The symptoms of this form attend the febrile period of the disease and usually correspond in intensity and character to the temperature curve. In cases where only a slight degree of pyrexia is present, symptoms are nocturnal in their appearance and take the form of illusions, hallucinations, conditions of confusion and restlessness. In states of hyperpyrexia there are conditions of pronounced clouding of consciousness, disorientation in all spheres, disagreeable hallucinations and delusions, and great restlessness and excitement. If the fever rises the symptoms are intensified. The patient tosses about in his bed, becomes extremely restless and markedly agitated. Often he carries on conversations with imaginary persons. His speech is incoherent and muttering and states of carphologia and subsultus tendinum are common.

POST-INFECTIOUS PSYCHOSES

Postfebrile Delirium.—The psychic phenomena continuing after the febrile state comprise conditions of disorientation, confusion, delirium, dreamlike states and epileptiform excitements. The patient often has auditory hallucinations, and delusions of persecution lend a color to the clinical picture. States of depression and marked apprehension are common.

Debilitation and prostration are the etiological factors in these conditions, and they bear a close resemblance to the deliria of exhaustion, but they are differentiated from the latter by their direct causal relationship to some preceding infectious disease.

To this group belong the chronic states of toxemia which have for their expression the non-alcoholic Korsakow's psychosis.

EXHAUSTION DELIRIUM

Definition and Etiology.—Mental symptoms may develop after severe exhaustion such as that which attends loss of blood, mental and physical shock, the puerperal state, deprivation of food, protracted insomnia, prolonged convalescence from tuberculosis, pneumonia, influenza, typhoid fever and other infectious diseases. There are two main types of this disorder; collapse delirium and acute hallucinatory confusion.

Pathology.—No definite pathology has been found, for relatively few cases have been examined. There have been observed, however, degenerative changes in the cerebral cortex and morphological changes in the chromatin substance.

Symptomatology.—*Collapse Delirium.*—The disease is ushered in by a prodromal period of anxiety, insomnia and restlessness, succeeded by a condition of confusion and perplexity. This by degrees becomes intensified and the patient then exhibits delusions and hallucinations. Orientation becomes defective in all spheres. Great psychomotor excitement supervenes; the patient is exceedingly active and may commit acts of violence. In the more severe cases the disorientation becomes complete. The patient is stuporous. The physical condition is characterized by anorexia, gastrointestinal disorders, profound prostration, diarrhoea, typhoid symptoms and emaciation, and frequently by coma. Albuminuria is a more or less constant symptom.

Acute Hallucinatory Confusion.—This form of the exhaustion psychosis is not so marked as the collapse delirium. The symptoms are essentially the same, but of much milder character. Various degrees of clouding of consciousness may exist. The patient talks in an incoherent, irrelevant manner, seems to be in a daze, and has fleeting and ever changing hallucinations and de-

lusions. The delirium may be of the occupational type. Occasionally there are brief periods in which consciousness is clear and the patient talks and behaves in a rational manner. This temporary remission in the psychosis leads to erroneous diagnosis and gives rise to unfounded hopes for an early recovery. Occasionally the hallucinatory confusion is punctuated by stuporous states.

Diagnosis.—The history of an acute infectious disease, hemorrhage, shock or similar condition, the confusion and changeable character of the delusions and hallucinations, disorientation, and the general physical condition of the patient, simplify the diagnosis. It should be remembered that other mental disorders have their origin in infectious disease and that any psychosis may have, in addition to its characteristics, those symptoms which attend an infection. Special care must be exercised to exclude delirium tremens, epilepsy and catatonia.

Course and Prognosis.—The prognosis depends entirely upon the virulence of the infection, the severity of the exhaustion and the vitality and resistance of the patient. If a delirium starts early in the course of an infectious disease, the case is to be regarded as a serious one. Where the exhaustion has been extreme the outlook is not favorable. An amelioration of the mental symptoms is generally associated with an improvement in the physical condition of the patient. Death is the termination of approximately 50 per cent of the exhaustion psychoses.

Treatment.—The underlying physical disease must receive its appropriate treatment. The patient's strength must be supported and maintained by sufficient amounts of liquid nourishment by mouth if the patient is able to swallow; otherwise by tube feeding if this can be done without danger to the patient. The method of administering nourishment by the rectum has been employed with satisfactory results.

CARDIO-RENAL DISEASE

The most important of the symptoms which attend cardio-renal disease is the condition of uremia.

Uremic Delirium.—The psychotic symptoms which attend uremia are of two varieties so far as their emotional character is concerned. They are of the depressed and the euphoric type. Both forms are characterized by disorders of consciousness ranging from a condition of slight haziness and confusion to profound clouding. Orientation may be disturbed to any degree in any sphere, corresponding to the degree to which consciousness is clouded. Hallucinations and delusions accompany both forms. The physical symptoms such as dyspnoea, edema of the extremities and other portions of the body, low specific gravity of the urine, albuminuria, and the presence of casts, blood cells and pus in the urine, manifested in both types, are evidences of cardio-renal disease. Conditions of anuria, polyuria and oliguria may be encountered. The neurological symptoms are twitching of the body muscles, convulsions, and pupillary disorders such as irregularities, inequalities, pinpoint pupils and iridoplegia. As a rule all body movements are clumsy, inaccurate and ataxic. In the depressed form the patient may complain that his food and drink are being poisoned; that enemies are seeking his destruction; that they are planning to destroy his home; that they charge him with electric currents and otherwise seek to injure him. This state of fear and delusion is often accompanied by great restlessness and agitation, making it difficult at times to restrain the patient. When this form is attended by stupor, states of catalepsy are occasionally noted. In the euphoric type the patient entertains expansive delusions of all sorts. He may believe that he is a great soldier, or statesman, or scholar, or some celebrity. He orders those who attend him to treat him in accord with the nature of his megalomaniac delusions, orders great feasts, hires hundreds of servants, and gives commands of all

sorts. Frequently he believes that Deity has appointed him to perform some great commission; that he has become an angel or other superhuman being.

Diagnosis.—The history of the case, the general physical findings and the examination of the urine make the diagnosis fairly easy. Uremia has at times seemed to serve as an exciting factor in the production of delirium tremens, and the latter should be excluded in making the diagnosis.

Prognosis.—The prognosis is always grave.

Treatment.—The restlessness and convulsions should be controlled by hydrotherapy or the use of bromides, morphine and small doses of chloral if necessary. The bowels should be thoroughly emptied and kept open, and the skin should be rendered active by the use of diaphoretics and hot loin packs. Blood letting is often of great value. The Murphy drip is of great benefit, and normal saline and glucose solution may be employed. Some cases call for intravenous injection of normal saline, 300 to 500 c.c. to be given daily or every second day and the patient to be watched for indications of overburdening the heart. If collapse obtains, strychnine, digitalis and camphorated oil should be given hypodermically. The diet should be liquid. Vegetable and fruit juices and milk are proper. During the period of convalescence the patient should spend much time in the open air in definitely arranged periods of moderate physical exercise, recreation and rest.

DISEASE OF THE DUCTLESS GLANDS

Diseases of the thyroid gland are attended by mental symptoms more often than are diseases of the other ductless glands. The psychotic disturbances which attend disease of the thyroid gland are those due to hyperthyroidism and exophthalmic goitre, hypothyroidism (myxedema and cretinism) and conditions of

dysthyroidism, the symptoms of which are less clearly pronounced.

Hyperthyroidism and Exophthalmic Goitre.—Psychotic conditions are noted in the vicious types of hyperthyroidism following surgical operations in which an excessive amount of the glandular secretion has been let loose in the circulation due to tearing of the capsule of the gland or to excessive handling during surgical procedure, or to the administration of thyroid gland substance in susceptible individuals. A patient suffering from exophthalmic goitre is usually very irritable, excitable and nervous, lives in a mild state of mania, exhibits periods of depression and suspicion, suffers from insomnia and complains of violent headaches. A condition of chronic fear has been observed. Delirium often develops which is attended by hallucinations of sight and hearing. The patient becomes restless, disturbed and noisy, picks at the bedclothes, talks incoherently and gesticulates. In marked cases the patient becomes exhausted by his restlessness and maniacal excitement, and death frequently ensues as a result of thyroid intoxication. These symptoms of thyroigenous insanity make their appearance more frequently in persons who spring from a neuropathic stock.

Hypothyroidism (Myxedema and Cretinism).—*Myxedema.*—Too radical operations for hyperthyroidism have resulted in conditions of myxedema, due to extensive removal of the gland itself or to a degenerative process in the stump of the gland that is left. The patient presents the usual features of myxedema: dryness of the skin, clublike fingers, increase of the fatty and connective tissues of the face, bradycardia, and lowering of the temperature. There is impairment of the mental powers. The patient is dull of comprehension, with marked failure of attention and impairment of memory. All mental operations are slow and imperfect. Occasionally the patient exhibits episodes of excitement and anger and at times gives expression

to delusions of persecution and feels that he is being discriminated against. Unless the condition is improved by proper medication the disease ends in permanent dementia. Cases of incomplete myxedema are occasionally overlooked.

Cretinism.—This condition of the thyroid gland, due to lack of development, is shown by the physical symptoms common to myxedema. The mental defect is one of profound feebleness ranging from a state of idiocy to one of imbecility.

Dysfunction of the Thyroid Gland.—There are disturbances of the thyroid gland which do not fit the two general classifications just described; in fact there may be a mixture of the symptoms. We find in this group of cases alternate periods of excitement and depression and states of delusion and delirium.

OTHER DISEASES OR CONDITIONS

a. Diabetes.—States of depression varying from a mild to a profound degree are frequent among patients suffering from diabetes. There is a general impairment of the patient's mental capacity. Preceding the state of depression he becomes dull, stupid, indifferent and apathetic. Often he feels that he has committed some grievous sin; that he has worked the destruction of his friends or family. He gives expression to ideas of self-destruction, becomes confused and talks in an incoherent manner. He pronounces his words indistinctly, becomes somnolent, and as the state of coma approaches he becomes disoriented. At such times there are delusions of persecution and occasionally episodes of marked excitement. Diabetic coma may appear at any stage of diabetes and is usually preceded by some of the symptoms just described, in addition to physical symptoms of marked weakness, headache, dizziness and insomnia. The skin becomes hot and dry and the amount of urine excreted is diminished.

b. Gout.—Psychotic episodes rarely appear with gout, although they have occasionally been noted. The mental symp-

toms are those of delirium and confusion. These states are attended by transient hallucinations, especially those of sight and hearing.

c. Gastrointestinal Disorders.—Violent infections of the gastrointestinal tract which produce great pain and marked diarrhœa, associated with albuminuria and indicanuria, high temperature and profound exhaustion, are attended by states of confusion, delirium and coma. Malignant disease of the liver, stomach, uterus, pancreas and intestines is often attended by states of depression, irritability and mild delusions of persecution. Patients who have insight into their condition frequently commit suicide.

d. Pellagra.—Frequently pellagra is attended by mental and nervous symptoms. This disease has been found in the United States to quite a marked extent in the hospitals for the insane in the south and middle west, and particularly in the State of Illinois. In one class of cases the spinal cord alone seems to be involved; in others the brain. Occasionally types are met with in which the brain and spinal cord are equally involved. It has been noted that individuals suffering from such diseases as dementia præcox, manic depressive insanity and senile psychosis are likely to develop pellagra or to have pellagra engrafted upon their original insanities.

About seven types of symptoms have been noted. Some of the patients display only marked conditions of neurasthenia attended by states of depression. In other cases there are mental symptoms which may remain stationary or may progress until the patient becomes extremely retarded and noncommunicative except for the periods when he gives expression to delusions of persecution or complains of auditory and visual hallucinations. Conditions of confusion and delirium are frequently encountered, and these often deepen into stupor. States of marked anxiety have been observed. Manic depressive reactions appear in some

instances. Some cases resemble general paresis. The tendency to suicide by drowning is often exhibited. There has been an attempt to explain this on the theory that conditions of acroparesthesia have caused patients to seek water for relief.

Pathology.—The exact causative pathology of this disease is still a matter of uncertainty, but the following conditions have very frequently been found at autopsy in the American cases of pellagra.

Gross Pathology

Thickening of the meninges of the cord

Formation of osseous plaques

Posterolateral sclerosis, especially in the upper portions of the cord in the Columns of Goll and Burdach.

Microscopic Pathology

Atrophy of anterior horn cells

Pigmentation of anterior horn cells.

Treatment.—No specific treatment has yet been found, but a general improvement in the character of the foods taken, and tonic medication with arsenical preparations such as Fowler's solution and salvarsan, have been found of service.

e. Rheumatic Fever.—When the temperature is high, rheumatic fever may be attended by states of confusion and delirium. During these conditions the patient may exhibit hallucinations and delusions of a painful character. Convulsions have been noted, especially in those cases where there is hyperpyrexia. In fatal cases coma sometimes makes its appearance without the development of delirium or states of confusion.

f. Malaria.—Malaria is infrequently attended by mental and nervous symptoms, but they have occasionally been observed. Peripheral neuritis, paraplegia, hemiplegia and aphasia are the prominent neurological symptoms. The chief mental symptoms are those of motor restlessness, confusion and delirium which sometimes progress to states of stupor. These symptoms may appear at the febrile stage or they may occur after the febrile phenomena of the disease have subsided and the proper specific

medication has been given. In these cases the mental symptoms may be chargeable to exhaustion and collapse. In the remittent types conditions of pyrexia or convulsive attacks of an epileptoid nature are observed. In patients who suffer chronically from malaria there may be a condition of hebetude. Dementia has been noted in countries where malaria is pandemic. The prognosis depends upon the success of the treatment for malaria and the integrity of the nervous system of the patient affected.

g. Pregnancy, Parturition, Puerperium and Lactation.—

These physiological epochs are often attended by psychotic states which seem to be directly related to the biological functions mentioned, but the relationship is such that it is still a question whether the terms puerperal insanity and lactational insanity are accurate. They indicate the time of appearance of psychotic symptoms rather than the causal relationship. The really important factors in the case of psychoses developed at this time are heredity, infection, exhaustion, and the powerful psychogenetic factors of shame, fright and grief which act in illegitimate pregnancies in special instances and produce profound depression.

Pregnancy.—At any time during pregnancy there may gradually or suddenly occur a change in the mental status of the patient. She may become very much depressed, fearful and irritable. These symptoms seem to be proportionate to the intensity of the morning sickness and nausea. In some instances painful delusions develop, especially in those who are illegitimately pregnant. Delirium often occurs. At such times hallucinations of smell, taste and hearing are common. Suicidal tendencies are occasionally exhibited. Frequently the act of self-destruction is carried out. During the period of pregnancy symptoms of the essential insanities such as dementia præcox and manic depressive insanity make their appearance.

Parturition.—Mental symptoms may not occur until the time of labor. Delirium is common, attended by painful hallucinations of smell, sight and hearing, and delusions of infidelity. Eclamptic convulsions occur at this time, due to disorders of metabolism. The changes which occur in the uterus and mammary glands are likely to surcharge the circulation with toxic substances.

Puerperium.—Following the birth of the child there may be a marked change in the patient. She may become irritable, suspicious and depressed and take a great dislike to her child. Often she will attempt to smother it with the bedclothes, to strangle it or throw it out of bed or otherwise injure it. She may display marked hatred for her husband. The patient becomes emaciated, the urine is diminished in quantity and the bowels are constipated. There is suppression of the milk and also of the lochia. This type of psychotic disturbance seldom occurs earlier than five days following the delivery, and usually about the time the patient leaves her bed. It occurs more frequently following the birth of the first child and in persons bearing children late in life. The symptoms exhibited may be those of a delirium simply, or they may be the expression of some one of the essential psychosis such as dementia præcox, manic depressive insanity or paranoia.

Lactation.—At any time during the period of lactation psychotic symptoms may be exhibited, but they usually occur about the third or fourth month following pregnancy. The patient becomes irritable and restless and has states of confusion which are attended by transitory delusions of a painful character. Sometimes there are delusions of infidelity. Probably the most potent factor in producing mental symptoms at this period is exhaustion. The patient is usually anemic and debilitated and suffers from insomnia, restlessness and loss of appetite. Unless some essential psychosis makes its appearance, the patient is

ordinarily restored to mental health in a few weeks under proper hygienic, dietetic and tonic treatment.

h. Influenza.—Influenza is occasionally manifested in forms in which the nervous symptoms predominate. Meningitis and encephalitis occur and have as their sequelae monoplegia or hemiplegia. In the milder types some forms of neuritis are often found. The mental symptoms are chiefly those of marked depression which may progress to states of melancholic stupor. Very frequently some of the essential types of insanity, such as dementia præcox or manic depressive insanity, follow influenza.

i. Lethargic Encephalitis.—Lethargic encephalitis is attended by a train of nervous and mental symptoms, chief of which are involvements of the various cranial nerves, disorders of the reflexes, states of confusion, delirium, lethargy and somnolence.

Etiology.—This disease first made its appearance in North America in the winter of 1918-1919, following the epidemic of the so-called Spanish influenza. Both sexes are equally affected. No organism has been definitely isolated as being the cause of this disease, but research concerning its origin warrants the belief that it is an infectious disease of an inflammatory nature, probably due to a filterable virus. Its exact relation to influenza has not yet been determined, however. The history of lethargic encephalitis shows that a majority of the cases have been preceded by an attack of influenza.

Gross Pathology.—

1. Congestion of the cranial meninges.
2. Hyperemia of the cortex.
3. Hyperemia of the basal ganglia.
4. Inflammatory condition about cerebral blood vessels.
5. Punctate hemorrhages in the brain substance.
6. Same condition found in the cord and its meninges.

7. Edema of the lung.
8. Hyperemia of the heart muscle.
9. Congestion and engorgement of the kidneys, liver and spleen.

Microscopic Pathology.—

1. Distention of minute blood vessels of pia with blood cells.
2. Round cell infiltration about blood vessel walls.
3. Perivascular infiltration of the cerebrum, cerebellum, medulla, pons and basal ganglia of both the white and gray matter. The cells are mostly lymphocytes, plasma cells and mononuclear cells.
4. Cloudy swelling of the heart, kidney, liver and spleen.
5. Spinal fluid is usually clear. It may be under slight pressure. The globulin: Lange and mastic tests are usually negative. The cell count is increased from 10 to 100 per cu. mm.

Symptomatology.—The disease is usually ushered in by malaise, headache, gastro-intestinal pain, vomiting and constipation. The fever varies from slightly above normal to 104 or 105 degrees F. Very soon twitching and jerking of the body muscles is noted. At this time any of the cranial nerves may become involved. Ptosis, diplopia, strabismus, nystagmus, dysphagia and facial paralysis have been observed. The face takes on a mask-like appearance; the lines of expression are effaced and the muscles become flaccid. There may be drooling of the saliva. The peripheral nerves show evidence of involvement by lancinating pains in the occipital region, along the spinal column and in the upper and lower extremities. The chief mental symptoms are restlessness, motor agitation and marked irritability. Periods of delirium and stupor develop which are attended by fleeting hallucinations and delusions of a paranoid character. The stupor grows more profound until the patient sinks into a state of lethargy or coma. In the cases not terminating in death, periods of lucidity punctuate the state of lethargy.

Treatment.—Isolation. Spinal drainage will relieve the headache caused by increased intracranial pressure due to exudation. Medical treatment is purely symptomatic. Great care must be exercised in the use of sedatives at the inception of the disease during the period of restlessness and excitement, lest the drug increase the stupor. If possible, hydrotherapeutic measures should be employed as a sedative.

CHAPTER XIII

MANIC-DEPRESSIVE PSYCHOSES

Definition.—The manic-depressive psychoses are recurring mental disorders which are characterized by periods of depression and excitement. These two phases may alternate, with or without a period of lucidity intervening, or the same phase of the disorder may be repeated, or recovery from an attack of one phase of the psychosis may occur. These psychoses belong to the benign type of the affective mental disturbances and are not attended by intellectual impairment except in those cases where the periods between attacks are very brief. In the course of these disorders hallucinations, delusions and illusions may be exhibited. The terms acute or chronic mania and acute or chronic melancholia were formerly applied to the two phases, and they were regarded as two distinct diseases. The psychoses are grouped into three types, according to the predominating character of the symptoms:

DEPRESSIVE FORMS

MANIC FORMS

MIXED FORMS.

Etiology.—From 15 to 25 per cent of all patients in hospitals for the insane suffer with some phase of these disorders. The manic-depressive constitution is often the heritage of certain families. The statistics gathered in state hospitals for the insane indicate that heredity taint is found in the family history of about 75 per cent of all patients. It has been noted that this disease occurs in persons born prematurely, for such individuals are likely to possess obscure developmental defects

of the nervous system. The manic-depressive psychoses are more often found among female patients than among male. The first attack usually makes its appearance between the twentieth and thirtieth year, though it has been known to occur before the age of twenty and as late as seventy years. Any of the following conditions acting upon a congenital or acquired neuropathic state may precipitate an attack of this disorder:

1. Mental and physical shock.
2. Painful neuralgias.
3. Pregnancy.
4. Parturition.
5. Lactation.
6. Influenza or other febrile disturbances.
7. Gastro-intestinal disorders.
8. Long-continued worry.

The disease may suddenly manifest itself without any apparent exciting cause.

Pathology.—No demonstrable pathology has been found. Interstitial nerve cell pigmentation of the cortex has occasionally been noted.

Symptomatology.—*Depressive Phase.*—Three cardinal symptoms stand out very clearly in this phase of the disease:

First.—Slowness and difficulty of thinking.

Second.—Psychomotor retardation.

Third.—Emotional depression.

The intensity and severity of these symptoms are not always uniform. The very slightest retardation of the mental processes may be attended by profound emotional depression. The reverse is often true. Occasionally the emotional depression is extremely great and the psychomotor activity is increased. The depressive phase may be of four degrees:

First.—There may be very mild slowing of the mental process, attended by simple depression.

Second.—In the second degree the retardation is more pronounced.

Third.—The depression may increase until there is a state of well-defined melancholia.

Simple Depression.—The depressive phase is usually ushered in by a prodromal period in which the patient suffers from anorexia, constipation, insomnia, headache and general bodily weakness. During this period the patient is simply depressed.

Simple Retardation.—This is a state that is merely an accentuation of the condition just described. The patient suffers from feelings of sadness, vague fears, attacks of the blues, and transient periods of irritability. He moves very slowly and talks in the same manner. His voice is scarcely audible. He prefers to answer yes or no to all questions. He takes little or no interest in his environment; seeks his own company. In this state the patient is fully oriented and consciousness is not clouded. He often has some insight into his condition; feels that something is wrong within himself.

Acute Melancholia.—As the disorder progresses the patient passes into the third stage of acute melancholia. He becomes very much depressed and his mental condition is reflected in his bodily attitudes. He sits with his body bent forward, his chin resting upon his breast, or with his face supported by his hands, with the elbows resting on his knees. He appears very much distressed and wears a painful and anxious expression. In the acute form the patient frequently becomes agitated. He paces the floor, wringing his hands and declaring that he has committed some unpardonable sin, or that he has caused humanity to suffer because of his conduct. Or he may declare that his blood is dried up; that his brain is petrified; that certain organs of his body are missing. Not infrequently there is exhibited a marked tendency to suicide. As a result of the painful delusions and misguided sympathy, the melancholiac has been known to murder.

his children to save them from starvation, poisoning, rape, or other fancied danger. As a rule consciousness remains fairly clear and marked disorders of orientation are rare. The patients think exceedingly slowly. Sensation is impaired and external stimulation is met with delayed response. They experience great effort and a sense of discomfort in applying themselves to even a slight task. The simplest acts are painfully and clumsily performed. Memory is usually accurate, but organic memory may be impaired as a result of the delusions affecting personality. The patients pay very little attention to their environment. Voluntary attention is much disordered. For example, a book may be placed in the patient's lap. When he discovers it he may feel that it came into his possession by some mysterious agency, because he failed to perceive that someone placed the book there.

Stuporous Melancholia.—If the disease progresses beyond the third stage the patient may pass into a state of stuporous melancholia. In this condition consciousness seems to be clouded; hallucinations and delusions occasionally appear, because of the patient's lack of attention and failure of perception. The wants of nature are neglected, the patient refuses his food, and tube feeding becomes necessary. The physical symptoms of the prodromal period increase with the progress of the disease. The patient loses in weight, suffers from constipation or diarrhoea, and the extremities of the body are blue and cold, due to defective circulation. The urine is usually loaded with indican and urea. The temperature may be subnormal. The pupils are usually widely dilated and the conjunctiva are anemic. Headaches are common.

Manic Phase.—There is an outstanding triad of symptoms in the manic phase which is practically the reverse of the symptoms of the depressive phase. These distinctive symptoms are flight of ideas, increased psychomotor activity and emotional excitement. These characteristic symptoms may show the same va-

riations of intensity as in the depressive phase. The maniacal type of the manic form may be exhibited in one or all of the following degrees:

First.—A period of restlessness.

Second.—A condition of hypomania.

Third.—Acute mania.

Fourth.—Hyperacute or exhaustive mania.

Period of Restlessness.—At the onset of this period the formerly depressed and lethargic individual shows an increase in mental and motor activity a few degrees above the normal; he becomes a busybody.

Hypomania.—The symptoms of the preceding stage rapidly increase and a condition of hypomania obtains. Hyperactivity is shown in the mental and physical fields. The patient undertakes a multiplicity of projects, many of which are diametrically opposed to one another, and he expresses great anger if any one of his plans is temporarily delayed. His impatience is so great that he is unable to transact his business by common sense methods. He sends telegrams and special messages when the facilities of the ordinary mail would suffice. He writes innumerable letters. Ideation is extremely rapid but interrupted and reversed. The patient is talkative and egotistical. He indulges in witticisms; laughs hugely at his own jokes. Excessive indulgence in wine, and debauchery with lewd women, are common. Prodigal and reckless financial operations are frequent occurrences. Consciousness remains clear and orientation is not disturbed. The memory may be keen for recent and remote events. Aside from the state of extreme unproductive activity, few psychotic symptoms are manifested. The patient's ideas and separate acts are not in themselves departures from the normal, but the sum total of all his mental activities and conduct is distinctly so. There is a pressure of ideas, so to speak. All ideas are seeking for the mastery in expression, but the

change is so rapid that while a great amount of mental and physical energy is expended, nothing worth while is accomplished.

Acute Mania.—The patient now presents the following symptoms: There is a rapid flow of ideas. Conversation is quite incoherent and irrelevant. Distractibility is very evident. There is a marked tendency to the senseless rhyming of words. This symptom is called klang association. Hallucinations and illusions of a transient character may be exhibited, and delusions of a grandiose nature are frequent. Often the patient declares that he has been called upon by Deity to perform some great mission. He is emotionally exalted and given to egotistical expressions about his personal attainments. At other times he may be extremely irritable and annoying trifles are sufficient to produce outbreaks of temper. Patients of this class are exceedingly restless and constantly keep in motion. Often the clothing is destroyed, furniture is demolished, window lights are broken, and a constant confusion of talking and yelling is kept up for hours at a time. All manner of clownish gymnastics, dancing, running and gesticulating, are carried on for long periods without apparent muscular fatigue. Insomnia is a more or less constant symptom. Owing to the pressure of activity the patient takes but little food and drink, and as a result there is marked emaciation and exhaustion if the paroxysm of psychomotor activity is of sufficient duration, and the patient becomes weakened. In this debilitated condition consciousness is usually somewhat clouded and personal orientation impaired or lost. The patient frequently mistakes the identity of those about him; calls his nurse and his physician by the names of members of his family. The calls of nature are ignored and the personal appearance is sadly neglected. Physically the patient suffers from anorexia, the tongue is dry and coated and the bowels are alternately constipated or exceedingly loose. The urine is usually scanty but sometimes greatly increased in solid content

and amount. The circulation is rapid and the skin as a rule is hot and dry. The temperature is occasionally elevated.

Hyperacute or Exhaustive Mania.—The symptoms may now subside or the condition gradually merge into a state of hyperacute or exhaustive mania. The symptoms of this condition bear a close resemblance to those of an acute inflammatory disease of the brain or meninges. Consciousness is clouded to a marked degree. Extreme restlessness and senseless activity are present. Disorientation is complete. Insomnia of the most obstinate form develops. The excitement takes on the character of a delirium; the patient mutters to himself, picks at the bed clothing, scratches and mutilates his body and pulls out his hair. The scratches which the patient sustains become infected, and because of his great restlessness they cannot be given the proper surgical attention. The temperature becomes elevated as the result of autointoxication and pus infection. If the state of hyperacute mania continues for any length of time, death generally ensues.

Manic states associated with constitutional disorders such as nephritis, diabetes or pneumonia are practically always fatal.

Mixed types of the manic depressive psychosis are often noted. The following mixed types are the most prominent.

Depressive Mania.—This is a condition of agitated depression. The patient keeps in constant motion, weeps and wrings the hands. The thinking processes are greatly retarded.

Depressive Mania with Flight of Ideas.—In this condition the psychomotor activity is decreased. The patient talks constantly.

Stuporous Mania.—There is exaltation of the emotions, retardation of the thinking processes, and slowness of movement.

Unproductive Mania.—There is a state of euphoria. Physical movements are increased; thinking processes are retarded.

Recurrent Mania.—Repeated maniacal attacks separated by short lucid intervals.

Recurrent Melancholia.—Repeated depressive attacks separated by short lucid intervals.

Alternating Insanity.—The manic phase is followed by the depressive phase without a lucid period intervening. This type often assumes a double or mixed form.

Diagnosis.—Dementia præcox is to be distinguished from the manic-depressive psychoses by the underlying, basic dementia of the former. The stupor of catatonia is attended by mutism, negativism, muscular rigidity, dermatographia, and evidences of mental enfeeblement, and is without signs of mental suffering.

Involitional melancholia occurs at the transitional period of life—fifty to sixty years—the physical and mental signs of incipient senility are present, and there is no alternate tendency to depression or elation. The psychic pain is pronounced in involitional melancholia.

The depressive states of general paresis are superficial and the melancholy delusions are usually absurd and preposterous. The nervous symptoms of general paresis are absent in the manic-depressive psychoses. Usually the blood serum and spinal fluid Wassermann are positive in paresis.

The diagnosis of manic-depressive psychosis is to be made on the strength of a history of repeated attacks of depression or elation, or both, the age of the patient, and the very slight tendency to mental deterioration.

Psychology.—In both phases of this disease we have a weakening of the attention, a reduction of the altruistic emotions, a slowing of the ideational processes and an inhibition of voluntary action. In the depressive phases there is marked disturbance of attention due to conflict of perceptive values. The emotions are lowered by psychic pain and apprehension. The thinking processes are slowed and painful fixed ideas are present. There is general reduction in psychomotor activity; activity is

attended by a feeling of exhaustion and effort. In the manic phases of this disorder distractibility is pronounced. The emotional tone is raised; euphoria exists in varying degrees. Ideation is impaired by flight of ideas and there is no goal idea attained. Psychomotor activity is increased and activity is not attended by a sense of fatigue.

Course and Prognosis.—Recovery from the individual attacks is common, but relapses are to be expected. The disorder may last from a few weeks to several months or even years. The change from one phase to another may be abrupt or develop gradually, with or without a lucid interval. One attack predisposes to another, and permanent recovery is not to be expected. As the patient approaches the senile period the intervals of lucidity between attacks become less and the tendency to mental enfeeblement increases.

Treatment.—*Prophylactic.*—During the interval between attacks the patient should lead a quiet, regular life devoid of all excesses. He should be engaged in some occupation which will meet the needs of his specific station in life, but it should not load the patient down with heavy responsibilities or worry.

It is claimed by some psychiatrists that attacks of this disorder may be prevented or arrested by the heroic use of sedatives at the time of onset, in conjunction with very free catharsis and hydrotherapy.

Depressive Phase.—Once the attack has established itself the patient should receive care in an institution, where he may be kept under constant supervision by trained attendants. The possibility of suicide must always be borne in mind.

Hydrotherapy is of value in the agitated forms of the depressed phase, to allay excitement and restlessness and to overcome insomnia, which is so often a troublesome symptom. In the quiet depressed cases hydrotherapy is likewise indicated to keep up a healthy state of nutrition by equalizing the circula-

tion and increasing the skin elimination. Hydrotherapy may be employed in the form of warm and hot packs, prolonged tub baths and Scotch douches, according to the needs of the patient.

In extreme cases of agitation small doses of hyoscine or even morphine may be used in connection with the hydrotherapy. The bromides, veronal, sulphonal, trianol and other sedative drugs may be used to overcome persistent insomnia. These are to be given along with hot milk at bedtime. The bowels should be kept active by the use of mild cathartics and laxatives. Tonics are to be employed in debilitated cases.

The diet should be light but nutritious. Frequently the patient refuses food and tube feeding must be resorted to in such cases. The method of tube feeding is described in the chapter on treatment.

Manic Phase.—The same general rules of treatment are to be followed in this phase. Proper restraint and supervision in an institution are necessary. The excitement is to be controlled by hydrotherapy and the use of mild sedative drugs if this is imperative. Tonic medication is to be used in cases where it is indicated. Proper attention is to be given to the diet, that the general nutrition may not suffer. Tube feeding is to be resorted to in cases where the patient persistently neglects or refuses to take food. When the stage of convalescence is reached the patient should be given some form of occupational therapy according to his needs. This statement applies to both phases of the psychosis.

CHAPTER XIV

INVOLUTIONAL MELANCHOLIA

Definition.—This psychosis makes its appearance at the climacteric, usually between the ages of forty and fifty in women, and fifty and sixty in men. As the name implies, melancholia and various degrees of depression are the predominating symptoms.

The psychic pain in this disorder is intense and interferes with the rational control of the intellectual processes. While it is true that this disorder belongs to the manic-depressive group of psychoses, its symptomatology is so well defined and characteristic that it has assumed a separate classification in psychiatric nomenclature. There are three main divisions, according to the type of symptoms exhibited. These are as follows:

SELF-ACCUSATORY TYPE

ANXIETY OR PRE-SENILE TYPE

APATHETIC TYPE.

Etiology.—Changes in the arterial system, disturbances of metabolism and disorders of the endocrine glands are important factors. During the period of the menopause and the equivalent state in men, changes occur in the generative organs. The mind at this particular epoch of life is extremely susceptible to worries and emotional shocks, such as those which attend great grief or excitement. Great numbers of these psychoses developed in the war-ridden countries during the late conflict. These disorders are more likely to develop in persons of neuro-pathic constitution; heredity is a factor in about 60 per cent of all cases.

Pathology*Gross Pathology*

Degenerative changes in the heart muscle and bloodvessels, due to arteriosclerosis

Degenerative changes of the kidney due to arteriosclerosis.

Microscopic Pathology

Degenerative changes in the cells of the cortex

An increase in the neuroglia in the deeper layers of the cortex

Degenerative changes in the cells of the motor tracts.

Symptomatology.—The disease is ushered in rather slowly by a period of general malaise, a train of neurasthenic symptoms such as dizziness, headaches, vague pains throughout the body, states of irritability, loss of appetite, insomnia, forgetfulness and loss of capacity to do mental work and to take interest in the environments. As the changes in the arterial system, the generative organs and the endocrine glands progress, the symptoms grow worse.

Physical Symptoms.—The three forms of involutional melancholia are attended by a train of physical symptoms, some of which have been described above. The patient has a feeling of discomfort and exhaustion. There is general diminution of the muscular powers; slight physical activity is attended by marked fatigue. The patient loses his desire for food, the breath becomes foul and the bowels are, as a rule, constipated, though occasionally there are attacks of diarrhoea. The circulatory system shows evidences of deterioration. Occasionally there is precordial pain. Cyanosis of the extremities is frequent; the feet are cold; they feel numb to the patient. The hands may share in this condition, and often they are covered with a profuse, clammy perspiration, while the skin of the rest of the body is harsh and dry. The pulse is, as a rule, irregular, thready and feeble; the temperature is sub-normal.

The pupillary reflexes are sluggish and the tendon reflexes altered; usually diminished. The skin reflexes are diminished or absent. The whole picture indicates a general physical de-

cline and beginning senility. Insomnia is a troublesome symptom, and the little sleep that is secured is fitful and disturbed by distressing dreams.

Self-Accusatory Type.—In this form, the patient entertains delusions of self-accusation. He feels that he has committed some grievous sin; thinks that his soul is lost. Some indiscretion or sin of his childhood or youth is remembered, and about this particular offense he may weave a delusional conception that he has sinned against Deity or against organized religion. The patient may believe himself to be unworthy of any comfort or of food, and often refuses food and proper clothing on this account. He goes about his room moaning and groaning, giving expression to his self-accusatory beliefs. Frequently the patient is very restless and keeps in a constant state of agitation. Often he paces the floor, repeating, "My God, my God!" Suicide is a frequent termination of this type of melancholia.

Consciousness is not clouded, as a rule, and the patient is usually oriented as to time, place and person. He complains of great pain in the chest, sharp, shooting pains about the heart, and difficulty in breathing. These symptoms increase and diminish with the profundity of the depression.

Anxiety of Pre-senile Type.—In this form the patients do not accuse themselves of sinful acts, but they display profound fear for the future. They are afraid that great catastrophes will occur; that there will be earthquakes and floods; that their property will be taken away from them; that they will starve to death because of a famine that is impending. Every circumstance in life takes on a fearful and evil character; there is a feeling of being overwhelmed and crushed. This type of involitional melancholia occurs a little later than the form described above. Stereotyped movements are common. They are usually rhythmical, and indicate, as a rule, the mental anguish suffered by the pa-

tient. The symptoms progress with the decrease of the physical powers.

Apathetic Type.—As the name of this form implies, the patient is extremely apathetic. He ceases to take an interest in life; he quits the struggle for existence; no longer tries to adapt himself to his environment; takes no interest in affairs going on about him; becomes very seclusive; neglects his former occupation; pays but little attention to his personal appearance. He suffers from a depression, but it is not so profound as in the other types. The symptoms of this form are largely of a negative character.

The delusions of involutional melancholia have been classified by Weygandt according to their content, as

HYPOCHONDRIACAL DELUSIONS

DELUSIONS OF SINFULNESS

DELUSIONS OF PERSECUTION

DELUSIONS OF POVERTY

IDEAS OF UNWORTHINESS

DELUSIONS OF EXPLANATION

IDEAS OF INSIGNIFICANCE

NIHILISTIC IDEAS

DELUSIONS OF POSSESSION

IDEAS OF GRANDEUR.

Diagnosis.—The age of the patient, the beginning of senile decay, the neurological findings and the Wassermann reactions of the blood and spinal fluid make it easy to rule out general paresis.

The intense mental anguish, the constant state of depression and the absence of alternating states of elation and depression rule out manic-depressive insanity. Involutional melancholia bears a close resemblance to arteriosclerotic dementia

and senile insanity. In fact it is considered by many psychiatrists to be a connecting link between these disorders.

Psychology.—Perception is not impaired to a marked extent except in the intense types. Consciousness remains clear as a rule. Hallucinations and delusions occur with great frequency. Orientation is not affected except in stuporous and marked delusional forms. Memory usually shows some slight impairment, especially for recent events. Judgment is impaired. The delusions usually fit the state of depression existing. The instincts are disordered. Great fear and self-subjection are the outstanding symptoms. The mental capacities are below par. It is no longer possible for the patient to meet his problems and repressed fears as he did in a state of mental health. He feels that he has failed in making adequate adjustment to his environment, and the failure is manifested by his depression and abnormal fears.

Course and Prognosis.—Thirty to 40 per cent of patients suffering from involuntional melancholia recover; the remaining 60 or 70 per cent die from intercurrent disease, exhaustion or suicide. Suicide occurs more frequently in involuntional melancholia than in any other form of mental disease. In the manic-depressive psychosis, depressive phase, suicide is not so likely, owing to the fact that there is great psychomotor retardation which interferes with the performance of any definite act. The flight of ideas of the manic phase, which prevents the reaching of a goal idea, likewise prevents self-destruction in the manic-depressive psychosis.

The chances for recovery are in proportion to the ability of the patient to improve physically and gain weight. The presence of absurd or grandiose ideas is an unfavorable symptom.

Treatment.—The patient suffering from this disorder should be placed in an institution where he may receive the necessary supervision by trained attendants, for these patients are al-

ways potential suicides. The patient's general health and strength are to be maintained by a light, nutritious diet, which should be frequently varied. Tube feeding must be resorted to in cases where the patient persistently refuses to take food. The bowels should be kept active by the use of appropriate cathartics and occasional enemas. Rest in bed is often sufficient to allay restlessness and agitation and serves to prevent loss of strength.

When rest fails to bring about the desired result, hydrotherapy is to be employed in the form of warm packs and prolonged baths at body temperature. Mild sedatives may be employed, along with hydrotherapeutic measures, to allay insomnia. Hot drinks may be given an hour before bedtime. If these do not suffice, small doses of veronal, trianol or sulphonal may be used. These drugs are to be given about an hour before bedtime, in hot milk. Tonic medication is to be used to stimulate the appetite and to improve the general nutrition of the patient. When the psychic pain is intense, tincture of opium may be given in doses of fifteen to sixty drops daily, but great care should be exercised to prevent habit formation. Valerian has proved of service in the author's practice to allay the emotional distress of the patient.

CHAPTER XV

DEMENTIA PRÆCOX OR SCHIZOPHRENIA

Definition.—Dementia præcox and schizophrenia are terms applied to a type of chronic psychoses which have their inception during the adolescent period of life. They are characterized by a more or less gradual process of mental deterioration and often end in a state of terminal dementia. This type of disease is punctuated by psychotic episodes and occasionally by remissions of variable duration. It occurs in five forms. These are as follows:

1. SIMPLE TYPE.
2. HEBEPHRENIC TYPE.
3. CATATONIC TYPE.
4. PARANOID TYPE.
5. MIXED TYPE.

Etiology.—The statistics of hospitals for the insane indicate very clearly that at least 75 per cent of all dementia præcox patients are the offspring of psychopathic or neuropathic stock. It has been noted that this disease seems to be directly inherited in certain families. Dissimilar heredity is also frequently encountered. Children born of parents who at the time of conception suffered from epilepsy, neurasthenia, alcoholism or tuberculosis, or from some form of the essential insanities, seem to be predisposed to this disease. Approximately 25 per cent of all patients in hospitals for the insane belong to the dementia præcox group. Both sexes are affected to about the same degree. Sixty per cent of the cases develop before the twenty-fifth year. The catatonic and paranoid forms occur with greater

frequency in women than in men. About 75 per cent of the patients suffering from the hebephrenic type are men.

The physical and physiological stigmata are very common among dementia præcox patients. We find malformations of the skull, irregularities of the features, ears without lobes, and high and narrow palates. Inferior and superior prognathism is common. The histories of these patients show that they have been susceptible to alcohol; that they have been devoid of the natural filial instincts and normal affections. In many cases before the disease developed there was a blunting of the normal sexual impulse or a precocious sexual activity.

Aside from the influence of heredity the following have served as exciting or precipitating factors:

Psychic Factors

Stress of any sort
Mental shock
Excessive emotion long continued
Sudden fright
Psychic trauma due to sexual experiences, seduction and desertion
Buried painful complexes.

Physical Factors

Physical changes due to puberty
Physical shock
Hemorrhage
Infectious diseases
Pregnancy
Childbirth
Masturbation¹
Head injuries
Dysfunction of the endocrine glands
Dysfunction of the internal secretion of the testicle and ovary.

Pathology.—The exact causative pathology is still undetermined. The following pathological changes have been found at autopsy:

Degenerative changes in the cortical cells.
Sclerotic patches in the frontal lobes.
Obliteration of the capillaries in the cortex.
Some areas of gliosis.
An increase of neuroglia.
Enlargement of the thyroid gland.

¹ More often a symptom.

Atrophy of the thyroid gland.

Pathological changes in the other endocrine glands.

Imperfect development of the genital organs.

Pulmonary tuberculosis is very frequently associated with this disease.

Symptomatology.—*Mental Symptoms.*—This group of psychoses, as the name implies, has for its underlying foundation a gradual and insidious process of mental deterioration, which is likewise attended by a marked impairment of the emotions. Upon this basis there develop certain psychotic symptoms. In all its forms the characteristic evidences of this dementia are frequent. There is a condition of mental ataxia or a failure of coordination between the intellectual, emotional and volitional qualities of the mind. To this condition of mental incoordination the term of intrapsychic ataxia has been applied. Some authors have insisted that there is a splitting up of the personality, and because of this they have used the term schizophrenia to describe the psychosis. The general mental symptoms of dementia præcox are mental apathy, various memory defects, indifference to environment, emotional poverty, failure of the power to grasp new ideas, failure of voluntary attention, general superficiality of thought, incoherent and irrelevant conversation and bizarre and grotesque delusions. These symptoms will be later described in greater detail.

Physical Symptoms.—At the onset of the disease or at some time during its course, fainting spells frequently occur. Sometimes these attacks take on an epileptiform character. Again they resemble hysterical paroxysms and occur about twice as frequently in female patients as in male. The patients are given to grimacing, wrinkling the face and the brows, distorting the mouth and other features, and assuming grotesque and repulsive attitudes. They suck their tongues and lips, make guttural noises, sniff at the air, etc.

The pupils are very often widely dilated and occasionally are found to be unequal. The tendon reflexes are usually active, although occasionally there is a reduction in this group of reflexes. Often patients seem to be insensible to pain, but this insensibility may be more apparent than real. Irregularity of the pulse and tachycardia are frequently observed. Vasomotor changes are constant. The extremities are often very cyanotic. As a rule, dermatographia is found. The perspiration is usually increased and of a very foul odor. The body temperature is generally slightly subnormal. The menstruation is very often disturbed; many times it ceases altogether. The flow of saliva is increased and in the demented state drooling at the mouth is a very common symptom. Patients are many times anemic and pale. Conditions of chlorosis have been very frequently observed. At the onset of the disease there is commonly a reduction in body weight owing to anorexia and the influence of delusional beliefs. As the disease progresses the appetite increases and the patients may become gluttonous and take on excessive weight.

Simple Type.—This form usually has a slow, insidious onset. The patient's mental characteristics gradually change. He ceases to be interested in his usual occupation; prefers to be by himself; gradually develops a state of apathy; neglects his usual duties; fails in his school work; finds it difficult to absorb new ideas. He indulges in eccentricities, ignores the usual and common courtesies of life, is abrupt in his manner and lacking in feeling. These conditions are frequently attended by hysterical paroxysms or by mild states of depression. Periods of irritability develop.

The patient complains that other persons are imposing upon him; that they are seeking to interfere with his rest. He becomes very restless. At this stage insomnia is frequent. The patient complains that he is all tired out; that he is in a fog or

lethargy. These feelings of mental hebetude he is unable to shake off. As the condition progresses the patient is unable to continue school work or carry on an occupation. Delusions and hallucinations may occur, and these are often of a paranoid nature. The patient imagines that he hears voices calling him names or saying disagreeable things to him. These false beliefs are usually only transient. Often patients suffering from this type of dementia præcox tramp from place to place and live the life of a hobo. To satisfy their feelings of unrest they frequently enlist in the military service. Under the regime of military life they soon break down. The late war has brought to light many cases.

This form of the disease is chronic and recoveries are infrequent, though it does happen that this type of dementia præcox is sometimes aborted and in this aborted class are to be found many anti-social individuals of the hobo, prostitute and mild criminal types.

Hebephrenic Type.—This type of dementia præcox forms about 60 per cent of all cases. It is usually sudden in its onset, although it may be preceded by a prodromal period of general lassitude, mental apathy, insomnia, anorexia and constipation. Succeeding this stage of invasion there follows a general depression of spirits, restlessness, mental confusion and incoherence of speech. Delusions and hallucinations of a disagreeable nature now develop. The patient hears voices calling him obscene names. They accuse him of sexual crimes or tell him that he is a victim of masturbation. The delusions are many times of a depressive and self-accusatory nature. He becomes cynical; feels that persons about him are plotting to destroy his life; that they put poison in his food and drink. Often he believes that he has committed the unpardonable sin; that he has murdered a relative or committed some other outrageous crime. These false beliefs not infrequently lead to suicide.

As the fundamental state of dementia increases the delusions and hallucinations may rapidly change in character and their content become exceedingly foolish and absurd. One of the writer's patients believed that there were three men in his head who were continually quarreling and fighting. Frequently patients feel that their blood is dried up; that their legs are gone. Often the dementia præcox patient claims that he is the Son of God; that he is the Holy Ghost or the ruler of the universe. He offers no arguments to support his delusions. The absurd beliefs are merely stated by the patient to be facts.

Patients of the hebephrenic type usually show a marked degree of emotional deterioration. Those circumstances, which in a normal individual would arouse a marked reaction, exert but little influence on their emotions or conduct. They receive the news of the death of the closest friend or relative with little emotion or absolute indifference and careless unconcern. If they were suddenly informed that they had inherited a large fortune they would likewise make no response and show no interest.

As the active mental life grows less, the symptoms of chronic dementia supervene. The patient now talks to himself; he assumes unusual bodily attitudes, having a special predilection for those which are most uncomfortable. He will sit in the hot sun all day rather than exert himself to move into the shade. He answers the simplest questions incoherently and seeks to evade all mental effort, usually replying "I don't know," to every inquiry put to him. He displays no interest in his environment. Mental lethargy and vacuity are expressed in every attitude. The patient is careless of his dress; spills food on his clothing; often commits acts of public indecency without apparent shame. The conventionalities of society are disregarded and cast aside as meaningless.

The mental deterioration progresses until the patient's life is merely a vegetative process. He mumbles to himself in an inco-

herent and unintelligible manner, makes silly grimaces and performs senseless acts. The wants of nature are neglected and no doubt some of the symptoms of general physical decline which attend this disease depend somewhat on the toxemia due to the absorption of poisonous matters from retained urine and feces. Echolalia, or the repetition of senseless words and phrases, is observed in this form. Echopraxia is likewise noted. The patient repeats certain stereotyped movements for hours at a time. Verbigeration is often noted. The patient repeats a group of words or phrases or sentences continually. Again he will fill whole tablets with stereotyped phrases.

The course of hebephrenia is uncertain. Active treatment at the time the disease is ushered in sometimes results in slight improvement. As a rule, however, about 75 per cent of these cases go on to a state of terminal dementia. About 20 per cent of the cases show a mild degree of deterioration such as evidence of defective memory, impaired reasoning power, childish judgments, and inability to acquire new ideas. Attending this condition in this group of cases may be hallucinations and delusions that are more or less repressed and do not materially regulate the patient's conduct. About 5 per cent of the cases of this type make what we may call "social recoveries." The keen edge of their mentality is worn off, but they are enabled to engage in manual pursuits such as gardening, farming, shoemaking, and activities of this sort.

Catatonic Type.—This type of dementia præcox forms over 18 to 20 per cent of all cases of schizophrenia. It usually has a gradual onset, but occasionally it may appear suddenly. This is sometimes the case when it is preceded by great physical or mental shock. The incipient state of catatonia is usually marked by a condition of mental depression and apathy. Hysteroid convulsions are not uncommon at this time. As the disease progresses the cardinal symptoms of this psychosis ap-

pear. The patient now passes into an apparent apathy or state of stupor. The muscles are tense and rigid and he resists every effort made to move his limbs or body. Apparently no attention is paid to anything in his environment. He will not answer the simplest questions. This form of negativism has been termed mutism. In some patients the muscular tension and negativism are replaced by a condition of extreme muscular flexibility and a condition highly susceptible to suggestion. The patient does what he is told, and often imitates in a senseless manner the gestures and actions of those about him. His limbs may be placed in various positions, and there they will remain until muscular fatigue affects them. To this state the term "flexibilities cerea" (waxen flexibility) has been applied. Reacting to this marked degree of susceptibility, the patient repeats, over and over again, words and phrases he hears (echolalia), or he may repeatedly imitate movements of others made in his presence (echopraxia).

The condition of catatonic stupor is irregularly alternated by periods of catatonic excitement. The patient may suddenly come out of the stupor, and it will then be discovered that he is partially or completely oriented as to time, place and person. He talks incessantly, paces back and forth, throws the furniture of the room about, breaks out the windows, makes senseless and unprovoked attacks on those about him, and may commit crimes such as homicide, assault and arson. Often he refuses his food and must be fed with a tube. He resists every effort to have him change his position. He resists natural impulses. He will refuse to take off his clothing. He will eat other patients' food rather than his own. He refuses to answer the calls of nature; urine will be retained until paralysis of the sphincter muscle and gravity causes the flow of urine. His conversation is usually an incoherent jargon. Often it is noted that there is a tendency to the coining or the senseless rhyming of words and phrases,

a symptom termed "nelogism." The following stenogram illustrates this peculiarity: "How old are you?" "Shoe, fish, dish." "How do you feel?" "I have no plow in the field." How old are you?" "I have no cows, only bulls." "Where were you born?" "Fur and corn on a cow's horn." "Where are you?" "A bar is a bar and a car is a car." "What year is this?" "I want a bottle of beer while I am here." "Where do you live?" "I live in a sieve." "How do you like the weather?" "The cows in the heather." The patient quoted would keep up this incoherent conversation for hours at a time.

The physical symptoms which accompany catatonia are similar to those of the other forms of dementia præcox, except that they are more marked. In the acute form of catatonia we find the patient suffering from constipation, headache and insomnia. The body is generally cold and covered with a disagreeable perspiration. The hands and feet are usually cyanotic, due to marked disturbances of the capillary circulation. Dermato-graphia is common. The skin reflexes are often lost. The tendon reflexes are usually increased. The pupils show a condition of mydriasis. Sometimes they are irregular in size and the condition of hippus or clonic spasm of the iris is noted which is independent of the effects of light. Tuberculosis is a frequent cause of death in this type. About 60 per cent of the catatonic cases of dementia præcox end in a condition of terminal dementia. The general symptoms usually appear in the following order: Depression; stupor, followed by excitement; dementia. Remissions are common in catatonic dementia præcox, and they last from a few hours to days or even months. It often appears that the patients have completely recovered. Relapses generally occur within a period of five years, but they may persist for as long as ten years. The catatonic dementia præcox patients are more likely to commit crimes of a homicidal nature than are patients who suffer from the other forms. In

about 30 per cent of the cases there develops only a mild type of dementia and the patients are able to return to their homes and assume occupations of a simple character. It is the consensus of opinion among observers that 13 per cent of the catatonic type make permanent social recoveries. Great numbers of the catatonic patients die from intercurrent diseases, especially tuberculosis.

Paranoid Type.—In this form of dementia præcox we have a rather loosely woven system of delusions. Four types have been recognized. In one group the delusions are arranged in a more or less orderly fashion. In the second group the delusions are of an expansive nature and are most often observed in women patients. In the third type the delusions are attended by confabulations and memory fluctuations. In the fourth type the delusions are of a very fantastic nature.

The disease is ushered in, as a rule, by mental depression, insomnia, restlessness, malaise, muscular weakness, loss of appetite, loss of weight and general physical decline. The patient seeks solitude instead of companionship. Mental examination shows that he entertains a poorly constructed and unstable system of persecutory delusions. Not infrequently this class of patients entertains delusions of a grandiose nature. The author has had in his charge patients who believed themselves to be celebrities of history—Brigham Young, George Washington, Admiral Dewey, Napoleon, St. Paul and Elijah. One declared himself to be the Son of God and styled himself the "Spiritual Son of the Spiritual God of all towns and cities." Another believed himself to be a great astronomer and mathematician and declared that but for the machinations of the Masonic Lodge he would be a professor at some great university. Attending these grandiose ideas in each case was silliness and dilapidation of thought and incoherent and irrelevant conversation. These patients decorated themselves with bits of paper, rags and

rubbish to prove their absurd claims, and the astronomer drew maps of the heavens to establish the fact of his learning. One patient refused to eat because he feared he would be slaughtered if he gained in weight. The belief that food is poisoned is a common delusion. Auditory hallucinations are frequent and these are of a persecutory character, often having a sexual coloring. Attending this condition are signs of progressive dementia which distinguish this order from true paranoia.

The dementing process in the paranoid type is not so rapid in its development as in the other forms. This type is rarely punctuated by remissions, and after the disease has existed from one to three years there is usually a well-defined condition of mental deterioration which is more or less profound. Consciousness may remain unaffected for a long period of time, and orientation in all spheres may be only partially disturbed. Periods of excitement and depression are not infrequent.

There is often noted a more profound form of paranoid dementia præcox in which all symptoms are markedly increased. To this type Kraepelin has given the name of paraphrenia and he divides the group into four classes, which are as follows:

The fantastic type, in which the patients show very elaborate delusions, which, however, are disconnected and of a rapidly changing character.

Second, a type marked by extensive confabulations. The delusions are expansive and paranoid and are usually made up of or built upon falsifications of memory.

The third type is the expansive form, which occurs most frequently in women. The delusions are very expansive and are attended by a state of restlessness.

In the fourth or systematic type the delusions are fairly well systematized, but the deterioration is quite marked.

In the severe forms of paranoid dementia præcox, patients are given to worrying about religion and metaphysical problems.

They often fear they have committed some unpardonable sin, and they feel that as the result of their sinful actions they are the butt of ridicule and censure on the part of other persons. They feel that people are continually watching them, whether they are in their homes or in public places; that they are the objects of scurrilous remarks and libelous statements in newspapers. They grow very suspicious of their relatives; feel that their children desert them; that their marital partners are unfaithful. They believe that poison is put in their food; that their beds are charged with electricity; that enemies exert an untoward influence upon their minds; that they feel energy going out of the backs of their heads. They complain that the physicians in attendance constantly read their minds during the night and when they are at their meals. They feel that persons far distant shake hands with them and converse with them by means of telepathy; that noxious vapors are introduced through the keyhole into their rooms; that poison is put into their clothing; that medicines are put in their food to reduce or increase sexual desire.

Consciousness may remain clear for a long time and orientation may be complete in this form. Patients do not have insight into their condition. They may feel that they are abnormal, but they believe that their abnormalities are the result of the persecutions of their enemies. Reacting to their delusional beliefs, they exhibit states of anxiety and belligerency. Their conduct is regulated by their delusional beliefs.

The paranoid form is chronic in its development and the deteriorating process is slower than in the other forms, but there is a gradual change in the disposition and a dilapidation of the mental powers. A mild deterioration or a marked state of dementia may develop within a period of three years. When the state of dementia obtains, patients are less irritable and in a more happy state of mind.

Mixed Forces.—The mixed forms occur with greater regularity than do the single forms that have just been described. There is usually an admixture of the symptoms of the various groups.

Diagnosis.—There are no pathognomonic signs of dementia præcox. The whole clinical picture must be considered in making a diagnosis.

Paresis begins usually in the third or fourth decade, attended by a positive Wassermann of the blood and spinal fluid in most cases and by an increase in the cell count of the spinal fluid. The mental dilapidation develops with greater rapidity in paresis than in dementia præcox. The findings in the nervous system are characteristic in paresis and are absent in dementia præcox.

Maniac depressive psychosis is sometimes confused with dementia præcox, especially in the manic phase. Catatonic stupor and the stupor of manic depressive psychosis in some ways are quite similar. Here the history in the manic depressive case will be of assistance. The general behavior of the manic depressive case indicates the possession of mental faculties. There is not the silliness of conduct or behavior without purpose as there is in dementia præcox.

The hysteroid attacks of dementia præcox somewhat resemble the paroxysms of hysteria. However, hysterical individuals show some judgment and deliberateness of purpose in their paroxysms. The signs of a dementing process are absent in hysteria.

In paranoia there is a slow development of the disorder. The delusions are supported by more or less logical arguments. They are not so phantastic and absurd as in dementia præcox. Until the very late stages of paranoia signs of dementia are not present.

Psychology.—In all forms of this disorder there are found the following mental phenomena. Consciousness is clear, as a rule,

except in excited or stuporous states. Hallucinations and delusions of sight, hearing and touch are common. The power of attention is impaired by blocking and aprosexia. Orientation remains unimpaired except when delusions concerning personality exist. The memory defects are more apparent than real, except in the terminal stages of the disease, when there is amnesia of the anterograde type. Ideation is impaired; the goal idea is absent. The judgment is impaired. The feelings and emotions show marked dilapidation. These symptoms owe their existence to a process of molecular splitting of the personality, a disintegration of the psyche which reduces mental life to lower and lower levels as the disease progresses.

Treatment.—*Prophylactic Treatment.*—Whenever it is discovered that a child or adolescent individual is possessed with a shut-in personality, is extremely seclusive and avoids the usual activities suited to his years, an examination should be made as to his mental status. Vigorous efforts should be made to interest him in the usual pastimes, sports, occupations and studies of a normal individual of the same age. The sexual problems of puberty should be explained to this type of patient and the mysteries which usually shroud sexual matters should be made plain. The French say, in speaking of dementia præcox, that the patients were “stranded on the rock of puberty.” This trite statement is many times a clear explanation of the development of dementia præcox. Psychoanalysis is of value in working out the problems of the shut-in personality and assists in pointing the way to the re-education of the potential dementia præcox patient. After the disease has developed, the treatment in the main is custodial, hygienic and symptomatic. Some cases may be cared for in their homes, but it must be borne in mind that this sort of care is always attended by risk. The majority of cases must of necessity be treated in institutions, where the

patients may receive the benefits of physiotherapy and occupational therapy under the direction of qualified teachers.

Medical Treatment.—The medical treatment is to be given with the view in mind to remedy whatever existing physical conditions need attention. The general health of the patient is to be restored. To this end free catharsis will be instituted in an effort to relieve the economy of toxins that may be present. The urine is usually diminished in amount and as a rule gives a highly acid reaction. Often the patient fails to pass his urine for many hours at a time, even allowing the bladder to overflow from distension. The retention of the urine no doubt adds to the toxic state of the patient. The administration of alkalis is of advantage in overcoming the acid condition of the urine. Education of the patient to relieve his bladder at stated intervals is an important measure. Hydrotherapy is a useful method to be employed for the purpose of relieving the system of toxins. If the patient is anemic, tonics containing iron and arsenic may be tried. Infected tonsils and decayed teeth are to be removed and all needed surgical procedures instituted. Glandular therapy is to be tried if there is evidence of dysfunction of the endocrine system or disturbance of the internal secretions of the testicle or ovary. In a word, the patient is to receive the same care as do sane patients in the relief of their ills. Too often it has been the practice to neglect the treatment of the patient, once the diagnosis of dementia præcox has been attached to him.

Hydrotherapy and mild hypnotic drugs such as veronal, sulphonal and somnos may be used to combat insomnia. Continuous baths are of value in states of catatonic excitement. Warm and hot packs may be carefully employed for the same symptoms, under the direction of a physician.

The food should be liberal and easily digestible. Refusal of food may be permitted for from twenty-four to seventy-two hours, depending upon the general nutrition of the patient. If

at the end of that time the patient is not eating voluntarily, it is necessary to resort to feeding by means of the stomach tube.

Frank discussion with the patient of his symptoms is many times of value in assisting him in regulating his conduct. Many institutions are finding that outdoor life in the form of gardening work is very successful in the treatment of both the acute and chronic cases. Occupational therapy assists the patient in preserving and promoting his powers of making adjustments to his environments.

CHAPTER XVI

PARANOIA AND PARANOID STATES

It is still debated whether it is more accurate to speak of paranoia as a real psychosis or as an anomaly of mental development. There is much to be said on both sides of the question. The clinical picture of its onset and progression conforms in a general manner with the current conception of the term psychosis. The term paranoia has acquired a definite position in psychiatric literature and its use implies the existence of a definite clinical entity as set forth below.

Definition.—Paranoia is a chronic, slowly progressive, incurable mental disorder characterized by the formation of systematized delusions which are built up in more or less logical forms. There is but a slight tendency to mental deterioration.

This disorder may be arbitrarily divided into three stages, according to the character and the time of appearance of its principal symptoms. It may be arrested at any of its periods. The stages of this anomalous psychosis which gradually merge into one another are as follows:

1. Stage of hypochondriasis or subjective analysis.
2. Stage of systematized delusions of persecution.
3. Stage of transformation of the personality.

Etiology.—The underlying basis of this psychosis is a congenitally defective nervous organization. Heredity is the most important factor for its production, and a study of the great majority of the cases shows that there is a family history of mental or nervous defect. The disease makes its appearance usually between the second and third decade, although it may

appear in any period of life. Approximately 1 to 5 per cent of all patients admitted to state hospitals for the insane suffer from this disease. Males are more frequently afflicted than females. Celibates of both sexes are more often found to be victims of this disorder than are married persons. In the majority of cases some form of mental or physical degeneracy is found. The following conditions have been described as exciting or precipitating causes of paranoia, but their causal relation is more apparent than real:

1. Shock, physical or mental.
2. Prolonged physical and mental strain.
3. Stress due to business failure.
4. Acute illness.
5. Excessive emotions.
6. Mental and physical changes due to physiological causes.

Pathology.—No demonstrable pathology has been found. At autopsy there has been noted by some observers, however, asymmetry of the brain, slight distortions of the convolutions, and anomalous forms of the cerebral vessels. The brains of those patients who live to the senile period show the characteristic changes of senility.

Symptomatology.—1. *Stage of Hypochondriasis or Subjective Analysis.*—The prodromal period of this disorder, which usually has no definite onset, is ushered in by a train of neurasthenic symptoms which may last from a few months to several years. We usually find that the patients are persons who have been regarded as queer and eccentric from childhood. Many of them have been very precocious and exceptionally brilliant, but lopsided in their mental development. Their eccentricities now become accentuated and emphasized.

As the disease progresses the patient becomes morose and sullen. Periods of irritability present themselves. He prefers

his own society; seeks solitude and quietness. His thoughts become so melancholy and depressed that he occasionally thinks of suicide, but this he rarely attempts. Gradually he loses his capacity for steady work and close attention to details of business becomes an impossibility because of the patient's ego-centric attitude. As a result he fails in business, and because of his failure he resorts to morbid investigation of the motives and behavior of his business associates. Introspection and self-analysis become extreme and the patient seeks in his past life for causes and explanations of his great mental depression and suspicions. He experiences peculiar sensory disturbances, chief of which are the tingling of the skin, the appearing of bright spots before the eyes, tinnitus aurium, insomnia, loss of appetite and a general feeling of ill-being. Gradually delusions begin to be erected upon this state of self-analysis and melancholy. Now he thinks that his friends are less friendly to him than they have been previously. He notices that they make signs at him as he passes on the street; that they talk about him in whispered tones; that they cough and clear their throats as he passes; that they wear certain types of clothes to irritate him. These ideas of suspicion and distrust are concerned not alone with his acquaintances. His home life ceases to be a pleasure. He entertains ideas of infidelity on the part of his wife and believes that his children show a perverse lack of filial respect and affection.

The patient keeps secret his mental distress except for unconscious lapses of self-control which show that a gradual change is taking place in his mental disposition. He may be detected unawares recognizing the painful hallucinations which make their appearance as the disease passes into the second stage, the chief symptoms of which are systematized delusions of persecution of endogenous origin.

2. *Stage of Systematized Delusions of Persecution.*—The symptoms of the first stage are accentuated. His introspection and suspicion and mistrust of others destroy all his peace of mind. This is the period of explanation. He now understands that the insults, ill treatment and scorn he has received at the hands of his former friends are the results of attempts on their part to persecute him. He becomes convinced that his enemies are trying to ruin his business; that they are endeavoring to blacken his character because they are jealous of him. Often he feels that he is the victim of conspiracy of various institutions, such as the Catholic Church, the Jesuits, or the Masonic fraternity. Often he believes that his food is poisoned; that noxious vapors are introduced into his room while he sleeps. He has auditory hallucinations; he hears voices accusing him of disgusting sexual crimes and practices.

The ideas of persecution, no matter how ridiculous they appear to the normal individual, are defended by long trains of argument more or less logical. The premises of his arguments are faulty, but he fails to perceive their inaccuracy. His delusions of persecution are unalterable and fixed and no amount of physical demonstration to the contrary can prove to him the falsity of his views. In spite of these gross delusions of persecution the consciousness of the patient remains clear, as do memory and the other intellectual faculties.

During the second stage the paranoiac may be exceedingly dangerous to society, depending upon the character of his delusional beliefs. In many instances he is a potential homicide. The more sane he appears, the more dangerous he is. Many of them exercise considerable self-control and craftily hide their troubles and delusions in such a logical and plausible manner that physicians, lawyers and the public in general are deceived. Occasionally some paranoiacs seek to avenge their imaginary wrongs by litigation. In this way they make themselves ex-

tremely annoying to the public, for they often bring unfounded suits against the title to property, which the owners, in justice to themselves, are bound to answer. To this form of the disease has been applied the term litigious paranoia. The disease may be arrested in the second stage, the patient remaining a dangerous element in society and in a state of mental torture and unhappiness due to the sharpness of his delusions, from which, through the advance of psychic deterioration, he receives no respite.

3. *Stage of Transformation of the Personality.*—In the unarrested cases the disease passes into the third stage. The patient now finds a satisfactory explanation of all the persecutions that have been heaped upon him. He becomes exceedingly egotistical; is very much pleased with himself and his attainments. The delusions change from a persecutory to a grandiose nature. He may now discover himself to be Napoleon, Washington, a king, or even Deity. The hallucinations which in the second stage were painful now become pleasant, and the voices heard come from God. It is in this stage that the paranoiac feels that he has a great mission to perform. He often prays and preaches to excess; frequently writes lengthy theses on religious subjects. Retrospective falsifications of memory are common. By this means he fills in his past history with arguments to prove that he is the great personage that he claims to be.

The period of transformation of the personality may develop slowly and last for an indefinite time. Some cases progress to a condition of terminal dementia. The majority, however, remain stationary in one of the three stages described.

According to the predominant character of the delusions we have the following principal classes of paranoiacs:

Erotic paranoiacs, of which Mary Anderson's love is a type.

Religious paranoiacs, exemplified by Mary Baker Eddy.

Political paranoiacs of the Booth type, who are murderers of prominent men.

Ambitious paranoiacs, like Kaiser Wilhelm.

Litigious paranoiacs—persons constantly bringing unfounded suits against corporations and wealthy people.

Paranoid States.—Paranoid states are frequently a part of the symptomatology of the other psychoses, and these paranoid conditions are found after careful investigation to be a part of the symptom complex of other mental disorders, but after this delimitation has been made, mild paranoid states of a curable variety are very frequently found, which develop as a reaction in unstable and psychopathic individuals, in response to painful conflicts born of unpleasant circumstances. These paranoid states disappear when the environmental or psychogenetic factors which produced them are relieved. These painful conflicts arise when individuals have been defeated in lawsuits or unjustly deprived of rights which belong to them, through the operation of legal technicalities. This type of paranoid state is sometimes called querulent insanity. Paranoid states are not usually attended by hallucinations.

Diagnosis.—The diagnosis of paranoia as a rule is not difficult, providing care is exercised to exclude the paranoid states of the other essential insanities. The insidious onset, the systematized delusions, the transformation of the personality and the slight tendency to dementia make the diagnosis relatively easy.

Paresis is to be distinguished from paranoia by the history, manner of onset, the great mental deterioration, the results of a Wassermann test of the blood and spinal fluid, and the examination of the nervous system.

Dementia præcox is to be distinguished from paranoia by the progressive mental deterioration, the emotional indifference and the unsystematized delusions which attend this disorder.

Maniac depressive insanity is marked by recurrent attacks, alternate periods of elation and depression, and the absence of systematized delusions.

Prognosis.—The prognosis is unfavorable. Genuine cases of paranoia do not recover, though occasionally the disease is arrested early in its course and the individual, if his delusions are harmless, may be able to adjust himself to society for a long period of time without difficulty.

Treatment.—Treatment by medication is unavailing in paranoia. The majority of cases require institutional treatment, for the patients find it difficult or impossible to adjust themselves to social conditions and are potentially a source of danger to life and property. There are exceptions to this rule. Some paranoiacs who entertain harmless delusional beliefs may live outside of institutions without danger to other persons, provided they are relieved of the strain of irritating circumstances and placed in comfortable situations. Psychoanalysis is of benefit in the treatment of the mild type of paranoia, for by this method the patient is enabled to overcome to a degree his mental conflict. It must always be borne in mind, however, that a seemingly mild paranoiac may at any time display dangerous tendencies.

CHAPTER XVII

EPILEPTIC PSYCHOSES

Definition.—The epileptic psychoses include all the psychic disturbances which attend the epilepsies. Chief of these psychotic symptoms are states of irritability, excitement, stupor and automatism, and periods of confusion and befogged and delirious conditions. According to the time of appearance of the mental disorders, they may be divided into preparoxysmal, paroxysmal and intraparoxysmal types.

Etiology.—Various percentages have been given by different authors as to the hereditary factor in the production of epilepsy. Spratling stated that 56 per cent of his patients gave a history of neuropathic heredity and that 16 per cent were born of parents who suffered from epilepsy. Others have stated that at least 80 per cent of epileptics come of tainted stock. It has been found that tuberculosis and alcoholism are common in the parents of epileptics. Wildermuth considers alcoholism in the parent a most potent cause of epilepsy. Infectious and constitutional diseases in the parent, such as syphilis, nephritis, rheumatism, diabetes and chorea, seem to dispose the offspring to epilepsy. Three to 4 per cent of epilepsy may be charged to traumatism to the head or spine. The following conditions have acted as precipitating factors for the production of epilepsy:

<i>Physical</i>	<i>Psychic</i>
Traumatism to head and spine	Emotional shock, as great fright
Sunstroke	Excitement
Metallic poisons	Continued anxiety
Infectious diseases	Grief
Gastro-intestinal disorders	Psychic trauma of a sexual nature.
Valvular heart disease	
Cariou teeth	
Alcoholic excesses	
Intestinal parasites	
Phimosis.	

Pathology.—The exact causative pathology of epilepsy is still unknown and a matter of dispute, but it is the consensus of opinion that it is a cortical disease, and at post mortem in idiopathic epilepsy sclerosis of Ammon's horn is usually found. It is believed that the cortical changes are the result of chemical poisons of an endogenous character. The following pathological conditions have been found at post mortem:

Gross Pathology

Deformities of the skull, developmental and acquired; exostoses
 General thickening of the skull, particularly in the occipital region
 General congestion of the meninges
 Calcareous deposits in the meninges
 Adhesions of the dura mater to the calvarium
 Edema of the pia mater
 Opacity and thickening of the pia mater
 Sclerosis of Ammon's horn
 Tumors—(a) gliomata, (b) sarcomata, (c) carcinomata, (d) cysts
 Arteriosclerosis
 Thrombosis
 Embolism
 Hemorrhage
 Patulous foramen ovale
 Stenosed cardiac vessels.

Microscopic Pathology

Perivascular gliosis
 Hypertrophied neuroglia cells
 Degenerative changes in the nerve cells
 Chromatolysis of nerve cells and neuroglia
 Infiltration of the cortex with leukocytes
 Capillary endarteritis.

Symptomatology.—*Preparoxysmal Symptoms.*—There usually precedes the epileptic seizure of a prodromal period varying in length from a few hours to several days. This state is characterized by a train of mental symptoms, i. e., the normally peaceful, good-natured individual becomes high-strung, morose and irritable. In this state the slightest trivialities are sufficient to produce outbreaks of temper and acts of violence. In some patients we find depressive and melancholy states which border on stupor. Other patients suffer from insomnia, have headaches and malaise, terrifying dreams, entertain delusions of persecution,

have visual hallucinations, and more rarely exhibit auditory hallucinations. The patient often behaves as an automaton just before the convulsive attack. The mental operations in a pre-*paroxysmal* period are inaccurate, sensation is disordered. Conditions of *parasthesia* are common. The patient sees lights, has visions, smells vile odors. Reason and judgment are markedly faulty. Epileptic *furores* sometimes take place. Acts of violence are occasionally committed. Religious tendencies are especially noticeable during the period preceding a convulsion. The patient often reads the bible for hours at a time, preaches and prays, and has visions of an ecstatic nature, but if he is disturbed in his mystical meditations he gives way to a violent explosion of wrath.

Paroxysmal Symptoms.—The convulsive seizures in epilepsy may be the following varieties:

PETIT MAL.

GRAND MAL.

JACKSONIAN.

Petit Mal.—In this condition the patient loses consciousness for a very few seconds. His face blanches and his eyes become fixed. He stops in his conversation or work, and then shortly resumes his activities. This form is not attended by convulsive movements and is likely to be overlooked by those not familiar with it. The term “absence” is sometimes applied to this condition.

Grand Mal.—The convulsion may be preceded by an aura in which the patient sees light, has tingling sensations, hears voices, or experiences other phenomena. The aura is usually followed by a cry which is so characteristic that it has earned the name of epileptic cry. The patient is thrown down and is completely unconscious. The body goes into a tonic state, which is followed by clonic convulsions. The tonic convulsive state usually occu-

pies about thirty seconds. There is general muscular tension, the head is twisted to one side or bent backwards, the eyes are turned backwards and upwards, the face becomes cyanotic and breathing is labored. The tonic phase is then succeeded by clonic convulsions which may at first be localized and then involve the whole body. There may be rhythmic jerking of the extremities, grinding of the teeth and frothing at the mouth. Often the tongue is bitten and the sputum tinged with blood. The movements gradually cease, the patient becomes quiet, and the face resumes its normal color. The convulsive attack may last from two to five minutes. Sphincteric control is often lost during the convulsive period. Ejaculations of semen occasionally occur. The tendon and skin reflexes are usually absent during the convulsion and immediately afterward. The pupils do not react to light and the cornea is insensible. The Babinski reflex is frequently found. Occasionally there is an elevation of temperature. An examination of the urine immediately following a paroxysm shows that it is loaded with organic salts. The convulsive attack is generally followed by a period of sleep, somnolence and stupor. The epileptic convulsions may be repeated without an interval of consciousness, which condition is known as status epilepticus. This phenomenon is attended by elevation of temperature and often results in death.

Jacksonian.—In this condition there are found spasms of groups of muscles. It may occur in the leg, arm, hand or face. The convulsive attack is clonic and not attended by loss of consciousness as a rule, but the convulsion may start from one group of muscles and continue until the entire body is involved, at which time consciousness is lost. The convulsive attacks may be diurnal or nocturnal.

Post Paroxysmal Symptoms.—Usually following the epileptic seizure the patient lapses into deep sleep, but there may be periods of maniacal excitement in which he is talkative, impul-

sive, easily irritated, and inclined to commit dangerous acts. The patient acts as though he were in a dream; he is an automaton. Crimes are quite frequent in this period.

Intraparoxysmal Symptoms.—The mental symptoms characteristic of this period are the accentuation of the disagreeable epileptic character, which is marked by states of irritability, outbursts of passion, fits of melancholy and depression. States of confusion are observed. Clouding of consciousness, delusions and hallucinations of a persecutory character have been noted. Homicidal and suicidal tendencies are exhibited. Occasionally the epileptic is peaceful, quiet and excessively good-natured. Others are extremely sentimental and show excessive religiosity. As a class they are unreliable in their statements, are given to marked exaggeration, are childish in their behavior and are often given to sexual excesses.

Psychic Epilepsy.—In this type the convulsive attack is replaced by episodes of excitement. The condition resembles the dream states of hysteria. It may last for a few hours or several days. During this time the patient performs acts automatically but with apparent consciousness. He replies to questions in a vague, incoherent manner and wanders aimlessly about his home. Cabmen have driven their vehicles, mothers have dressed their children, janitors have done their usual duties and artisans have carried on acts in line with their work, while in this condition. Persons have traveled many miles by rail and otherwise and have regained consciousness long distances from their homes, while in the state of psychic epilepsy.

Criminal acts are common in attacks of psychic epilepsy. Homicide, suicide, arson, rape and larceny have been committed. When the attack has passed the patient has no memory for the period or for the violent acts he may have committed. The condition of psychic epilepsy furnishes the basis for exceedingly delicate and difficult medico-legal contentions. Where crimes

have been committed without apparent motive, epilepsy is to be borne in mind. (See chapter on crimes of the insane.)

Diagnosis.—The diagnosis of the epileptic psychoses is usually easy when a history of repeated convulsions is obtainable or where the physician has observed the patient in a convulsion.

Hysteria.—The convulsive attacks of hysteria have been described elsewhere. (Page 201.)

General Paresis.—Convulsive attacks occur in general paresis frequently from the time of its inception until its termination. Neurological examination and the Wassermann reactions of the blood and spinal fluid are sufficient to clear up the diagnosis.

Alcoholism.—Following excessive indulgences alcoholics often have epileptic seizures which are vulgarly termed "whiskey fits." The history of the patient and his habits and general appearance are usually sufficient to clear the situation.

Cerebral Syphilis.—In this disease convulsive attacks are often observed. The Wasserman examination of the blood and spinal fluid, together with a neurological examination, are sufficient to differentiate this disease from epilepsy.

Senile Psychosis and Arterio-Sclerotic Dementia.—Convulsions are frequent in these diseases. The age of the patient and the focal symptoms are pathognomonic.

Uremia and Diabetes.—Examination of the urine in these two diseases and the general condition of the patient distinguish them from epilepsy.

Psychology and Nature of Epilepsy.—The existence of idiopathic or essential epilepsy is dependent upon inherent constitutional defectiveness. All the mental processes, as time goes on, sink to lower and lower levels. Often this deterioration is so profound as to terminate in dementia.

From a psychogenetic point of view the "fit" is regarded as a regressive reaction to unconsciousness in order to avoid the painful realities of life. This viewpoint is not always tenable.

None of the theories advanced adequately explains this disorder and it still remains a mystery. The hypothesis of cortical instability would account for the convulsive attack on the ground that the neurones are in a constant state of irritability and are subject by this reason to explosions by slight stimulation. The circulatory theory that the fits are produced by cerebral anemia due to fall of blood pressure through vasomotor constriction or intravascular clotting is interesting but inadequate. The general treatment of epilepsy lends considerable credence to the belief that the disorder is due to autointoxication, possibly of endocrinal origin. Spratling has set forth the theory that the sensory cells in the second layer of the cortex are destroyed by some toxic substance and that a pronounced gliosis takes place following this destruction, leading to the conclusion that epilepsy is "a sensory disease with a motor manifestation."

Prognosis.—The prognosis depends upon the cause of the epilepsy. In idiopathic epilepsy it is the consensus of opinion that each epileptic convulsion is attended by more or less impairment of the mental powers. This deterioration, however, is so insidious that in some cases it is scarcely perceptible. The older the patient, the poorer the outlook. The most frequent termination of chronic epileptic insanity is a state of terminal dementia. About one-half of the patients die as a result of injuries which they suffer during epileptic convulsions.

Treatment.—The patient should lead a quiet, well-regulated life, free from excitement and worry. He should not engage in occupations involving the use of sharp tools or machinery, or in which he would be in danger of falls from a height.

Meats should be eliminated from the diet so far as possible. Only the minimum amount of proteids should be allowed. Experience and dietetic investigations have conclusively shown that the number of the convulsions and the intensity of them are increased by the indulgence in foods rich in proteins. Epileptics

as a rule eat their food in a voracious manner. Patients should be cautioned against this practice. The bowels should be kept well regulated. Constipation seems to be attended by the production of convulsions.

The frequency of the seizures may be controlled by the careful administration of the bromides. Lately luminal has come into use and in many cases it has reduced the number and severity of the convulsive attacks. In some instances it has failed and has proven even to be injurious. Sedatives reduce the number of the convulsions, but it is the consensus of opinion that the severity of the convulsive attacks is increased by the reduction in their number.

Life in a rural community has been found to be of great advantage. The motor energy of the patient should be released or discharged by useful daily employment. When his mental capacities are so disordered and deteriorated that he is dangerous to himself or others, he should be committed to an institution especially designed for epileptics, or to a properly equipped hospital for the insane.

CHAPTER XVIII

THE PSYCHONEUROSES AND NEUROSES

Within this group are classified the reactional types of mental and nervous disorders which are without demonstrable physical basis and appear to be of purely psychogenetic origin. It is held by some authorities that the existence of any of these disorders is evidence in itself of constitutional psychopathic inferiority. There is some ground, however, to take issue with this view. The following types of this group have been clearly defined:

1. HYSTERIA.
2. PSYCHASTHENIA.
3. NEURASTHENIA.
4. ANXIETY OR DREAD NEUROSIIS.

HYSTERIA

Definition.—Hysteria is a psychoneurosis which occurs usually in individuals who possess highly neurotic and unstable constitutions. The disease is manifested by emotional episodes, increased susceptibility to external impressions, periods of depression, and marked sensory, psychic and motor disturbances.

Etiology.—The most important factor for its production is the influence of heredity. A family history of insanity, epilepsy, chorea or alcoholism is found in about 80 per cent of the cases. It was formerly thought to occur infrequently in the male sex, but it is an established fact that males suffer to the same degree as females. The disease usually makes its appearance in early adult life, usually between the ages of fifteen and thirty years, although it may occur both earlier and later. Hysteria is often

associated with the organic psychoses. Faulty education and poor home environment are important factors in its production. Those conditions which lead to the exhaustion of the general health and vitality act as precipitating factors in persons predisposed by a defective nervous organization. The exciting factors are as follows:

Mental Factors

Fear
Worry
Psychic trauma
Faulty environment
Defective education
Repressed painful ideas, usually sexual.

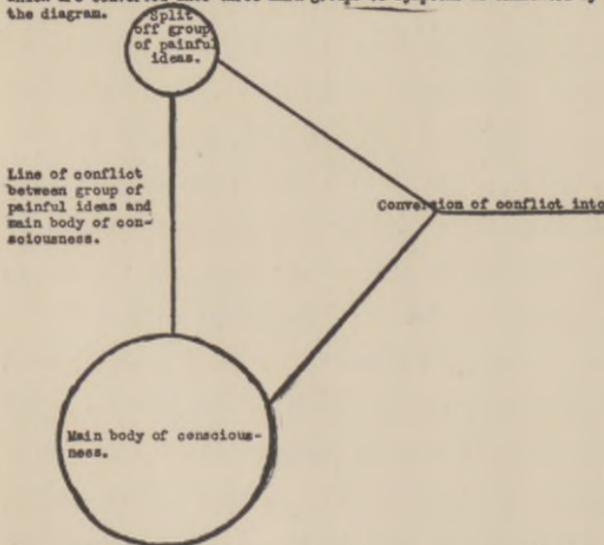
Physical Factors

Injuries
Syphilis
Alcoholism
Infectious diseases
Exhaustive diseases
Disordered sexual functions.

Hysteria remains one of the puzzles and unsolved problems of medicine. The mechanism of its development is still a question of dispute and various hypotheses have been advanced to account for its development. Among them the following are the most important:

MECHANISM OF HYSTERIA.

Cleavage of Consciousness: Separation of a painful group of ideas from the main body of consciousness, producing a conflict the results of which are converted into three main groups of symptoms as indicated by the diagram.

**Psychic Symptoms.**

Aboulia
Amnesia
Confusion
Delirious states
Impairment of thinking
Impressibility
Irritability
Stupor

Sensory Symptoms.

Anesthesia
Blindness
Acroparæsthesia
Analgesia
Concentric contraction of visual field
Coxalgia
Globus hystericus
Hysterical clonus
Neuralgias
Spinal irritability

Motor Symptoms.

Astasia abasia
Choreic movements
Convulsions, major and minor
Contractures
Hysterical dyspnea
Tics
Tremors
Paralyses of various types and degrees.

Babinski has classified all symptoms which may be produced by suggestion and removed by persuasion as hysterical. To this condition of suggestibility he has applied the term Pithiatism. Any symptoms found which cannot be produced and removed by this method are regarded by Babinski as other than hysterical.

Sollier maintained that hysteria is a condition resulting from a state of inactivity or sleep of the higher cerebral centers.

Janet advanced the idea that in hysteria there is a disassociation of certain painful ideas and a splitting up of consciousness; a condition in which there is a retraction of certain parts of consciousness.

Others have maintained that hysteria is a type of mental reaction occurring in individuals who are mentally still children; whose minds are in a plastic state and extremely susceptible to suggestion.

Freud has formulated the theory that hysteria is the result of sexual repression. According to him the hysterical individual has attempted to submerge in consciousness a group of painful ideas, and out of this attempt at repression there has grown a conflict between the individual's natural erotic desires and the moral conceptions he has attained through his environment and the process of education. An individual may suffer a shock of mental or sexual character which is attended by great emotional distress, and as a result there is split off from the main body of consciousness a group of painful ideas. This group of split-off ideas continues to enlarge and takes on a dynamic character. There develops a conflict between the main body of consciousness and the split-off constellation of ideas, and out of this conflict there may develop, through the process of conversion, three different types of symptoms. In some persons the symptoms take on a sensory form alone, and there are disturbances of sensation such as anesthesia, paresthesia, acroparesthesia and constriction of the visual fields. In others the symptoms are chiefly motor

and there may be paralyzes of groups of muscles or of a limb or of half of the body. Again, there may develop convulsions of minor or major character. The third group of symptoms may be chiefly psychic in character. There is an increased susceptibility to external stimulation. There are periods of forgetfulness, defects of apprehension, dream states which resemble epilepsy and alcoholism, and disorders of volition shown by eccentric, silly and infantile conduct. Occasionally there are observed so-called double or multiple personalities in which the split-off group of ideas has become so enlarged and powerful as to assume the dignity of a personality.

Symptomatology.—While the symptoms may be classified under the three following headings, they do not, as a rule, exist alone, as indicated in this specific classification. The symptoms may appear in any combination in any case.

Psychic Symptoms.—In the minor form of hysteria the patients are extremely nervous and excitable. They cry and laugh without sufficient cause and are unable to control their actions. They not infrequently show a tendency to moral perversions and excessive eroticism. Often, however, erotic desires are apparently absent. In the major form hallucinations of a transient character are found, which usually take on a religious or erotic coloring. Profound depressions occur, as do states of muttering and delirium and conditions of somnambulism. The emotions fluctuate; excessive good humor and marked irritability frequently alternate. The patients have a lively imagination; exaggerate all their symptoms. They seem to regard their disease as a mark of distinction. In spite of their protestations of suffering, the patients will make tremendous mental and physical efforts to entertain themselves. They exhibit enormous amounts of self-pity, work upon the sympathies of philanthropic individuals, tyrannize over their friends and relatives and display excessive willfulness. They are often very vain and spend a

great deal of time decorating themselves and pay elaborate attention to their clothing and general appearance.

Sensory Symptoms.—The symptoms under this head sometimes closely resemble those found in organic disease. Hemianesthesia is occasionally noted, especially on the left side of the body. Again, there may be islets of anesthesia in scattered portions of the body. The patient may be deeply pricked with needles in the anesthetic portions without giving the slightest evidence of sensation. Owing to a condition of ischemia there is no bleeding at the point of the needle prick. The cornea and the mucous membrane of the mouth are often insensible to touch. Reduction in the acuity of the special senses is often noted; hearing, smelling and tasting are defective. The muscle sense is frequently impaired. If the eyes are closed the patient is unable to touch the anesthetic parts. Conditions of blindness are occasionally seen, and while the pupils react to light and accommodation, the patient may be unable to see. Concentric constriction of the visual field is very common. Spots of hyperesthesia are common on the head at the site of the sagittal suture, over the trunk, back and front of the chest, and along the spine. The patient often complains of pain in the bladder or urethra or of pains and slight swellings about the joints. Phantom tumors that sometimes lead to the diagnosis of pregnancy are encountered. Two characteristic symptoms which were once thought to be pathognomonic, are observed. One is the distressing headache known as hysterical clavus. The patient feels as though a nail or spike were being driven into the head. The other symptom, to which the term globus hystericus has been applied, is that of a ball in the throat. Hemorrhages in various portions of the body have been noted. Gastro-intestinal symptoms such as gaseous distention, pain, vomiting and diarrhœa are observed. The patient is often troubled with a persistent, spasmodic cough or by attacks of dyspnea.

Motor Symptoms.—The patient may have spasms of groups of muscles or of one arm or leg, or half of the body may be involved. The paralyzes are usually of a flaccid character, the electrical reactions are normal, and if atrophy occurs it is of the disuse variety. The left side of the body is most frequently affected. The paralyzes and contractures disappear under narcosis with chloroform or ether, and often under hypnosis. The muscles involved in the paralyzes are usually anesthetized. The paralyzes are usually temporary, though at times they may be very obstinate to cure and become more or less permanent. Convulsions occur which are sometimes confused with epilepsy. A careful investigation of the convulsive attack leads to correct diagnosis. The convulsive attack is usually preceded by a prodromal period of nervousness, anxiety, a sense of choking or the dancing of bright specks before the eyes. Instead of falling to the floor or ground or being thrown down by the violent contraction of the muscles as is the case in true epilepsy, the patient simply slides to the floor or bed or into some comfortable spot. It very rarely happens that the hysterical patient hurts himself in falling. There may or may not be a slight change in the color of the face. In some instances the breath is held and a blueness of the face is produced, but it is not identical with the cyanosis found in epilepsy. In the hysterical convulsion all the body muscles may be involved, or the spasms may be limited to one side of the body alone. The movements are often violent and extreme. There may be opisthotons. Again, the patient may violently pound the floor with his heels; the arms may be swung in all directions. There is a tendency for the paroxysm to increase in violence in proportion to the number of sympathetic onlookers. The patient pulls out his hair, tears the bedclothing or his own clothing, and laughs and weeps in turn. He never bites his tongue but may occasionally bite the lower lip. He may froth at the mouth but the spittle is not tinged with blood.

The attack may last from a few minutes to several hours. While consciousness may be somewhat clouded and befogged, real unconsciousness does not occur. The patient may be roused by shaking, shouting, a dash of cold water or an electric shock. Sphincteric control is not lost, as it often is in epilepsy. The corneal and skin reflexes are often absent, but the tendon reflexes are always present in hysteria. In true epilepsy the Babinski phenomenon is found, but never in hysteria unless the psychoneurosis is associated with organic brain disease. After the convulsive seizure is ended the patient may be so fatigued as to go to sleep, but the sleep is not the deep, stertorous one which follows a true epileptic convulsion. In some of the severe types of hysteria the paroxysm may be followed by a mild state of confusion or even stupor. There is no disturbance of the temperature in the hysterical convulsion, and death does not occur as a result of it, no matter how frequently the paroxysm may be repeated. Examination of the urine after the paroxysm shows it to be very pale, of low specific gravity, and devoid of organic salt, while in epilepsy the organic content of the urine is increased following a paroxysm. The hysterical attack may be stopped by suggestion, by mild censure or firm command, by the application of cold water to the face, and by the spraying of ether or chloroform upon the hysterogenic zones, as the breasts, the ovarian region and the testicles.

Diagnosis.—The chief points to be considered in making the diagnosis are the history and temperament of the patient, and the presence or absence of the stigmata of hysteria. The character of the hysterical convulsion is radically different from that of the epileptic type of seizure, as has been shown above.

Dementia Præcox.—This is to be differentiated from hysteria by the presence of marked emotional deterioration, slow progressing dementia, and the chronic nature of the disease.

Prognosis.—The prognosis in hysteria is good so far as the attacks are concerned. The disease in itself is not progressive and mental deterioration does not take place. The younger the patient the more favorable the outlook. The disease is more persistent in males than in females, and the male patient is likely to take on states of depression during hysteria which are obdurate to treatment. The outcome of hysteria associated with organic disease is unfavorable.

Hystero-Epilepsy.—There is no such disease entity as hystero-epilepsy. Hysteria and epilepsy may be associated, and by a careful method of diagnosis the co-existence of these two diseases may be discovered.

Treatment.—Various drugs have been recommended, though none seems to exert specific reaction, although mild hypnotics in small doses may be used symptomatically. The paroxysm may be cut short by a cold douche or the injection of a fifteenth or twentieth grain of apomorphine. Suggestive therapeutics if properly employed will yield good results. It is necessary to seek out the psychic cause that precipitated the attack. Psychoanalysis is of great value in many of these cases. If possible the results of faulty education should be removed. The patient should be given a new outlook on life. It is useful to explain to him that the energy consumed in convulsive attacks should be diverted into useful and constructive channels. Occupational therapy is to be employed in attaining this result. Life out of doors and vigorous exercise is essential in physically strong patients. Hydrotherapy in the form of hot and cold douches and cold packs has a tendency to promote recovery. The patient should be isolated from his family and sympathetic friends. The general condition of the patient should be improved by hygienic living. Moderate exercise in the fresh air, light, nutritious diet, and the avoidance of excess of all kinds, are to be employed as routine treatment. Faradic electricity may be used in conditions

of paralysis, anesthesia and hyperesthesia, to increase the general nutrition of the parts and for its psychic effect. Hypnotism has been employed in some cases, but it is the consensus of opinion that hypnotism, except in very rare instances, is likely to produce more ill effects than good.

SYNOPTICAL TABLE OF THE CAUSES OF MENTAL DISEASES CONVULSIONS

DIFFERENTIATION BETWEEN EPILEPSY AND HYSTERIA

	<i>Epilepsy</i>	<i>Hysteria</i>
1. Aura	Common in epilepsy; numbness or prickling; somatic sensations.	Emotional outbreaks. No true aura.
2. Onset	Sudden. Patient falls violently wherever he may be.	Emotional disturbances precede. May occasionally be sudden.
3. Consciousness	Loss of consciousness sudden and complete.	Seldom completely lost. Patient easily aroused by stimulation.
4. Character of convulsion	Tonic at first, then clonic. Stertorous breathing.	Irregular; may be tonic or clonic. Clownish, erotic attitudes; opisthotonos. Worse when there are observers.
5. Duration	Of short duration; one to four minutes.	Five minutes to an hour, or even longer.
6. Termination	Usually slow return to consciousness, often followed by deep sleep or hebetude. Soreness in muscles.	May or may not be followed by sleep. No hebetude.
7. Pupils	Usually dilated; immobile; do not respond to light.	Usually dilated. Irregular movements of eyeball; twitching of eyelids. Anesthesia of cornea often present.
8. Sphincteric control	Often lost in epilepsy. Bladder and bowels often evacuated.	Practically never lost.
9. Scars	Face scarred; tongue bitten; other injuries to body due to falls.	No scars; tongue not bitten; no injuries. Lower lip occasionally bitten.
10. Temperature	Often an elevation of one or two degrees.	Not elevated. Normal.
11. Urine	Solid matter of urine increased.	Limpid; solid matter not increased.

PSYCHASTHENIA

Definition.—Psychasthenia is a mild type of non-dementing psychosis occurring in individuals of constitutional inferiority. It is characterized by the exhibition of a long train of neurasthenic symptoms and emotional, volitional and intellectual obsessions.

Etiology.—Approximately seventy-five per cent. of the patients suffering from this disorder give a family history of neuropathic taint. The disease may be developed upon an acquired constitutionally defective state produced by infectious diseases, injuries, hemorrhages, the use of alcohol and the effects of syphilis. About 50 per cent of the psychasthenics show some of the stigmata of degeneracy. The disease affects both sexes alike. It may appear at any age, but occurs most frequently between the second and fourth decade.

Pathology.—There is no demonstrable pathology.

Symptomatology.—The basic symptom of this disorder is a state of mental inadequacy. All mental operations, while started in the proper manner and possibly in the right direction, fall short of the goal idea, and in like degree the reactions of the individual to his environment are always below the point of adequate adjustment. The following illustration will serve to explain psychasthenia. The goal of adjustment may be represented by 1,000 yards and the psychasthenic patient's mental capacities may be compared to a bullet which has behind it the explosive power to send the missile 700 yards. The original charge of potential is too small. The patient fails to interpret the conditions of reality in the proper manner. He sees life "through a glass, darkly." This imperfection perception of life leads to feelings of mystery, fear and anguish when the patient comes in conflict with his environment.

Three types of obsession are common in psychasthenia and we

may divide these into the intellectual, emotional and volitional, according to the content of the obsession.

Intellectual Obsessions.—The most important among these are ideas of a metaphysical nature. The psychasthenic asks, What is God? Is there a God? Is there such a thing as a standard of morality? Can perfect morality be attained? The psychasthenic writes books and pamphlets to start schools of new thought; explains his ideas to anyone who will listen to him. His conduct is so regulated by these obsessions that he neglects the practical questions of life. He is a day-dreamer; never measures up to the practicabilities of life.

Emotional Obsessions.—The psychasthenics have all manner of fears and morbid desires. They are afraid of open places—agoraphobia. For this reason they avoid crowds; avoid the business districts of cities; stay in their own homes. Others suffer from just the opposite fear—claustrophobia. They fear closed-in places. They must always be in the open; are afraid to stay in their rooms by themselves; afraid to use elevators in public buildings; experience great distress in attempting to take a bath in a closed room. Sitophobia is often noted. When the patient suffers from this obsession he fears to take his food, eats very little, loses weight and develops a condition of malnutrition because of his senseless fears. Others suffer from misophobia, the fear of dirt. After touching any article they resort to ablutions. After turning a doorknob the hands must be cleansed. They pick up a book; the process is repeated. The patients live in a frenzy of scrubbing and cleaning. Astraphobia, a fear of thunder, lightning and storms, is a common obsession. Conditions of aërophobia, a morbid fear of high places, are found. Patients fear to go into the top floors of high buildings or upon ladders or stairs; are afraid to get off the ground or floor. These phobias are more or less constant in most patients but occasionally they are found to exist only at times, and then

they are acute. The patient often fully appreciates the absurdity of his fears, yet in spite of understanding them he is unable to control his emotions when his obsession is acute. When the patient suffering with aërophobia is forced to ascend into high places the face blanches, a cold perspiration breaks out, the knees shake, and the teeth may chatter. Not until he is relieved of the situation which produced the phobia does he return to normal.

Morbid Desires.—The morbid states of the psychasthenic are well known. Chief among these are the conditions of dipsomania and morphinism. The patient is urged on by a wild desire to indulge in liquor or morphine. The morbid craving is accompanied by feelings of distress, such as headache, tachycardia and dizziness. Just so soon as the patient yields to the morbid desire these feelings pass off.

Volitional Obsessions and Imperative Ideas.—A psychasthenic on going into a public building may count all the electric lights on the ceiling and the walls. In church, he may count the pipes in the organ. On the street, he counts horses or telegraph poles. He has an imperative idea to count things. This condition is known as arithmania.

Onomatomania.—This is the repetition of words and phrases. It differs from echolalia inasmuch as the words and phrases are not senseless.

Pyromania.—This is a pathological desire to set things on fire. The symptom occurs also as a part of the syndrome of other diseases.

Kleptomania.—The irresistible impulse to steal. This condition often appears as a symptom of other psychoses, especially in paresis.

Nymphomania.—The inordinate desire for and practice of sexual intercourse by women. This condition is also found in other psychoses.

Satyriasis.—This is the same condition occurring in men. These pathological desires will be dealt with in the chapter on psychopathic personalities.

Aboulia.—Loss or impaired condition of the will power. This condition may result from the presence of imperative ideas which prevent the patient from attempting to walk, stand, or perform other simple physical movements. The patient will lie in bed for months at a time, complaining that he is unable to get up. If fruit is put on a table before a patient, he may allow it to decay and state as a reason that he is unable to extend his hands to take the fruit.

Astasia-Abasia.—The inability to walk, because of aboulic ideas, is a common symptom of hysteria. The obsessions and imperative ideas of psychasthenia exist with clear consciousness on the part of the patient.

Diagnosis.—The diagnosis is quite easy in this class of cases. The absence of dementia, the absence of delusions and hallucinations, the clearness of consciousness and the non-dementing course of the disease make the diagnosis quite plain. The diagnosis may be arrived at by a process of exclusion.

Prognosis.—The disease is essentially chronic in character, by reason of the fact that it is built upon a condition of constitutional inferiority. The psychotic episodes incident to the obsessions pass when the patient yields to his morbid desires. The outlook for a permanent recovery is poor.

Treatment.—Psychotherapy is of great value in this class of cases. The patient should be taught to use his defective capacities in the very best manner possible. He should be encouraged to meet his morbid fears and desires in an intelligent manner, after the mechanism of their action is explained to him. A process of re-education should be attempted. Psychoanalysis is of benefit in this class of cases. The patient's physical condition should be carefully watched. The diet should be nutritious

and easily digestible. The patient should secure eight hours of sleep and a moderate amount of exercise daily in some useful occupation.

NEURASTHENIA

Definition.—Neurasthenia is a functional psychosis characterized by marked symptoms of nerve exhaustion and fatigue, periods of hypochondriasis, a condition of abnormal susceptibility to external stimuli, defective mental concentration, difficulty in thinking, irritability, and a wide variety of physical symptoms chiefly subjective in character. According to the character of the predominating symptoms, neurasthenia has been classified into the following types:

1. CEREBRAL TYPE.
2. SPINAL TYPE.
3. GASTRO-INTESTINAL TYPE.
4. GENITAL TYPE.
5. CIRCULATORY TYPE.

Etiology.—The predisposition to this disease may be either inherited or acquired. It most frequently occurs between the ages of twenty and fifty years. Both sexes are affected to a like degree. It has been held by some authorities that there exists a condition of chronic auto-intoxication depending upon organic changes in the nervous system, due to exhaustion. Recently it has been held that neurasthenia is the result of insufficiency of the endocrine glands, especially the thyroid, adrenal and testicular glands. The following exciting factors have been sufficient to precipitate neurasthenia:

MENTAL OVERWORK.

PHYSICAL OVERWORK.

SEXUAL EXCESSES.

FREQUENT PREGNANCIES.

SEVERE PHYSICAL SHOCK.

MENTAL SHOCK.

EXHAUSTING DISEASES.

INFECTIOUS DISEASES.

STATES OF AUTOINTOXICATION.

HEMORRHAGE.

Pathology.—No demonstrable pathology has been found in the nervous system.

Symptomatology.—*Cerebral Type.*—In this form the patient is depressed. His face wears an anxious expression. He complains of persistent and intense headaches which are usually diffuse or occipital. A feeling of emptiness in the head is often noted. Often the patient feels as though there is a band about the head; that the head is held in a vise. The headaches are usually worse in the morning and pass off as the day grows older. The patient complains of an inability to perform mental labor of any sort. He has vague fears of impending evil; is afraid that he has some organic disease. Trifles irritate him. He is given to introspection and self-analysis. Insomnia is a common symptom. The patient may sleep a few hours immediately on going to bed and remain awake during the middle portion of the night. The neurasthenic generally sleeps better in the morning but he usually awakes with a headache. Sleep is disturbed by fearful and unpleasant dreams. Often the patients appreciate their conditions of irritability, their failure of memory and defective judgment and this insight into their condition aggravates the mental trouble, producing states of anxiety and depression. If the patient discovers a slight abrasion on the skin or has a fever blister he may feel certain that he has syphilis and may make the rounds of half a dozen doctors for advice, which he usually fails to heed. Occasionally patients attempt suicide because of their profound depressions.

Spinal Type.—The symptoms of this variety are chiefly referable to the spine. The patient complains of pain and points of tenderness along the spinal column; has sensations of weakness, complains of definite areas of hyperesthesia which may be located anywhere between the occiput and the sacral region; has formications and sensations of numbness in the limbs. There is a marked sense of prostration on physical labor. Sensations of stiffness in the back of the neck and lower portion of the head are frequently complained of in this type.

Gastro-Intestinal Type.—The symptoms of this form include anorexia, coating of the tongue, gaseous distention of the stomach and a fluttering sensation in the abdomen. Constipation or diarrhoea are frequent. Gnawing sensations are noted, which are relieved by taking food. In order to overcome the discomfort patients often try various diets and frequently so reduce their ration by eliminating those foods which they believe to be the cause of their trouble, that malnutrition results. Patients of this type are users of patent medicines which are advertised for the cure of "stomach trouble." Often they try fasting cures, indulge in eating raw foods, and follow all manner of dietetic fads.

Genital Type.—The symptoms of this form are more common in the younger neurasthenics. They believe that some functional disorder of the genital system is responsible for their nervous and depressed condition. The males complain of seminal emissions or they become fearful that their sexual powers will be lost; they easily fall a prey to advertising quacks who "restore lost manhood." In spite of the patient's belief that he may have lost his sexual powers, he is often given to excessive sexual indulgence. The females suffer from pelvic pains and irregularity of the menstrual function.

Circulatory Type.—The chief symptoms of the circulatory type are vague pains about the head, flushings of the blood to

the head, palpitation of the heart, pounding of the blood vessels in the ears at night, pulsation of the abdominal aorta, hot and cold flashes over the body, dermatographia, coldness of the extremities, and cold, clammy skin. Occasionally there are marked dizzy spells attended by syncope.

Course.—The disease as a rule is insidious in its onset, though it may develop rapidly after a shock, some infectious disease or pregnancy. The symptoms may be extreme or very mild. Some days the patient may feel very well, but this brief period of well-being may be followed by days of depression. Patients as a rule feel worse in the morning and improve as the night comes on. Depending upon the nervous organization of the individual and his heredity and environment, the disease may run a short or protracted course.

Diagnosis.—The diagnosis is usually easy, but great care must be taken to exclude all organic disease. For it must be borne in mind that neurasthenic states may accompany the organic and essential psychoses. The diagnosis is to be made after a careful process of exclusion and searching physical diagnosis.

Paresis.—Paresis is often attended by neurasthenic symptoms, but this disease is to be diagnosticated by the Wassermann reaction of the blood and spinal fluid and a careful neurological examination. The neurasthenic patient appreciates his mental defect very keenly, but the paretic as a rule does not. The paretic symptoms advance but the neurasthenic symptoms subside or remain stationary. The paretic patient does not understand the seriousness of his trouble and has a tendency to underestimate his symptoms while as a rule the neurasthenic exaggerates his symptoms.

Hysteria.—In this psychosis there are found restriction of the visual fields, globus hystericus, hysterical clonus, convulsive seizures and intense emotional states.

Dementia Præcox.—In dementia præcox there is as a rule marked emotional indifference, a progressive state of dementia and indifference to environment, and symptoms just the reverse of those found in neurasthenia.

Brain Tumor.—Brain tumor is to be distinguished from neurasthenia by the focal signs and fundi examination.

Manic Depressive Insanity.—Mild types of the depressive phase of manic depressive insanity often resemble neurasthenia, but in manic depressive insanity the condition of mental retardation or increased psychomotor activity is prominent and there is a history of repeated attacks.

Prognosis.—The prognosis as a rule is good but is dependent upon the patient's nervous organization, his heredity and his environment. If the conditions which operated to produce the state of nerve exhaustion can be corrected, a cure is quite likely. Recurrences are frequent.

Treatment.—We generally find that the neurasthenic is a patient who has no definite philosophy of life. Faulty habits of mental activity are to be corrected. Worry, introspection and unproductive explosions of energy are to be transformed into special lines of useful activity. In addition to the patient's usual occupation some hobby or sport should be adopted to create new interests and thereby stop introspection and self-analysis. A definite programme of mental re-education is necessary.

Life out of doors is desirable, with plenty of physical exercise for those who are strong enough to stand it. The poorly nourished and weak patient should be impressed with the fact that he is not suffering from an incurable disease and he should be given such mental suggestion as will assist him in maintaining a cheerful state of mind. The food should be nourishing and some digestive may be given after meals. The bowels and other emunctory organs should be kept active.

Hydrotherapy is of great value in equalizing the circulation,

thereby overcoming restlessness and nervousness. Hydrotherapy may be sufficient to produce sleep; if not, sedative drugs may occasionally be used provided great care is exercised to prevent the patient from becoming dependent upon the use of sedative medication.

Drugs have no specific action in these cases, but tonics, as iron, quinine, strychnine or Blaud's pill with arsenic, may be given in cases where the patient is debilitated. Very recently glandular therapy has come into extensive use on the assumption that there exists a definite endocrine imbalance and that the glandular dysharmony can be corrected by the administration of the various endocrine substances. The glowing clinical reports of reliable practitioners would indicate that this form of therapy should be tried in cases where there seem to be indications for this type of treatment.

Traumatic Neurasthenia.—This is a state of neurasthenia which occasionally follows railroad accidents, severe physical shock due to falls, or injuries in industrial plants. This type of neurasthenia is quite persistent. The patient becomes involved in litigation and mild delusions of persecution often occur in these cases. When the patient's suit has been definitely decided, either in his favor or against him, he usually recovers.

ANXIETY OR DREAD NEUROSIS

Definition.—The anxiety neuroses are a clinical group of chronic neuroses which are attended by a morbid state of anxiety and fear, associated with pronounced nervous and physical symptoms, chief of which are tachycardia and irregularity of the heart's action, pseudo-angina, sensations of suffocation and dyspnea, dizziness attended by difficulty of locomotion, attacks of trembling, profuse sweating, vomiting and diarrhoea. These symptoms seldom occur singly. The state of anxiety permeates the whole of consciousness and regulates conduct.

Etiology.—This disease occurs in both sexes in about the same degree, usually between the twenty-fifth and forty-fifth year, though it may occur at any age. The majority of individuals who develop this disorder come from tainted stock, though it is possible to acquire a predisposition to this neurosis. The disease has been found to occur with great frequency in married persons and others whose sexual relations are not properly consummated due to imperfect repression of sexual desires in the unmarried, conditions of sexual frigidity in the married, or those states of mind which interfere with the proper performance of sexual congress. Other factors, such as exhaustion from excessive exertion, continued insomnia or serious illness, may act as exciting causes.

Pathology.—No definite pathology has been found in these cases.

Symptomatology.—Patients who suffer from this disorder are generally irritable. Trifles annoy them excessively. They live in a constant state of fear and expectation. The fear is not from without but from within. They feel that they are likely to be visited by some incurable malady which will rob them of their physiological capacities. Often they worry about automatic acts, for they are afraid that they will lose the capacity for walking, standing or writing. Insomnia is a common symptom, especially after great mental exertion or periods of excitement. The patient interprets his feelings of weakness and lassitude to be the prodromals of an oncoming paralysis. Patients cross bridges before they come to them. Thinking about a duty that is to be performed in the distant future causes the patient to become highly irritable and nervous and to suffer from insomnia. In like manner headaches are produced. Patients are inclined many times to cease an active struggle for existence; are ready to quit their occupations for fear that they will fail at their work because of lack of ability to perform their duties.

The physical symptoms are quite marked. The patient has sensations of stiffness of the joints throughout the body. He often ceases to write because of a sensation of stiffness in the hand and swelling of the fingers. He has cramps in the legs and often in the throat; complains of difficulty in swallowing. Patients make the rounds of physicians and request frequent physical examinations. They are given to excessive worry about every vague pain. Often they avoid going out into the open air on sunshiny days, for fear that the sunlight may hurt their eyes. They wear an excessive amount of clothing to avoid the inclemency of the weather. Often they will avoid walking for fear of falling down in attacks of dizziness. They often regulate their menus to prevent stomach trouble. At other times they have excessive appetites.

All the symptoms are attended by continuous states of anxiety and fear. Patients are oriented as to time, place and persons. There is no defect in the powers of intellection. Consciousness remains clear. There are no disturbances of conduct which interfere with the rights of others, and the patient fully appreciates the painfulness of his situation.

Diagnosis.—*Neurasthenia.*—Patients do not present the symptoms of nervous exhaustion as in neurasthenia, and with the relief of the physical conditions which produce neurasthenia this disease disappears. Such is not the case in anxiety neurosis.

Hysteria.—In this disease the stigmata of hysteria are present and the symptoms fluctuate from the sensory to the psychic and emotional fields. In the dread neurosis the symptoms are quite stable.

Organic disease of the nervous system should be ruled out by careful examination.

Prognosis.—Prognosis on the whole is not favorable. The disease is likely to become chronic and obdurate to treatment.

Occasionally there are remissions and recoveries whether the patient is treated or not.

Treatment.—A careful psychoanalytical search should be made. If there are sexual irregularities these should be corrected, if possible, by establishing a course of sexual hygiene for the patient. The patient should be encouraged and his mental activities should be diverted from himself and directed into useful employment. Careful attention should be paid to matters of physical hygiene. Insomnia should be controlled by daily warm baths and hot packs. Mild hypnotics, as veronal and sulfonal, may be employed when the insomnia is marked. Life in the open air and a moderate amount of exercise are beneficial.

CHAPTER XIX

PSYCHOSES WITH CONSTITUTIONAL INFERIORITY

There is a group of personalities whose mental constitutions are so abnormal or anomalous that they find it difficult, because of their constitutional eccentricities, to adjust themselves to the usual conditions of society. Their deviations of conduct are chiefly in the emotional and volitional fields. They differ from the "queer" individuals whom we are accustomed to regard as normal, in degree only. Their defective mental makeup renders it impossible for them to view their environments in an average, normal way, and for this reason they very frequently develop psychotic episodes which lead to their commitment to institutions for the insane. The psychotic episodes which punctuate their lives from time to time are states of excessive nervousness, irritability and excitement; periods of confusion and of paranoid reaction. In this group of individuals we find the crank, the tramp, the criminal, the malingerer, the sexual pervert and the pathological liar and swindler. Under this general heading will be described the following types:

States of Constitutional Depression

States of Constitutional Excitement

Sexual Anomalies

Constitutional Immorality

Malingering or Simulation.

Etiology.—About seventy-five per cent of these individuals come of stock showing a neuropathic taint.

Pathology.—No demonstrable pathology has been found in the central nervous system of these individuals. Physically they present the anatomical and physiological stigmata of degeneracy. We often find malformations of the skull, asymmetry of the face, irregularities of the palate, malocclusion of the teeth, degenerative types of ears, different colored irides, and disturbances of physiological functions.

Symptomatology.—The chief states of psychopathic inferiority and the most prominent psychopathic personalities will be considered.

Some of these individuals manifest states of extreme nervousness, which become specially apparent when they experience difficulties of adjustment. They are particularly susceptible to the misfortunes of life; unable to react in an adequate way to difficult situations. They are easily fatigued both mentally and physically; are inclined to take a pessimistic view of every unpleasant situation. They cross bridges before they come to them; exhibit mercurial temperaments; are easily moved to tears or laughter; may show states of excessive sentimentality or inhumanity. They are subject to suggestion and their conduct is largely regulated by their whims and accidental impressions. Often they recognize the inadequacy of their reactions to the situations of life and vigorously attempt by the exercise of will power to overcome their deficiencies, but they are easily fatigued and enervated. In this state of fatigue they may be impulsive, irritable and lachrymose, and they often resort to the use of alcohol or drugs to overcome the uncomfortable state of their feelings. They may be precocious sexually and given to the practice of masturbation in addition to normal sexual congress. Often they indulge in sexual sprees, which are followed by morbid states of repentance and sexual neurasthenia, attended by sexual impotence and spermatorrhœa. They have capricious appetites; often indulge in fasts which are terminated by gormandizing.

They suffer from eructations of gas which may or may not be attended by vomiting. They suffer from insomnia, as a rule, and their sleep is disturbed by unpleasant and disgusting dreams. Under extremely distressing situations these patients often develop delusions of persecution and periods of confusion which are preceded by great restlessness and marked irritability. This condition of nervousness often resembles neurasthenia, but it is to be differentiated by the fact that the true neurasthenic recovers under rest and symptomatic medication. In constitutional nervousness this is not the case, for the defect has its origin in a morbid nervous organization. Persons who exhibit the nervous temperament as a rule are not committed to institutions for the insane, but they are constantly seeking relief at the hands of physicians or at institutions for rest cure, if they have the means to secure such treatment; otherwise they make themselves a burden in their homes and are looked upon as perpetual "grouches" and cranks.

STATES OF CONSTITUTIONAL DEPRESSION

Some individuals are so constituted as to be in a state of depression the greater part of the time. As a rule these individuals do not show any impairment of the mental powers. They are able to think in a logical, sequential manner, but every situation in life is associated with a feeling of sadness and "the blues." They are very susceptible to suggestion of all sorts, especially to those of a depressing kind. They search in their past histories for troubles; fear that they have made some misstep which is likely to bring evil in the future. They are without self-confidence; have feelings of inadequacy; are fearful that they may become insane or that they may acquire some constitutional disease which will materially shorten their lives. This mental attitude leads to inadequate social adjustment. The individuals are afraid to assume the daily duties and burdens that come

in their way. They do not use the powers they have to the fullest extent because of their morbid fears and dreads. They find it difficult to arrive at decisions in matters of any moment, though they do display the tendency to carry out little details with great exactness. If they are religiously inclined, much of their conversation is concerned with the future life and how to make preparations to meet it. They develop tics—twitching of the muscles of the face, shaking of the hand, turning of the head. This psychotic state is usually chronic. Shocks, whether they be emotional or physical, aggravate the patient's tendencies and inclinations. Occasionally patients do have remissions but they are usually temporary. Patients are often misunderstood by their friends, who accuse them of enjoying being sick.

Treatment.—Patients should, so far as possible, lead a quiet, regular life, secure eight hours of sleep each day, and avoid all excesses. The food should be moderate in amount, and nourishing. If possible patients should have placed upon them small burdens and responsibilities calculated to employ their time and to lessen the opportunities for introspection and self-analysis. Symptomatic medication may be employed for constipation, insomnia and nervousness. Physiotherapy is of value in these cases, chiefly because of the fact that it improves the circulation, increases the general nutrition and exerts a psychical influence.

STATES OF CONSTITUTIONAL EXCITEMENT

Among the anomalous conditions included under the term psychopathic inferiority are conditions in which the patients exhibit periodic episodes of excitement. At these times the patients are talkative, egotistical, and the conversation is flighty and erratic. They find it difficult to adjust themselves to social conventions; indulge in all sorts of adventures; concoct plans and devise business schemes to acquire riches quickly; make foolish speculations on the market. When they are thwarted in

their plans, which are always unstable and changing, they frequently exhibit outbreaks of temper and passion. They are also given to sexual excesses. These psychotic episodes are likely to be mistaken for an increase in psychomotor activity as seen in manic-depressive insanity or general paresis. The history of the case and the neurological examination usually make the diagnosis clear. The course of this anomalous condition is essentially chronic. The apparent wealth of mental capacity and energy is dissipated in unproductive activities. They are ne'er do wells and failures in life. Occasionally some persons of this type possess artistic abilities and appear to be brilliant, but they never reach the goal success.

Treatment.—There is no adequate treatment of value in these cases. The excessive activity should be curbed and directed into useful channels, if possible. The patients should be so restrained as to prevent alcoholic and sexual excesses. Daily occupation at some useful endeavor not requiring a great deal of initiative or the exercise of judgment, is useful. Until the end of their lives these individuals remain a burden to their friends and a possible menace to the communities in which they live.

IMPULSIVE STATES

Frequently psychopaths exhibit periodic outbreaks of excitement, morbid tendencies, furores and frenzy. They feel impelled to do senseless and foolish acts, usually of a destructive nature. They turn in false fire alarms, wreck trains, commit assault and battery and occasionally kill, when acting under these impulses. These cases will be classified and will be described at greater length under the heading of constitutional immorality.

SEXUAL ABNORMALITIES

Among the borderline and episodic states of mental alienation are to be found the anomalous conditions of the sexual instinct.

Not all persons having such anomalies are to be regarded as insane. The majority are poorly synthesized individuals of psychopathic constitution. As a rule they come of stock showing a neuropathic taint.

Etiology.—Perverted sexual instincts are more frequently noted among males than among females. Sexual perversion was formerly thought to be a rare condition, but this is by no means the case. Sexual perverts of all types have been found in all classes of society, but particularly have they been observed among prison populations, in armies and navies, and in celibate institutions of learning. It is held by some authorities that sexual perversion is due to congenital defect. Other authorities of equal rank are inclined to ascribe environmental factors as causative agencies for sexual perversion.

These anomalous conditions of the sexual instinct may be divided into two groups; first, the quantitative anomalies, and second, the qualitative anomalies.

Quantitative Anomalies.—There frequently occur in individuals states of sexual frigidity or the lack of desire for sexual congress. This sexual anesthesia may often be a part of the symptom complex of hysteria, the result of sexual trauma, or possibly the result of ascetic religious ideas. In these instances it is more or less artificial. An opposite condition—sexual hyperesthesia, or eroticism—is often found in the psychopathic, in which the sexual desires are excessive and pathological. This condition may exist alone or it may be a part of the symptom complex of an essential insanity. In women this condition is known as nymphomania and in men as satyriasis.

Qualitative Anomalies.—These anomalies are classified under two heads, perversions and inversions. Under the class of perversions we have the following:

Masturbation.—This practice, occurring in the transition periods between infancy, early childhood and adolescence, probably

has no pathological significance, but "serves to focalize the sexual sensations on the normal erogenous zones." Masturbation has often been thought to be the cause of insanity and for this reason the misnomer "masturbatic insanity" is found in some of the older texts on psychiatry. Masturbation is more often a symptom than the cause of a disordered mental state.

Sadism—Active Algolagnia.—In this anomalous condition the sexual desire is gratified by the infliction of pain upon the sexual partner. This condition may be real or symbolic. It is more frequently found in the male, which is to be expected, as the male is usually the aggressor in sexual congress.

Masochism—Passive Algolagnia.—In this anomalous condition the sexual desire is gratified by suffering pain, either real or symbolic. This anomaly of the sexual instinct is more frequently found in women, probably for the reason that they usually sustain the passive part in sexual congress.

Homosexuality.—This is a condition of desire for actual sexual relations with an individual of the same sex. It is often met with in penal institutions and in hospitals for the insane. Occasionally it is found among tramps and among sailors and soldiers, and it is not unheard of in celibate orders of the priesthood and in seminaries for females. Individuals suffering from this anomaly have a tendency to follow certain occupations. They are often met with among ladies' tailors, valets, waiters in restaurants and hotels, window decorators and trimmers, and actors, particularly impersonators of the opposite sex. Kraftt-Ebing and Hall have recorded in medical literature instances in the various groups that have been discussed. White states, "Inversion consists of a lack of harmony between the physical and the psychical sex and leads to homosexuality or desire for persons of the same sex. Various physical anomalies are often found in these persons." For example, the general conformation of the body, pilosity, etc., may indicate one sex, while the genitalia are

of the other. In the germ plasm there are present the male and female sex determiners and only one normally develops. Owing to some faulty development both the characteristics are partially involved and this mixture of sex characters may show itself in either the mental or physical organization or possibly in both. Up to a certain period in life, before the sexual instincts are developed in the child, he is, so far as mentality and inclination are concerned, of neuter gender. But if the development is normal the sex development is proper for the physical sex of the child concerned. If this progress does not take place normally he may remain undeveloped and in the infantile stage. As Freud puts it, he is polymorphous-perverse.

Narcissism.—This is a type of perversion in which the individual is in love with himself or his own body. It is a condition of auto-erotic sexuality.

Fetichism.—This term is applied to that type of sexual perversion in which the individual is sexually excited and gratified by looking at, coming in contact with, or possessing some part of the body or clothing of another, such as the hand, foot or hair, or gloves, handkerchiefs or lingerie. It is not uncommon to find individuals of this type, if they are men, wearing articles of women's apparel. The reverse is true of the female sex.

Bestiality.—This is a type of sexual perversion which shows itself in sexual relations with animals. Individuals given to this practice are to be found in practically every prison of any size.

Exhibitionism.—This is a type of sexual gratification derived by exposing the genital organs. This condition rarely exists as an entity, but is usually a part of the symptom complex of an essential mental disorder.

Necrophilia.—This term is applied to the desire for or the actual sexual congress with a dead body.

General Symptomatology.—These conditions of inversion and perversion (anomalies) are very often expressions or a part

of the symptom complex of the various insanities. White says of them the following:

This list of anomalies of the sexual instinct as defined refers to the actual expression of this instinct in outward activity. All of these various manifestations, however, may appear in the phantasies of the patient, expressed symbolically and without any appreciable tendency to carry them into action. In fact, the analysis of practically any one would show a majority at least of these tendencies in symbolic expression in the unconscious. It can easily be understood why this should be so, because such tendencies as homosexuality, narcissism, exhibitionism, etc., represent stages in normal development, the records of which are preserved in the unconscious. In their crude manifestations they belong to the symptoms of mental defect, in their higher symbolic expressions in the neuroses and psychoses they indicate the tendencies of the individual which have not been adequately socialized.

The sexually perverted and inverted individual usually remains single, but a few marry with the view in mind to overcome their perverted sexual inclinations by the state of marriage. In some marriage is sufficient to overcome their inclinations, but this is not usual. The homosexual find partners of the same sex and indulge in so-called platonic friendship and sexual liaisons. In the majority of instances they do not show marked mental impairment, with the exception that they are easily fatigued by mental or physical labor. They are occasionally very much distressed because of their perverseness and have an acute insight into the abnormality of their impulses. This makes them in some instances extremely sensitive, moody, introspective, and given to violent outbursts of temper.

The male homosexual pervert as a rule gives great attention to his personal appearance, spends much time in adorning himself, brushing his hair, using cosmetics and manicuring his fingernails. He is very fond of perfumes and wears flowers. It is observed that such persons enjoy doing sewing, arrange their rooms in the manner of a woman's boudoir, and wear many articles of women's attire. We often find these individuals eunuchoid in their physical appearance, in some instances with high, fal-

setto voices. The face is devoid of beard; they have delicate, soft skins. The hips may be excessively broad and the mammary glands greatly developed.

The female invert usually presents many masculine traits of appearance. She may have a rough beard, a deep voice, hips smaller than usual, and chest and shoulders with the male type of development. She indulges in men's work, mannish clothes, and imitates men so far as possible in her mode of life.

Diagnosis.—The diagnosis is usually easy. Sometimes the physical appearance and the general behavior of homosexual individuals is such as to distinguish them from other individuals of the same sex. However, in many cases the diagnosis is to be made only upon the confession of the patient.

Prognosis.—As this condition is dependent in the majority of cases upon a morbid basis, there is little hope for recovery. These persons may, however, learn from punishments in the way of incarceration in penal institutions, from social ostracism and from shame that it is necessary to control their inclinations and desires and to regulate their conduct by ordinary standards. In cases of acquired homosexuality the prognosis is somewhat more favorable if the individual can be placed in the proper environment and given the necessary re-education.

Treatment.—Hypnotism has been employed but it is of no more value than ordinary suggestion. The object of treatment is to reduce the excessive sexual excitability and to create in the individual an inclination for intercourse with persons of the opposite sex. The physical and nervous condition of the patient should receive symptomatic treatment and medication.

CONSTITUTIONAL IMMORALITY

Definition.—The terms constitutional immorality, moral anaesthesia, moral insanity and moral imbecility have been used more or less indiscriminately to describe perverse states of the

emotions, morbid dispositions, disorders of conduct and criminal behavior which were not apparently associated with definite states of mental aberration or enfeeblement. The idea that some individuals are immoral because of constitutional defects of the neural organism is repugnant to many persons, as it seems to challenge the traditional belief in man's free will. By some, every individual is presumed to be possessed of an innate moral sense or conscience which enables him to decide what is right and wrong in conduct and to act accordingly. Morality and character may be described as a function of the psyche, as is memory or imagination. The so-called moral sense or quality is, however, the last of the psychic functions to be developed, and is also the first to be confused, disoriented or destroyed by pathological processes affecting the mind. It is readily apparent that the function of intellection may be limited by developmental defects occurring in the physical evolution of the brain substance, and since this is the case there is no logical reason why moral capacities of the psyche should not suffer from defect for the same reason. Whether these conditions exist as clinical entities is still a mooted question. Much controversy has been waged pro and con. It is agreed by various authorities that there are individuals who seemingly cannot refrain from crime, because of their degenerate organizations which precipitate and impel them to immoral or illegal acts. Various definitions have been given to describe these anomalous states which lead to non-conventional behavior, and prominent among them are the following:

Constitutional immorality is recognized * * * ; in such instances the faults of character are out of proportion to the insignificant disorders of intelligence. (Tanzi)

Moral imbecility is a condition of mental defectiveness which is shown by the absence of the highest functions, particularly the moral; capable of training to a considerable degree, but always a menace to society. (White)

Disorders of the moral sentiments may be congenital * * *, an original

deficiency analogous to that lack of musical sense or colorblindness which may coexist with a fair faculty of language and good contour perception * * *, with fairly good logical powers in the abstract. (Spitzka)

The moral imbecile is a person who by reason of arrested development or disease of the brain, dating from birth or from early years, displays at an early age vicious or criminal propensities which are of an incorrigible and unusual nature, and are generally associated with some slight limitation of intellect. (Crichton-Browne)

Etiology.—Hereditv is the greatest factor operating to produce this type of degeneracy. A history of insanity, epilepsy, feeble-mindedness or other form of neuropathy, syphilis or alcoholism, is usually found in the antecedents. There is a high correlation between illegitimacy and moral imbecility.

Symptomatology.—Outstanding types of constitutional immorality have been noted, as follows:

- Born Criminals
- Pathological Liars
- Pathological Swindlers
- Mattoids or Querulants.

Mechanism of Constitutional Immorality.—The processes of the mind are continuous and the so-called faculties or functions of the mind have no separate and distinct existence, but the terms of the old school psychology may be conveniently used in this chapter to designate those three great expressions of mental life—intellection, feeling and volition. These are conjoined and blended continually, and no one of the three can be taken into account without considering the other two. So in an endeavor to describe moral insanity it will be classified under three heads according to which one of the three functions of the psyche is most involved. We may therefore divide constitutional immorality or moral insanity into the following types:

1. Where the defect of the psyche is most marked in the sphere of intellection.

2. Where the defect is most pronounced in the emotional sphere.

3. Where the volitional sphere is chiefly involved.

4. Where one or more or all the spheres of the mind are affected alike.

It is the function of the mind continually to adjust the individual to his ever changing environment, and a proper balance of the intellectual, emotional and volitional activities is necessary for this adjustment. In the constitutionally immoral we find a disequilibrium of the above mentioned functions of mentality which lead to the consummation of criminal acts or disordered social behavior. The bank robber skillfully opens a vault with a most intricate lock, and secures its contents. The criminal's intellectual capacities were adequate to the understanding of the mechanism of the difficult lock, the necessary volitional activities were evidenced by its skillful manipulation and the successful completion of his well calculated crime, but the much lowered or inert emotional capacities of his mental organism failed to exert a proper moral inhibitory influence. Activity of the intellectual and volitional attributes of the psyche, disproportionate to those of the emotional qualities, resulted in a decidedly abnormal reaction. This illustration seems, no doubt, to be extreme, yet it very adequately fits many cases of criminality.

Immorality Due to Defect in the Intellectual Sphere.—There is a wide range in this form which extends from imbecility to a condition of high-grade feeble-mindedness. The individuals who belong to this class fail to see the relationship they bear to other individuals, so far as moral or legal obligations are concerned. Crimes of this class are homicides, assaults, rapes and petty thefts.

Immorality Due to Defect in the Volitional Sphere.—This form is one of the most striking and interesting in the field of

morbid psychology. It is to be regretted that these individuals of defective will power are more studied and observed by the legal fraternity than by the medical. These persons are easily influenced. They know the difference between right and wrong and yet are unable to suppress or restrain their inclination to crime or anti-social conduct. They frequently experience explosions of anger and at these times commit most atrocious and barbarous offenses against persons and property. The defects of the will may be arbitrarily classed under three heads:

(a) *The Explosive Will*.—This condition is due to defective inhibition of the intellectual and emotional impulses which restrain the activity of the volitional sphere. Persons of this mercurial type with their hair-trigger temperaments are familiar to us all. In these individuals the motor impulse is translated into criminal acts before the defective mental mechanism can release the inhibitory social impulse.

(b) *Exaggerated Impulses*.—Criminal acts are committed in instances where the normal amount of inhibitory power is present, but is insufficient to overpower the pathological and exaggerated impulses which lead to criminal acts. To this class of moral defectives belong the dipsomaniac, kleptomaniac and pyromaniac. When these persons attempt to resist their impulses they experience such physical symptoms as prostration, tremor and vertigo, which disappear when the impulsive acts are performed. Unfortunate persons of this type are often aware of the morbidity of their behavior.

(c) *Arrest of the Will, or Aboulia*.—This defect, we find, may be due either to an excess of inhibitory ideas or to a lack of sufficient volitional impulse to perform the duties demanded by society. In this condition the intellectual and emotional spheres are but little or in nowise affected, but the connecting link between these two and the volitional sphere seems to be lacking. The crimes or misdemeanors resulting from this defect are sins of

omission rather than commission. The lives of persons so afflicted are classically described by Regis as being "one long contradiction between an apparent wealth of means and poverty of result."

Immorality Due to Defect in the Emotional Sphere.—In this form the greatest defect of the psyche seems to be in the emotional sphere. The defect of the emotions may be divided into two varieties in one of which there is a condition of transient and ephemeral hyperactivity of such emotions as anger, hatred, jealousy and eroticism which leads to atrocious and abhorrent acts of cruelty. In the second variety we find that the emotional defects are evidenced by a cold, heartless and indifferent attitude and a general paucity of ethical sentiments. We find in this class men of excellent education and others who, though not conventionally educated, are keen and cunning and possessed of an abundance of native intelligence.

The Born Criminal.—Whatever type of mental mechanism the born criminal may show, in general he displays the following described traits: He is able to acquire, in a more or less comprehensive manner and to varying degrees, a conventional education. His intellectual processes show no particular defect, but he entertains a decidedly myopic view of life. He is lacking in reflection and foresight. He is more intent on satisfying a momentary whim or passion than on looking to the future to see what difficulties his hastiness may cause him to encounter. He fails to show the usual amount of filial respect, is indifferent to family relations and unkind. The history shows that as a child he was given to the torturing of animals and the teasing and maltreating of playmates, sisters and brothers, and that in adolescence his conduct was such that it was necessary to send him to a reform school. He is supremely selfish and unable to resist temptation. He is irritable and vindictive. He may be a gangster, hobo, beggar, petty thief or larcenist. His acts ulti-

mately lead him into penal institutions. He is usually constantly at war with society. After years of experience he becomes the professional criminal. He represents the habitual criminal class to be found in penal institutions.

Pathological Liars.—Individuals of this type are often mentally alert and capable of acquiring a conventional education, but their fund of information, while general, is usually superficial. Their information is not elaborated and coherent, their conceptions of life are based upon shortsighted and perverted views. They are given to misrepresentation and misconception, and have the faculty for mixing truth with fiction, which makes their statements at first appear plausible. They lie "for the joy of lying." They seem to derive pleasure from misrepresentation. They tell lies when the truth would be of greater advantage to them. They lie so frequently that finally they believe their own lies or at least they are not able to discover the origin of their misrepresentations. Even though confronted with embarrassing evidence that they have been detected in lying, they continue in the practice, inventing new fabrications to clear themselves from unpleasant consequences. These persons are often quite self-conscious. At times they show some remorse, but after making promises to reform they resort again to lies.

Pathological Swindlers.—These persons form an interesting group. They take particular delight in cheating and swindling. They secure money from gullible and credulous persons by representing themselves to be members of rich families or relatives of prominent men, or posing as officers of the government. By these methods they issue fraudulent checks and letters. They live by their wits. Often they boast of their ability to swindle the public and regard themselves as benefactors saying that by swindling a credulous individual of his money they teach him a lesson in thrift and economy and whet his foresight and acumen.

Mattoids and Querulants.—Individuals of this type usually do not show any mental defect and are able to acquire the conventional education. There is no defect in their processes of thinking. Memory is not impaired. They are alert and keen but they show an exceeding sensitiveness of the emotional qualities of the mind. They are apprehensive and put paranoid interpretations upon trifling occurrences. They are always ready to combat with intensity what may appear to be the slightest infringements on their rights. At all times they distrust the motives of others. They are revengeful and ready to secure redress of their fancied or real wrongs, employing the most vigorous means to obtain their ends. Egotism and self assertion are prominent characteristics of their mental attitude. They carry their quarrels, misunderstandings and fancied insults into the courts for settlement. They exhaust every opportunity for appeal from decisions if judgments are rendered against them. Occasionally their hotheaded tendencies and dispositions cause them to commit crimes against the person. Because of their extreme sensitiveness and belligerent behavior they usually fail to make a success of whatever pursuits they may follow in life, and their failures they charge to their enemies.

Diagnosis.—The diagnosis of constitutional immorality is by no means easy or even always possible. A very careful investigation and consideration of the individual's full life history in longitudinal and cross section is absolutely necessary. The individual's life must be reviewed from infancy and full weight must be given to the influence of environment, education and standards of living and the character of the reactions to them. Moral insanity is to be distinguished from the essential insanities which have crimes and misdemeanors as a part of their symptom complex. Epilepsy, dementia præcox, paresis, manic depressive insanity, feeble-mindedness and other types of essential psychoses must be carefully ruled out. The mattoids are

to be distinguished from paranoiacs by the fact that the paranoiacs evolve carefully systematized delusions to defend their particular claims. Genuine delusions are not exhibited by the mattoids. After the pseudoquerulant or mattoid has exhausted his means of redress in the courts, he does not resort to desperate measures to secure his ends, but makes an attempt to forget his difficulties and troubles. The paranoiac passes through the stage of suspicion, persecution and transformation of the personality, which is not the case with the mattoids. The mental deviations of the mattoids do not follow a definite line of progress.

Treatment.—There is no satisfactory treatment of the born criminal. His behavior leads him into prison, where he is kept for indefinite periods, spending most of his life there. Very rarely individuals of this type, if taken in hand while very young and placed in a favorable environment and under effective restraints and compelled to lead quiet, regular lives, manage to be self-supporting, law-abiding citizens in a negative sort of way. Craniectomy has been tried in the treatment of delinquent children, but the results are not at all gratifying. For the benefit of posterity, sterilization is advocated. Lugaro has suggested that the impulsive criminal have his thyroid gland mutilated, care being exercised that the parathyroids are not injured, with a view to bringing about a mild degree of intoxication not unlike that found in myxedema, which would calm and allay irritable and impulsive tendencies without impairing the intellectual capacity. We must seek to detect abnormalities in the children, and, should we find deviations toward criminal tendencies, we should place them in a healthful environment and give them such schooling as will particularly develop their social instincts and tend to compensate for their inherent defects. The prognosis, however, is bad, for no amount of training will alter or long hide the vices of organization. There is no satisfactory treat-

ment for the pathological liar or swindler. Their acts ultimately lead to incarceration, and for long periods at least society is protected from them. There is no specific treatment for the matoids. Occasionally temporary confinement in hospitals for the insane and private institutions for the mentally defective are of advantage. Restraint imposed upon them by intelligent, philanthropic persons is found to be of service. By these means some of their energy is directed into channels that are useful, instead of being entirely lost in fruitless endeavors.

MALINGERING

Malingering is the deliberate feigning of mental and physical symptoms of illness with the intention to deceive. Self inflicted injuries and mutilations of the body, when done to escape an unpleasant or difficult situation, are to be considered under the head of simulation. Malingering is practiced by criminals in penal institutions with the view in mind to escape work allotted to them, to secure a change of occupation, to visit the prison hospital, to secure transfers from prison to insane hospitals where the chances for escape are better and where life is less active and is devoid of strict discipline. In the non-criminal classes malingering of insanity is practiced for the purpose of avoiding military service, to escape from unhappy matrimonial ties, to prevent divorce proceedings and the settlement of estates, to arouse sympathy, to avoid legal responsibilities, to secure industrial compensation, and for other reasons of similar nature.

A prisoner usually attempts to imitate acute maniacal states. He assumes a state of apparent excitement, is restless and talkative, yells and screams, tears his clothing, makes wild gestures, and keeps up a constant rehearsal of silly, extravagant behavior when he believes he is under observation. The symptoms subside when the patient thinks he is not watched.

The condition of dementia is probably the next most fre-

quently essayed. The prisoner pretends to be disoriented, stupid, forgetful, childish in his manner and silly and puerile in his judgments. He disregards the rules of the institution with apparent indifference to the consequences.

Melancholic states are often attempted, but this is probably the least successful attempt that the malingerer can make, for remorse, introspection, self-analysis, sorrow and self-accusation are rarely seen in penal institutions. When a melancholic form of insanity is attempted the prisoner generally pretends to be in a stupor or a state of irresponsiveness, indifferent to his environment and neglectful of the calls of nature.

Some of these simulated cases of insanity are so well done that the untrained observer is often deceived. The alienist usually finds that the malingerer overdoes his part, for he generally entertains the idea that the insane are always absurd in their actions, manner and conversation. His replies to questions are made with such studied silliness, absurdity and systematic regularity that the careful examiner at once becomes suspicious. The malingerer seeks to impress the observer with the idea of insanity, whereas the real lunatic, if he has any insight into his condition, generally does the reverse. In one instance a malingerer who came under the notice of the author put his food in his shoes and his shoes in his pocket, and emphatically insisted that such behavior was indicative of insanity. Simulations of insanity while presenting some of the symptoms which belong to the form that is copied, are incomplete, or else additional inconsistent symptoms may be added. The symptoms of a terminal dementia would make an extremely poor combination with those of the manic phase or those of manic-depressive insanity, yet the feigner often attempts this combination.

Relatively speaking, few persons succeed in deceiving physicians who are familiar with mental disease. It is a difficult thing to portray accurately the symptoms of insanity, at least

for any length of time, and many of the evidences of insanity cannot be simulated. The alienist, recognizing the difficulties he may encounter, must be exceedingly slow and careful in making tests. A searching inquiry must be made into the family and personal history, and here he must be exceedingly careful, for the information may be biased, prejudiced and untrustworthy.

In states where the seemingly insane prisoner is transferred to civil hospitals for the insane, the playing of the "crazy game" is quite prevalent, but in states where insane prisoners are transferred to hospitals for insane criminals, these hospitals being especially constructed and especially administered to prevent escapes, the "insanity dodge" is becoming very much less popular.

Epilepsy is often feigned. The simulator falls in a comfortable spot. His body is convulsed and twisted as he attempts to perform the movements of the grand mal seizure, and he froths at the mouth—with the assistance of a little soap. His tongue is never bitten. A careful inspection of the patient and a dash of cold water or a spray of ether or chloroform is usually sufficient to reveal the fraudulent character of his convulsions. The use of soap, however, is not restricted to the simulation of epilepsy, for often it is taken in the form of pills to produce intestinal trouble. The simulator frequently succeeds in producing a most intractable mucous diarrhoea. Various other substances are used for the same purpose, the most common being tooth paste, tooth powder, tobacco juice, wood alcohol, lime water, antiseptic solutions and turpentine. One malingerer who came under the observation of the writer produced phosphorus poisoning with its attendant symptoms by eating matches. Another, to avoid certain tasks and to show his displeasure concerning institutional rules, swallowed parts of his mirror, the face of his clock, and the electric light globe from his cell. Each time glass

was recovered from this human ostrich in the usual manner, without apparent harm to him. Psychopathic prisoners occasionally amputate fingers and mutilate the body. In one instance a convict made the request that he be taken out of the institutional butcher shop. When he was informed that his wish could not be granted he became very irritable and on his return to work chopped off several fingers with a cleaver. To show his displeasure another prisoner sawed off his fingers with a buzz saw. To escape work, prisoners often burn themselves with fire, alkalies and acids, or they will apply small poultices of lime to the body long enough to bring about inflammation. After several applications of these poultices, discharging ulcers are produced which render the prisoner unable to do his work. Prisoners often produce swelling of the limbs by drawing a sock or wet cloth over a limb and then pounding it until it is red and swollen. This method produces little external evidence of the manner in which the trauma was produced.

Feigning blindness is not a rare practice, but the usual tests for blindness are sufficient to discover this subterfuge. It is well known among some of the criminal fraternity that instillation of atropin solution into the eyes will produce defects of vision and even temporary blindness.

Prisoners have produced the oral symptoms of septic sore throat by long-continued sucking of brass, which produces grayish-white ulcers in the mouth and throat. Belladonna has been employed to produce a dryness of the throat and redness of the skin, belladonna plasters being boiled to obtain the drug.

Frequently the simulator picks the gums with some sharp instrument to produce bleeding, to simulate hemorrhage from the stomach and lungs. Occasionally prisoners have introduced pieces of wire into the urethra to induce hemorrhage.

The manner of producing these deceptions and the methods

employed are as numerous as the circumstances and the ingenuity and the means at hand permit.

The malingerer is generally a psychopath who resorts to simulation and produces physical symptoms and disabilities to enable him to escape unpleasant or painful situations in which he finds himself. Approximately 75 per cent of all malingerers are individuals who show mental instability and psychopathic tendencies. Malingering is sometimes a part of the symptom complex of some of the essential insanities. The hysteric may aggravate his symptoms by simulation. The epileptic learns to feign convulsive attacks. Hysterical paralysis due to cortical disassociation is, however, not to be regarded as simulation if the patient is suddenly made to walk by putting him in a state of fear. The question in this case is not whether the paralysis is of an organic or functional nature, but whether the patient pretended his symptoms with the intention to deceive.

Persons who find it necessary to practice malingering in order to meet an unpleasant or difficult situation are usually of a psychopathic makeup. Their reasoning powers and judgment are poor, for they fail to perceive and take into account that their lies and deceptions will soon be discovered. Malingering is a process of reversion to an infantile method of adjustment.

CHAPTER XX

PYSCHOSES WITH MENTAL DEFICIENCY

IDIOCY, IMBECILITY AND FEEBLEMINDEDNESS

The mentally deficient frequently develop psychotic states chief of which are episodes of confusion, irritability, intense anger or excitement, paranoid states, periods of depression and stupor and states of hallucinosis. Occasionally they may have engrafted upon their state of mental enfeeblement conditions of dementia præcox and manic depressive insanity.

Definition.—These conditions of mental defect may be clinically subdivided according to the character of their symptoms, or they may be classified psychologically according to the mental level as determined by psychometric tests. Both classifications will be given. The American Association for the Study of the Feeble-minded has formed the following definitions on a psychological basis relating to the classes of mental defect:

IDIOT.—A person having a mental level of two years or below.

IMBECILE.—A person having a mental level of from two to seven years.

MORON.—A person having a mental level exceeding that of an imbecile, ranging between seven and twelve years.

SUBNORMAL.—A person having a mental level slightly above twelve years but below average adult level. A distinct pathological borderline is impossible to draw in this type of mental defectiveness.

Classed according to clinical methods, the various degrees have been described as follows:

Idiocy.—This is a condition of extreme mental defect due to arrested cerebral development, either in utero or in early life.

Idiots as a rule are not teachable. However, they may infrequently be taught to attend to the calls of nature.

Imbecility.—A condition of profound mental defect, either congenital or acquired. Imbeciles are teachable and they can acquire a slight amount of knowledge, but not sufficient to enable them to care for themselves or to be other than a menace to society when not under restraint.

Feeble-mindedness.—A condition of slight mental defectiveness existing from birth or from an early age, by reason of which the individual is incapable of managing himself or his affairs with ordinary prudence or competing on equal terms with his fellows.

States of feeble-mindedness are to be distinguished from conditions of dementia. The mentally defective have always lacked in mental capacity, whereas the demented individual has been reduced to a low psychological level by reason of deteriorating mental disease. The classical distinction made by Esquirol is apropos: "The demented man is deprived of the good that he formerly enjoyed; he is a rich man become poor; the idiot has always lived in misfortune and poverty."

Etiology.—Heredity is the most potent factor in the production of mental defectiveness. There is found in 70 per cent of all cases some hereditary taint such as feeble-mindedness, epilepsy, hysteria and other forms of the essential psychoses, organic disease of the brain, syphilis or tuberculosis. Alcoholism is an important factor. Drunkenness in one or both parents at the time of conception is a potent cause of feeble-mindedness. Consanguinity is a fruitful source of feeble-mindedness, as has been shown by the careful study of family histories, by reason of the fact that the offspring often receives a double inheritance of mental defect. Contrary to the popular belief, consanguinity in parents who are free from hereditary taint does not result in the production of mentally defective offspring. Other causes exogenous in nature include trauma to the brain or spinal cord,

neural lesions from meningitis, scarlet fever and prenatal conditions such as uterine exhaustion and emotional stress during pregnancy. Statistics show that during times of war and siege many mentally defective children are born. The causes of mental defectiveness may be classified into three groups, depending upon the time of their operation:

Causes operating before birth:

1. Hereditary mental weakness in parents.
2. Neurotic disease in parents.
3. Syphilis in parents.
4. Consanguinity in mentally defective parents.
5. Drunkenness in parents.
6. Maternal ill-health.
7. Shock to the mother during pregnancy.
8. Exhaustion during pregnancy.

Causes operating at time of birth:

1. Prolonged labor.
2. Protracted pressure of head in birth canal.
3. Forceps delivery.

Causes operating after birth:

1. Convulsions.
2. Infantile paralysis.
3. Traumatism.
4. Severe febrile diseases.

Pathology

Gross Pathology

1. Hypertrophy of the brain, general or local.
2. Atrophy of the brain, general or local.
3. Malformation of the brain:
 - Asymmetry of the lobes
 - Asymmetry of the convolutions
 - Microgyria
 - Macrogyria.

Microscopic Pathology

1. Embryonic development of the nerve cells.
2. Reduction of the nerve cells.
3. Absence of the nerve cells.
4. Increase in the neuroglia.
5. Absence of the stratification of nerve cells in the cortex. (Similar changes in the spinal nerve cells.)

4. Absence of the corpus callosum.
5. Hydrocephalus.
6. Porencephalus.
7. Tumors.
8. Thickening of the cerebral arteries.
9. Cysts of the cerebellum.
10. Tuberos hypertrophic sclerosis.
11. Focal softenings.
12. Meningitis.
13. Chronic myelitis.

Symptomatology of Idiocy.—The symptoms of idiocy will be described under the chief clinical types.

The absence of any mental life is the chief symptom of idiocy. Idiots are incapable of education, absolutely helpless, and lead a purely vegetative existence, simply sleeping and eating, except at times when they cry or make inarticulate sounds and senseless movements.

Physical Symptoms.—In the physical sphere we find all manner of stigmata, anomalies and developmental defects. The skull is subject to all manner of malformations. The idiot's head is usually of the microcephalic type, though macrocephalic heads are found. The physiognomy is usually distorted and out of proportion to the size of the head. Anomalies of the oral cavity are frequent; the palate is usually exceedingly high and sharply arched, or it may be very broad, flat and irregular, and is often cleft. Hutchinsonian teeth are frequently observed. Tics, choreiform and athetoid movements and drooling of the saliva are characteristic. Paraplegia and hemiplegia are often seen, and a marked disorder of the capillary circulation is noted. The skin is usually harsh, dry and anesthetic, though ulcerations are often found in the lower limbs and feet. The hair is mangy and coarse; the genital organs are usually imperfectly developed; complete absence of the testicles is frequently found, due to the fact that they are undescended or atrophied. Hydrocephalus

is frequently observed in idiocy. In this condition there is destruction of the cortical cells and obliteration of the motor tracks in the brain due to pressure. The head is enormously large and out of all proportion to the rest of the body and the patient is usually unable to lift his head off his pillow. The enormously dilated ventricles are filled with an excess of cerebrospinal fluid and the brain is virtually a sac of water. Death usually occurs early in cases of this type, but there are exceptions to the rule.

Microcephalic Idiocy.—Here we find an extremely small head, frequently of a circumference of less than seventeen inches. There seems to be an excessive development of the face and jaw, but this is more apparent than real.

Amaurotic Family Idiocy.—This form of idiocy was first described by Dr. Sachs. It has been found only in Jewish children and it develops about three months after birth. The chief symptoms are blindness, weakness of the body muscles succeeded by spasticity and rigidity, retraction of the head, emaciation, and absence of mental life. Death usually occurs within two years.

Thyroigenous Idiocy.—This is a state of idiocy in which the characteristic symptoms of cretinism and myxedema are present.

Epileptic Idiocy.—This is the association of epilepsy with idiocy, and epilepsy stands in a causal relationship to this group.

Paralytic Idiocy.—This type of idiocy is attended by monoplegia, hemiplegia or paraplegia, which occur as a result of the lack of cerebral development. Cysts are often found in this condition, of the true type of porencephalus, in which there is a cyst directly connected with the ventricles, or false porencephalus, where a cystic condition has been formed within the brain substance as a result of inflammatory conditions or necrotic softenings. The type of paralysis depends upon the location of the cysts.

Traumatic Idiocy.—This is a state of idiocy dependent upon trauma sustained to the head as the result of forceps delivery or pressure upon the cranium in the birth canal.

Inflammatory Idiocy.—This is the type of idiocy which follows states of meningitis which may occur in any of the infectious or febrile diseases. The meninges may be involved alone, but as a rule the brain substance shares in the same process of inflammation. The physical symptoms vary with the intensity and the location of the meningitic process.

Sclerotic Idiocy.—We find at post mortem, in this type of idiocy, sclerotic conditions of the brain substance, and in these sclerosed parts of the brain the cells are reduced in number or are altogether absent. The brain is often increased in weight in this type and is of a very solid consistency. The other organs of the body share in the same process. Tumors of the kidney and other internal organs are found. Adenoma and sebaceum are also frequent.

Syphilitic Idiocy.—This form of idiocy is due to inherited or congenital syphilis, the marks of which are evident in the Hutchinsonian teeth, radiating scars about the corners of the mouth and lips, inflammation of the nares, and interstitial keratitis. About 20 per cent of the patients who show these symptoms give a positive Wassermann of the blood and spinal fluid.

Sensorial Idiocy.—This state of extreme mental defect is dependent upon the deprivation of two or more of the senses, particularly the senses of sight and hearing.

Mongolian Idiocy.—This term is applied because of the fancied resemblance of the patient to the Mongolian type. The face is broad, the nose flat, the cheek bones high and the eyes almond-shaped and slanting. The skull is short from the forehead backwards, but there is an apparent increase in the width of the skull. The forehead does not recede, but on the contrary

is quite prominent. The hands resemble those of the cretin somewhat. They are broad and the fingers are short.

Symptomatology of Imbecility.—*Mental Symptoms.*—*Pronounced Type.*—Imbeciles are capable of acquiring a slight degree of education. They learn to walk, talk, attend to the calls of nature, and recognize letters and figures. Their powers of perception and comprehension are very limited, however. They perceive but little within their environment and profit little by experience. They have no insight into their condition, are exceedingly egotistical, have no regard for the rights of others. The memory is faulty for the most simple occurrences. They are exceedingly gluttonous in their habits, are irritable, irascible, given to the practice of masturbation, and often attempt to commit rape. They are petty thieves, make dangerous assaults and occasionally commit homicide.

Milder Type.—Patients of this type are able to learn to read and write, to add, subtract and multiply in simple numbers, acquire a few dates about history and learn some of the simpler elements of grammar, but the height of their mental development is very soon reached. They are often refractory and show symptoms of brutality and cruelty; they torture animals, cripple birds, laugh at the pain of their fellows, and seem to delight to inflict suffering upon others. Psychotic episodes are particularly common in this type of the mentally defective and they are prone to develop dementia præcox and paranoid states.

Savant Imbecility.—This is a condition of general mental defect such as has just been described, which has associated with it an anomaly shown by a greater or less ability to excel in some particular sphere, such as music, memory or mathematics. The well-known "Blind Tom" belonged to this class. He exhibited remarkable musical ability, which stood out in marked contrast to profound mental defect.

Imbeciles are frequently well formed and quite healthy. As

a rule, however, the skull shows malformations and the physiognomy denotes the mental defect. A cleft palate and uvula and degenerate ears are found in many cases. The sexual organs are often rudimentary, although they are occasionally found to be excessively large.

Symptomatology of Feeble-mindedness.—Individuals of this type often appear on casual examination to be normal. They impose upon the credulity of those who do not understand them. Superficially they may appear quite bright. They are exceedingly egotistical. Often they are very talkative and seek to impress others by a show in dress, and in conversation by the use of high-sounding phrases. They have an exaggerated sense of their own importance. They show a lack of power to make the necessary social adjustments. They are very apt to be anti-social in their conduct, and exhibit marked lack of foresight of the consequences of their acts. They show a decided inability to manage their affairs; cannot be self-supporting; often are criminals. The majority of the public prostitutes belong to this type. They are particularly susceptible to the development of acute psychoses.

The high-grade types of feeble-mindedness are readily detected by the use of the Binet-Simon scale of intelligence test, described in Chapter XXIII. This is a graded series of tests requiring the exercise of intelligence. The tests call for the solution of various problems, such as arranging a series of small blocks of equal size in order of weight, repeating numbers, detecting the absurdity of statements, reproducing simple designs from memory after ten seconds' exposure, arranging blocks in a construction puzzle, repeating sentences of different lengths, putting together disarranged sentences, making sentences from given words, marking out the path which would be followed in finding a lost ball in a circular field, interpreting fables and proverbs, etc. These tests involve reason, memory, imagery, discrimination, associa-

tion, comparison of ideas, ingenuity, judgment, and, in short, practically all the mental functions which may be considered as making up the general level of intelligence.

Diagnosis.—The simple types of mental defectiveness are readily diagnosed, but great care must be exercised in differentiating states of dementia from conditions of imbecility and feeble-mindedness. The higher types of feeble-mindedness are sometimes difficult to distinguish from dementia præcox. In dementia præcox the patients may improve, which is never the case in feeble-mindedness. It must be remembered, however, that the feeble-minded often develop dementia præcox.

Juvenile Paresis.—This condition is to be ruled out by the history of the case, the Wassermann reaction of the blood and spinal fluid, and the neurological examination.

When the individual is more than 25 per cent retarded for his psychological age, he is to be regarded as feeble-minded. However, any adult whose mental age is less than twelve years may prove to be distinctly feeble-minded if the social reactions indicate a weakening of the inhibitions and the inability of the individual to adjust himself to society.

Prognosis.—The prognosis is unfavorable. No change in the mental status of the mentally defective individual can be made. The majority of idiots die at a very early age. The higher types may, by intensive training in proper schools and institutions, acquire the ability to become self-supporting under the direction of others. The general conduct of the feeble-minded may be improved by teaching the defectives to use their limited powers, but there is no real increase in their mental capacities.

Treatment.—The mental defectives should receive all necessary medical and surgical care. Surgical conditions which reflexly produce irritation, such as adenoids and diseased tonsils, phimosis, undescended testes, hernia and carious teeth, are to be corrected. Great improvement is often noted, particularly

in deportment, after these pathological conditions have been remedied.

Cranial decompression has often been tried but in the experience of the writer no real benefits have been observed. Even though real and apparent pressure has been relieved, the defective nerve structure remains unchanged.

Cases in which lues has played a definite part occasionally show improvement after intensive treatment, but on the whole the effects of antiluetic treatment are disappointing, for the structural damage has been completed, as a rule, before the treatment can be given. However, further degeneration of the nervous tissue may be prevented.

Individuals who are mentally retarded and physically defective because of disturbance of the endocrine glands or metabolic malfunction, may frequently be mildly benefited by the use of glandular therapy. Institutional care is indicated in the majority of instances, especially where the family is not in a financial position to care for the defective individual, as he is likely to become anti-social.

CHAPTER XXI

DIAGNOSTIC GROUPINGS OF THE SYMPTOMS OF THE PSYCHOSES

The general symptoms of the psychoses are so varied, so complex, and so closely related, that they are confusing, and as a result of this state of affairs, the practitioner finds it somewhat difficult to classify and recognize the symptoms which he may encounter in the study of his patient and is content with merely labelling the patient as insane. This incomplete diagnosis is of no particular value, for the friends and relatives of the patient are already certain that the patient is abnormal before the physician is consulted. They look to the physician to supply them with an accurate diagnosis, for with the correct diagnosis comes the information they wish to have namely, the nature of the psychosis, its duration and prognosis.

While the symptoms are described in detail in the chapters dealing with the various psychoses, the general symptoms will be arranged and grouped in the following order so as to point out to the student and practitioner the ear-marks of the most important psychoses, thereby saving time and supplying a diagnostic key to a working knowledge of psychiatry.

DEMENTIA PRÆCOX AND ALLIED PSYCHOSES

This type of disorder usually makes its appearance at the time of puberty or adolescence, and for this reason it has been called, as the name implies, the insanity of youth. Occasionally it may develop after twenty-five or thirty years of age. It is attended by mental deterioration, which varies from a slight

degree of intensity to one of profound defect. The following diagnostic symptoms are common to all types of this disorder.

1. *Onset*.—The manner of onset is usually insidious, though occasionally it may appear to be very rapid. Close observation usually reveals that it is slow, even in the types where the onset is apparently sudden.

2. *Consciousness* is usually clear, except in states of excitement or stupor.

3. *Orientation*.—There is no disorder of orientation as a rule, except when some delusions exist concerning time, place and person.

4. *Hallucinations*.—These are common and are visual, auditory and somatic in form.

5. *Delusions*.—Delusions are very frequent, quite absurd and foolish; they are not systematized.

6. *Idea Association*.—Is faulty as a rule. The goal idea is not reached.

7. *Memory*.—At the onset of the disease memory is not much impaired, though states of amnesia may exist.

8. *Emotions*.—There is usually a marked state of indifference, a condition of emotional poverty; the emotions are very unstable; a condition of emotional ataxia exists.

9. *Judgment*.—Judgment is materially impaired.

10. *Nervous System*.—Tendon reflexes are frequently disordered, usually increased; the pupils are often dilated and unequal at times; a sluggish reaction to light is often observed. Epileptiform attacks are common. Hysterical convulsions occasionally occur. Vasomotor disturbances are frequent. Blueness of the hands and feet is common, as is the general condition of dermatographia.

11. *Behavior*.—Behavior is silly, childish, and often impulsive. Very often there is a repetition of senseless acts and senseless words and phrases. Negativism and mutism are common.

12. *Sleep*.—Sleep is often disturbed and attended by wild and fearful dreams.

In the various forms of dementia præcox, which were described in the previous chapters, it was found that certain types of symptoms already mentioned showed special development.

PARANOIA

Paranoia is a disease which usually develops in adult life, and the outstanding qualities upon which it is erected are such states of mind as conceit and suspicion.

1. *Onset*.—Onset is slow, insidious.

2. *Consciousness* is clear.

3. *Orientation*.—Orientation is usually correct, except in the period of explanation when the personality is changed.

4. *Hallucinations*.—Very rare; usually absent.

5. *Delusions*.—Delusions are always present; are more or less systematized. The delusions are of reference, persecution, or of expansive nature. Sometimes the delusional systems present considerable truth, but the facts are falsely interpreted.

6. *Idea Association*.—Is rapid. The goal idea is reached.

7. *Memory*.—The memory is not impaired, except in the period of the disease when the personality is changed and then there are retrospective falsifications of memory.

8. *Emotions*.—The emotions are fairly stable, except as associated with the delusional beliefs, when there may be violent outbreaks of temper, and the performance of criminal acts.

9. *Judgment*.—The judgment is impaired by reason of the delusional conceptions which the patient entertains.

10. *Nervous System*.—The symptoms are negative.

11. *Behavior*.—The behavior is fairly normal, except when regulated by delusional beliefs. (See above.)

From the ranks of the paranoiac come many religious reformers and zealots, would-be political leaders, curbstome orators,

assassins of public men, dilettante amorous poets, and radical leaders of labor organizations.

MANIC-DEPRESSIVE PSYCHOSES

The manic-depressive psychoses usually occur during the second, third and fourth decades of life, and are characterized by periods of excitement and depression of varying degrees and intensity. The patients recover from these attacks without mental deterioration. These attacks last from a few days or weeks to months and years. The interval between attacks may be of a few days, months or years.

1. *Onset*.—It may be sudden or gradual.

2. *Consciousness*.—Consciousness is usually clear, except in the profound depressions of the depressive type, and in the profound excitements of the manic type.

3. *Orientation*.—Orientation is not usually much disturbed, except in the delirious and delusional forms of both phases of this disorder.

4. *Hallucinations*.—In the severer forms, hallucinations may be present.

5. *Delusions*.—Delusions frequently occur in both the manic and depressive forms of this disorder.

6. *Idea Association*.—In the manic phase of this disorder, there is found the condition of "flight of ideas." In the depressive phase, there is a very marked psychic retardation and often a fixity of ideas.

7. *Memory*.—Memory is not, as a rule, much impaired. The patient very frequently shows amnesia for the attack.

8. *Emotions*.—Depression and sadness in depressive phase. Exaltation, irritability and rapid change in manic phase.

9. *Judgment*.—Judgment is materially impaired during the attacks of both phases.

10. *Nervous System*.—Negative.

11. *Behavior*.—In the manic phase, the patient may be elated, restless, and show great psychomotor activity, all of which results in rather silly, extravagant conduct. In the depressive phase, there is great psychomotor retardation resulting in a very marked reduction of physical activity. The patient sits around very often in an attitude of despondency and despair. Suicide is often the termination of the depressive phase.

Occasionally we encounter, during the depressive phase, states of profound melancholia, attended by delusions and hallucinations of a most absurd character. Frequently we see melancholic states which are attended by delusions of persecution and reference. States of delirium in which consciousness is profoundly clouded are observed. Hallucinations and delusions usually accompany this form. Mixed types of the manic depressive psychoses frequently occur.

INVOLUTIONAL MELANCHOLIA

Involutional melancholia belongs to the manic-depressive group of psychoses, but its symptoms are so characteristic that it has acquired a definite identity. This psychosis occurs in women during the involutional period from 40 to 60 years, and in men from 45 to 60 years. There are usually marked evidences of the period of involution.

1. *Onset*.—The onset usually is slow and insidious.
2. *Consciousness*.—Is usually clear, but the patient is occasionally confused during periods of agitation, delirium, or stupor.
3. *Orientation*.—Orientation is not disturbed, as a rule, except when the depressive states are so profound as to interfere with the perception of the environment.
4. *Hallucinations*.—These are not very common, and when they exist are usually of a very disagreeable nature.
5. *Delusions*.—Delusions of a depressive nature are the outstanding characteristics of this disorder. They are concerned with ideas of sin, poverty, catastrophes of all sorts, and disease-

6. *Idea Association*.—This is retarded and limited. The patient is only concerned with his delusions.

7. *Memory*.—Memory for remote events is good; poor for recent events because the patient pays little attention to the happenings in his environment.

8. *Emotions*.—The patients are obsessed with fears which relate to their depressive delusions. They are very apprehensive, always anxious and worried.

9. *Judgment*.—Judgment is impaired.

10. *Behavior*.—The patients are introspective, self-analytical, take no interest in their environment, often remain in fixed positions for hours, moaning and groaning; frequently they are very much agitated, and go about wringing their hands. They often commit suicide.

11. *Sleep*.—They suffer from insomnia; sleep is disturbed by fearful dreams.

GENERAL PARESIS

This disorder usually makes its appearance during middle age, and is characterized by progressive mental enfeeblement, which terminates in a state of absolute dementia. It is attended by marked changes in the central nervous system, manifested by disorders of the cranial nerves, of the reflexes, and defects of muscular co-ordination which eventually lead to a condition of general paralysis. The Wasserman reactions of the blood cerebrospinal fluid are positive in practically all instances. The cell count in the cerebrospinal fluid is increased.

1. *Onset*.—The onset is usually slow and is marked by a neurasthenic group of symptoms.

2. *Consciousness*.—Consciousness is early impaired. The patient acts as if he were in a dream-like state, somewhat resembling the condition of mild intoxication. In the latter stages consciousness is profoundly clouded.

3. *Orientation*.—At first not much disorder; later, very greatly disordered, especially with reference to time.

4. *Hallucinations*.—They are very common, usually quite absurd.

5. *Delusions*.—Usually present. They are absurd and bizarre, often of the expansive character, i. e., delusions of wealth, of strength of body and mind, of great political power, etc.

6. *Idea Association*.—Very defective.

7. *Memory*.—Becomes defective very early in the course of the disease.

8. *Emotions*.—The patient is usually euphoric; has states of exaltation. Occasionally, in the early stages of the disease, the patient may be very much depressed, although the period of depression is usually short. Occasionally there are violent outbreaks of temper and passion.

9. *Judgment*.—Very much disordered in the early stages; disappears altogether in the latter stages.

10. *Behavior*.—The behavior is childish and foolish; moral dilapidation is usually present; offenses are committed against social conventions; crimes are frequent. The patients often make foolish speculations, sometimes dissipating the accumulations of a lifetime in absurd investments and senseless gifts.

11. *Sleep*.—Sleep is disturbed in various ways. Often we find the patient very somnolent and stuporous during the day. This condition may continue through the night. In other cases, the patient may suffer from the most aggravated form of insomnia, or the sleep may be disturbed by intense headaches and terrifying dreams.

SENILE PSYCHOSES

Senile dementia is a chronic, progressive psychosis occurring during the senile period of life. It is attended by chronic and progressive failure of the mental powers and terminates in death.

1. *Onset*.—The onset is usually slow.

2. *Consciousness*.—Is clouded and befogged, especially in the severer types.

3. *Orientation*.—In all forms, orientation is disturbed in one or more spheres, and in the severer types, disorientation is complete in all spheres.

4. *Hallucinations*.—These are common.

5. *Delusions*.—Are very frequent. They are chiefly concerned with ideas of suspicion, persecution, poverty, and occasionally they are the expansive type.

6. *Idea Association*.—Is very limited and often nil.

7. *Memory*.—Memory for remote events may be retained for quite a while; memory for recent events very slight, if present at all.

8. *Emotions*.—The emotions are very unstable. Irritability, excessive anger, excessive greed, and egotism are often found. The patient is often extremely indifferent and lacking in the usual sympathies.

9. *Judgment*.—Judgment is markedly impaired.

10. *Behavior*.—Some patients are quiet, well-behaved; others are quarrelsome and combative, occasionally given to sexual deviations, committing rape, incest, and acts of exhibition. Not infrequently they commit other serious crimes.

11. *Sleep*.—Senile demented as a rule suffer from insomnia.

ARTERIOSCLEROTIC PSYCHOSES

Arteriosclerotic psychoses belong to the senile group of insanities and make their appearance, as a rule, just previous to the senile period. In addition to age, heredity predisposition, overwork, alcohol and syphilis contribute largely to the production of this disorder.

1. *Onset*.—The onset is usually slow.

2. *Consciousness*.—Usually impaired, especially in the severer forms.

3. *Orientation*.—Orientation is disturbed in varying degrees in one or all spheres.

4. *Hallucinations*.—Are quite common.

5. *Delusions*.—Delusions are found in practically all cases. Often they are of the paranoid type and frequently have a sexual coloring. Delusions of infidelity are very common.

6. *Idea Association*.—Idea association is markedly impaired.

7. *Memory*.—Memory is impaired for recent events. Memory for remote events is retained for some length of time.

8. *Emotions*.—These are unstable. The patient cries and laughs without provocation; is subject to attacks of marked depression; is often lacking in normal sympathies.

9. *Judgment*.—As a rule judgment is not as much impaired in this psychosis as in senile dementia. The patient often has some insight into his condition.

10. *Nervous System*.—Marked changes in the pupils are noted; the tendon reflexes are disordered; sensory and motor aphasia, paraphasia and agraphia are found. Convulsions are quite frequent; these are due to apoplectic attacks.

11. *Behavior*.—These patients sometimes commit crimes, disregard social conventions, are often restless and excited. Some patients suffer from aboulia.

12. *Sleep*.—These patients suffer from insomnia at night-time and during the day-time they are quite drowsy and sleepy.

NEURASTHENIA

1. *Onset*.—The onset is usually slow.

2. *Consciousness*.—Is clear.

3. *Orientation*.—There is no disturbance.

4. *Hallucinations*.—There are none.

5. *Delusions*.—None.

6. *Idea Association*.—No defect.

7. *Memory*.—There is no impairment.

8. *Emotions*.—The emotions are easily disturbed. The patient is irritated by trifles, is easily depressed, is quite pessimistic; is given to self-analysis and introspection.

9. *Judgment*.—No impairment of the processes of judgment.

10. *Nervous System*.—The tendon reflexes are usually increased; the patient is extremely susceptible to the effect of sudden noises, and often very sensitive to light. This condition of hyperesthesia is very common. A condition of paresthesia is often noted. Headaches and vague pains about the body are complained of. The patient has an exaggerated sense of fatigue.

11. *Behavior*.—The patient finds it very difficult to apply himself to daily occupations because of the pains which he suffers and the sense of fatigue which he experiences. Occasionally he neglects his work, takes rest cures to rid himself of his disorder. He is extremely susceptible to the machinations of the quack, takes all sorts of nostrums, becomes a disciple of the various "new-thought" systems. He rehearses to his friends and relatives his symptoms; becomes quite irritable and grouchy if they are not ready listeners.

12. *Sleep*.—Is usually disturbed; is fitful; unpleasant dreams are common. Sometimes aggravated forms of insomnia are observed.

HYSTERIA

Hysteria is a disorder occurring usually during adolescence, or in early adult life, though it may occur at any period, and is based upon an innate predisposition; it is excited by severe emotional shocks and traumatisms.

1. *Onset*.—The onset is usually slow; occasionally it appears to be very rapid, following some emotional shock.

2. *Consciousness*.—Is usually clear. Occasionally there are types in which consciousness is confused, clouded, or stuporous.

3. *Orientation*.—Orientation is not disturbed as a rule, except

in some of the stuporous or befogged states which are occasionally noted.

4. *Hallucinations*.—These rarely occur.

5. *Delusions*.—These rarely occur.

6. *Idea Association*.—It is somewhat limited on account of the patient's mental disassociation.

7. *Memory*.—Occasionally there are states of amnesia which may be total or partial.

8. *Emotions*.—The emotions are unstable; the patient is given to rapid changes; cries and laughs without adequate reason; is extremely selfish and often morally obtuse.

9. *Judgment*.—Judgment is usually impaired.

10. *Nervous System*.—Sensory disorders are noted. Conditions of anesthesia and hyperesthesia are found. The "glove and stocking" sensations are noted. The visual fields are frequently contracted. Blindness, hemianopsia, achromatopsia, micropsia, diplopia and scotomata, etc., are found. The patient is usually unaware of the conditions of anesthesia which exist; the anesthetic zones are changeable, and they do not follow the anatomical distribution of the nerves. Convulsive attacks are noted, which may be of minor or major form. There may be paralyses of any of the extremities. Rhythmical spasms are common which manifest themselves in conditions of torticollis, coughing, winking, hiccoughing, grunting, sobbing, choreiform movements, various types of tremors, etc. The reflexes are preserved, though they may occasionally be exaggerated.

11. *Behavior*.—The behavior is many times silly, foolish, erratic. Conduct is governed by whims. They make serious efforts to evoke the sympathies of those about them; make apparent attempts at suicide in melodramatic ways. Their acts indicate disorders of the sexual instinct which manifest themselves by erotic behavior, forms of sexual perversity; sexual frigidity is common. Occasionally the patients appear to have

dual personalities, and the conduct of these apparent personalities is diametrically opposed, one to the other.

12. *Sleep*.—They often suffer from insomnia; sleep is disturbed by terrifying dreams, dreams of a sexual nature, and dreams of wish-fulfilment. States of somnambulism are frequent. (See Table of Differentiation between Hysterical and Convulsive Attacks in Chapter No. XVIII.)

CHAPTER XXII

METHODS OF EXAMINATION

In order to make a correct diagnosis and treat and care for a psychiatric patient successfully it is necessary for the examiner to have an accurate and comprehensive conception of the patient. That the examiner may secure an accurate idea of the patient it is necessary to examine him in the utmost detail and in the most searching manner, outlined under the following captions:

- a.* Family history.
- b.* Personal history.
- c.* History of the present illness.
- d.* Physical examination of the patient.
- e.* Neurological examination of the patient.
- f.* Mental examination of the patient.

Family History.—The family history is an extremely important item. An effort must be made to discover the existence of mental, neurological and constitutional diseases in the antecedents of the patient. This information is to be obtained from relatives, friends, and possibly from state officials who may have had the patient in charge at one time, and from the patient himself. It must be borne in mind that because of family pride the relatives may attempt to deceive or mislead, and the patient because of his mental state may be unable to give accurate information. The important items to be covered in the history taking are the absence or presence of insanity, nervous disease, alcoholism, drug addiction, crime, suicide, tuberculosis, syphilis, arthritis or other constitutional disease in the parents, grand-

parents or collateral relatives. In securing this information the examiner will obtain indirectly a great amount of information concerning the environment under which the individual was born and in which he has lived.

Personal History.—The personal history should begin with the prenatal conditions. It should be ascertained whether the parents suffered from any constitutional disease at the time of conception or during the period of gestation, whether the patient was born in a natural manner or whether forceps were used in delivery, whether the labor was long and tedious, or whether any form of obstetrical difficulty existed.

The individual's life should be carefully traced through his childhood to ascertain at what age he learned to walk and talk, the age at which he commenced school, when schooling was stopped, and the progress the patient made at school. A careful record should be made of injuries of all sorts, of the patient's use of alcohol or other narcotic drugs, whether or not he acquired venereal diseases, and, if these were acquired, how carefully and persistently they were treated.

The sexual habits of the patient should be determined. It should be learned at what age the sexual impulse first appeared, and what emotional manifestations accompanied it. All experiences at the age of puberty, whether sexual, religious or of other emotional nature, should be accurately recorded; also whether or not the patient indulged in masturbation (occasional or excessive), or in illicit sexual intercourse, and the emotional experiences which attended such practices should be noted. If married, it will be necessary to discover whether or not the married life has been happy or unhappy, and if unhappy, the cause, if possible. Great care should be exercised in securing information about the married life, as the patient may be very sensitive and easily offended. If the patient is a woman it is particularly necessary to learn when menstruation began; whether she is

married, and if so, at what age the marriage was contracted; whether she has borne a child or suffered from abortions or miscarriages; whether her pregnancies have been numerous and at short intervals, and whether labor has been attended by mental and nervous manifestations. All diseases of adult life should be carefully recorded.

In securing all this information the examiner learns a great deal of the mental make-up of the patient, the character of his personality, the environmental conditions under which he has lived, whether or not the patient has made a successful social adjustment, and whether he has had the capacity to adapt himself to his environment in a satisfactory way. In the securing of the family and personal history the patient will many times betray his delusions and hallucinations and furnish a fund of information which may be the key to the mental diagnosis. The patient will show whether he is elated, depressed, or nonchalant.

History of the Present Illness.—The manner of onset of the patient's disease is very important. Did he suffer from a physical or mental shock previous to the development of his mental or nervous disorder? Was he undergoing any sort of strain or suffering from any stress? Did a change occur in his physical condition or in his mental make-up? Did he behave in an unusual and extraordinary manner? Usually in the insane there is a change in the patient's habits. He may suffer from insomnia, become irritable and morose, eat but little, lose weight, complain that he hears imaginary voices. His hair may become gray or whitened. He may admit that he has thought of suicide or has even attempted self-destruction. Careful inquiries should be made of the patient and his family and relatives to ascertain whether he has displayed any homicidal tendencies. The patient may or may not have insight into his condition. He may or may not know that his memory is failing; that he has difficulty in remembering to carry out the details of his business affairs.

He may realize that he finds it difficult to make adjustments to new situations in which he finds himself. Often the patient understands that he is failing mentally and is very much distressed about his condition and seeks the advice of the physician. Another patient may be wholly unaware that any change has taken place in his mental status. Any information that may shed light upon the patient's condition is to be recorded. No details are too trivial to be noted, as they may have some bearing upon the patient's psychosis.

Physical Examination of the Patient.—A careful inspection of the patient is always in order. During the physical examination it may be determined whether or not he is sad, cheerful or excessively happy, whether he is suspicious, irritable, hostile, belligerent or dangerous. His movements are to be observed; whether they are accurate, quick and purposeful, or whether they are slow, indicative of depression, or without purpose, as in states of confusion and delirium. The patient's general appearance often gives very valuable information as to his mental condition. It should be noted whether his clothes are properly buttoned, whether they are clean or stained with food or soiled with body secretions, whether he is slouchy and unkempt, or whether he is exceedingly fastidious or gaudily dressed, or decorated with trinkets or badges. Observation should be made as to whether the patient is communicative or reserved, whether or not he makes spontaneous complaint of his condition or whether he must be urged to tell of his disorder, whether he is negativistic or absolutely mute. The depression of the melancholy patient is evidenced by his attitude and behavior. The parietic may be gaudily dressed, extremely euphoric and happy out of all proportion to his physical state and his environment.

Following the inspection a careful physical examination of the patient should be made. His general stature should be noted; whether or not there is malformation of the skull, asymmetry

of the face or body. The skin should be carefully examined for scars and eruptions. The mucous membrane of the mouth should be inspected for the presence of mucous patches and scars on the sides of the cheek or tongue. It should be noted whether it is anemic or pale, or whether there are signs of cachexia due to cancer, pernicious anemia or other malignant disease. The osseous system should be examined, as should the respiratory, circulatory, digestive, glandular and genito-urinary systems. Urinalysis should always be made. The Wassermann test should be made of the blood and spinal fluid if indicated. Great care should be taken to discover the presence of all serious disease such as nephritis, diabetes, exophthalmic goiter, tuberculosis, syphilis, gonorrhoea, metallic poisonings, gastro-intestinal disorders or intestinal parasites. In a word, the physical examination must be made in a painstaking, careful, searching manner. All possible physical disease should be eliminated.

Neurological Examination of the Patient.—The eyes should be examined to determine whether the pupils react to the usual tests, whether the movements of the eyeballs are normal, whether there is any constriction of the visual fields or disease of the retina or optic tract. The other cranial nerves should receive the necessary attention and any defect that may exist should be properly noted. The tendon reflexes should next be examined. The elbow and wrist jerks, the patellar tendons and the tendo-Achilles should all be carefully examined. The superficial reflexes, including the corneal, pharyngeal, abdominal and cremasteric and plantar, should be examined. The customary coordination tests such as the finger-finger test, the finger-nose test and the knee-heel test, should be employed to discover the absence or presence of difficulties of coordination. The gait is to be examined by having the patient walk with his eyes open and closed. The muscle sense is to be tested by having the patient obey simple commands involving muscular movement.

General sensation should be tested on the various portions of the body by the use of a camel's-hair brush or wisps of cotton, and by touching the patient with the point and head of a pin. Conditions of hyperesthesia, paresthesia and analgesia are to be looked for. The thermal sense may be tested by touching the patient with steel rods which have been chilled or heated in cold or hot water.

Careful investigation should be made of the patient's subjective sensations. The examiner should learn whether the patient has pain in any portion of his body, tenderness of nerves, tinglings, numbnesses, formications, or peculiar sensations of any sort. The presence or absence of ticks should be noted. The history of attacks of syncope, spasms or convulsions should be carefully noted. Occasionally the examiner has the opportunity to see the patient in a convulsion. In such an event the character of the convulsive attack should be very carefully recorded. In those cases where it is indicated a cytological examination should be performed so that organic and functional diseases of the brain and spinal cord may be properly differentiated. This examination includes the general appearance, pressure determination, test for sugar and specific gravity, bacterial count, cell count, albumin determination, the various globulin tests and the Wassermann reaction.

A synoptical outline of the most important details is given below for the examiner to follow and elaborate to suit the needs of the case in hand. No attempt has been made to describe the various methods of neurological technique, as it is taken for granted that the reader is familiar with them.

Cranial Nerves.—I. Olfactory.—Smell should be tested by using fragrant essential oils. Each naris should be tested separately. The patient should be interrogated as to odors of a subjective nature which relate to himself or his environment.

II. Optic.—The visual fields should be tested with special

relation to contractions, hemianopsia, color vision, visual capacity, fundi examination and visual hallucinations.

III, IV and VI. Oculo-motor, Patheticus, Abducens.—The movements of the eyeball in all directions—up, down, lateral and rotary. Nystagmus, whether lateral, vertical or rotary. The presence of squints, ptosis or diplopia. Pupils—outline size, whether equal or not. Reaction to light. Reaction to accommodation. Consensual reflex. Sympathetic reflex.

V. Trigemimus.—Determine condition of the conjunctival, corneal and palpebral reflexes. Movements of mastication. Taste to be tested by the use of sour, salt, sweet and bitter substances. Salt, quinine, sugar and dilute acetic acid may be used for these tests. The mouth should be cleansed after each test. Determine whether or not the patient has a subjective taste which may refer to poison.

VII. Facial.—Note condition of facial muscles; whether there is drooping of one side of the face; whether the teeth show on one side of the face; the presence or absence of wrinkles, whether bilateral or unilateral; the ability of the patient to whistle; whether the facial muscles jerk when the patient talks; puffing of the cheeks; tremor of the muscles of the face on retracting the lips from the teeth; atrophy of the muscles of the face; paralysis of the facial muscles.

VIII. Auditory.—Acuity of hearing, defects of hearing, deafness in any degree. Employment of the various tests of hearing for air and bone conduction. Whispered voice, watch, and tuning fork tests. Stethoscope test: Place the earpieces of the stethoscope to patient's ears; place a watch on the drum or at the bowl of the stethoscope. Pinch the tubes of the stethoscope so as to close one of the tubes when testing the different sides. This test is fairly reliable. Auditory hallucinations. Ringing in the ears. Dizziness (vertigo), objective type, when the patient actually staggers or reels, subjective type, when the patient

feels as though he is going to stagger or fall, but no movement occurs. Caloric reactions to be tested if indicated.

IX. Glossopharyngeal.—Apply the tests for taste, to the posterior third of tongue.

X. Vagus.—Inspect the palate at rest and in phonation—have the patient say “ah.” Note sensibility of palate; the integrity of the act of swallowing.

XI. Spinal Accessory.—Have the patient rotate his head, look downwards and upwards, raise the shoulders.

XII. Hypoglossal.—Note accuracy of the movements of the tongue; whether the tongue is protruded to the right or left or in the median line, whether tremors are present or not and of what type; whether there is atrophy or hypertrophy of the tongue.

Superficial Reflexes.—Test the corneal, pharyngeal, abdominal, cremasteric and plantar reflexes, noting any changes from the normal.

Deep Reflexes.—These are to be tested in order; the corrugator supercilii, jaw, triceps, biceps, periosteoradial, patellar and Tendo-Achilles reflexes.

Organic Reflexes.—The rectal and bladder reflexes.

Coordination Tests.—Finger-finger test; finger-nose test, knee-heel test; walking backwards and forwards with eyes open and shut; pointing tests. Determine accuracy, rapidity, force of movements, peculiarities of gait such as the spastic, steppage, ataxic, cerebellar, hemiplegic and propulsive gaits. Test for Romberg sign. Make general examination of motor system.

Motor Speech.—Have patient repeat the following words and phrases: Methodist Episcopal, statistical, perturbation, Constantinople, black bug's blood, red riding artillery brigade, Commonwealth of Massachusetts.

Handwriting.—Note character, tremors, ataxia, whether letters or syllables are left out.

Sensory Functions.—Pain sense, temperature sense, muscle sense, sense of position, epicritic and protopathic sensibilities, stereognostic sense, presence or absence of apraxia, sensitiveness of nerve trunks, hysterogenic zones.

Subjective Sensations.—Formications, tinglings, numbnesses, anesthesia, paresthesia, acroparesthesia, analgesia, pain.

Organic Sensations.—Thirst, hunger, fatigue, sexual desire, desire for urination and defecation.

Tremors.—Character of tremors, if present.

Convulsions and Tics.—Absence or presence of tics. History of spasms or convulsions. Vasomotor and secretory disturbances, trophic disturbances.

Electrical Reactions.—Mysathenic Reaction, Myotonic Reaction, Tetanic Reaction, Reaction of Degeneration.

Sleep.—Character of sleep, disturbances.

MENTAL EXAMINATION

The purpose of the mental examination is to discover whether or not there are disturbances of consciousness, the presence or absence of hallucinations or delusions, disorders of orientation, disturbances of perception or apprehension, defects of attention, disorders of memory, disturbances of train of thought, defects of reason and judgment, and abnormalities of the emotions and impairment of will-power which lead to disorders of conduct.

The examination should be thorough, searching and in detail, and if it is possible, especially in medico-legal cases, the answers to all questions asked by the examiner should be recorded. The patient is to be examined, so far as possible, by standards which relate to himself and not by those of the examiner. The patient's physical condition, his social relations and the environment under which he has lived, should be carefully considered. Due allowance must be made for his educational advantages or lack of educational advantages, and his general experiences must be

carefully weighed before conclusions are drawn concerning his mental status. The following scheme of examination will be of service as an outline. It may be varied to suit the individual case, but the essential items mentioned should have close attention.

Attitude and Manner.—The examiner should note the general appearance of the patient, the condition of his clothing, whether he is dirty or is grotesquely dressed, whether or not he is quiet and calm, excitable or belligerent, depressed or unduly elated. Peculiar gestures or mannerisms should be noted. The patient may be mute or he may be extremely talkative; may be quiet or constantly in motion.

Mental Makeup.—It is apparent to the careful examiner that the insane show various types of temperamental constitution, as do the sane, and these temperamental characteristics may be fairly well classified and have some psychiatric value. In recording the examination it should be noted whether or not the patient's mental make-up may be classified under one or more of the following types:

(a) *Seclusive Type.*—Within this category are to be included persons who are exceedingly retiring, bashful, introspective, fearful, shy and secretive.

(b) *Manic Type.*—This term is used to indicate persons who display excessive mental and physical activity, are garrulous, boastful, exalted, abnormally optimistic, self-opinionated and blustering.

(c) *Depressive Type.*—Persons with this mental makeup are just the opposite of those of the manic type. They are given to excessive worry, are easily moved to tears, are easily discouraged, slow in physical and mental movement, and act as though inhibited and restrained. They are noncommunicative and unduly depressed.

(d) *Paranoid Type*.—Persons of this constitutional makeup are exceedingly suspicious; do not trust those about them; put paranoid interpretations upon the conduct of others. Their feelings are easily hurt. They complain of discrimination on the part of others; see sinister motives in the conduct and behavior of others; are always justifying their own conduct and behavior. Sooner or later they become exceedingly egotistical; act in a superior manner. Their conversation is chiefly concerned with themselves. They are given to the excessive use of the pronoun I.

(e) *Irritable or Faultfinding Type*.—Individuals who fall within this group are given to excessive faultfinding, to outbreaks of temper over the most trifling circumstances, and to cruel and impulsive acts.

(f) *Unstable or Hysterical Type*.—Individuals whose personality falls within this category have mercurial temperaments. They may laugh or cry within the space of a few seconds. They respond to slight suggestions and are subject to whims. They cannot be relied upon; will be friendly one day and, without cause, unfriendly tomorrow; one day enthusiastic, another day depressed and uninterested. The emotions are subject to constant change.

(g) *Erotic Type*.—Persons within this group give evidence of an intense sexual nature. By their conduct and conversation their sex content of consciousness is displayed. Occasionally they may display evidences of sexual perversions and inversions, which are described in the chapter on Constitutional Psychopathic Inferiority.

(h) *Criminalistic Type*.—Persons who belong to this group boast of anti-social traits and of criminal acts which they may have committed. They ridicule the law restraining conduct. They are indifferent to the legal rights of others. They stoop to various criminal acts to obtain their own ends. Within this

group are to be found the near reformers, curbstone socialists, I. W. W.'s and labor agitators.

Spontaneous Complaint.—Many patients will without urging make complaint of their mental or physical condition. In so doing they may give expression to delusions or hallucinations. They may more or less describe the onset, development and course of the psychosis. The spontaneous complaint should be carefully recorded as a stenogram, for it may contain the key to the analysis of the patient's mental status.

Emotional Status.—The emotional status should be carefully recorded as the patient's emotions are subject to change and may be at opposite extremes at various times. It should be noted whether the patient is unduly elated, euphoric or happy out of all proportion to his physical condition and his environment. The patient may be indifferent. This indifference may be of a mild or very pronounced degree. He may be so indifferent as to appear to have some clouding of consciousness. He may take no notice of any circumstances within his environment. Again, a condition of negativism is found. The patient refuses to talk, resists every effort that is made for his comfort. When he is told to open his eyes he closes them. If asked to show his tongue he will not do so. He does the reverse of practically everything that is asked of him. According to the psychosis from which the patient suffers, he may be mildly or excessively depressed, he may be lachrymose, sit in an attitude of absolute despair, apparently oblivious to all his surroundings. Some patients are excitable, irritable, threatening, and at times given to assault.

Stream of Mental Activity.—It should be carefully noted whether or not the patient's conversation is relevant and coherent, whether or not he reaches the goal idea in his conversation, whether he is spontaneous or reticent. Flight of ideas may be observed. The patient's conversation may be a "word salad"

—an incoherent jargon. A maniacal patient may be facetious in his remarks, but owing to the pressure of ideas his words and statements are entirely disconnected. In dementia there may be a condition of echolalia. The patient may constantly repeat some senseless words or phrases. The conversation often sheds light on the diagnosis. The patient may exhibit in his conversation his delusions in a systematized or confused manner, according to the character of his psychosis. A stenogram of the patient's conversation should be taken whenever possible. This is especially valuable in medico-legal cases.

Hallucinations.—Hallucinations are of an auditory, visual, olfactory, gustatory, tactile or somatic nature, according to their content. The patient should be very carefully questioned in a tactful manner, so that he may give expression to the false beliefs he may entertain. He may explain that he hears people talking to him, making disrespectful and uncomplimentary remarks. He may converse with the Lord. He may interpret the blowing of the wind through the trees as communications from spirits to him. These things may be told spontaneously or the patient may have to be gently urged to give expression to his hallucinations. Often the patient may feel that he smells disagreeable and vile odors; that they are injected into his room at night over the transom or at the bottom of the door. Again, he may smell the most fragrant perfumes at night, sent to him by secret lovers or by sympathetic friends. When olfactory hallucinations exist, gustatory hallucinations are usually present. The patient tastes a metallic substance in his food; complains that he is being poisoned; that vile substances are being put into his milk and into his water.

Visual Hallucinations.—Such hallucinations occur in alcoholism, when the patient sees rodents, snakes, and all manner of living objects. Other patients may say that they see God; that

they have visions such as Jacob had when the angels descended from heaven by a ladder.

Tactile Hallucinations.—Patients may feel that bugs are crawling under the skin; that snakes are crawling over them; that the fingers feel like inanimate substances.

Somatic Hallucinations.—The patient entertaining hallucinations of this sort may feel as though his limbs are missing; that his blood is dried up; that he has no head; that he cannot see; that he has some live object in his intestines or stomach; that several persons are in his head and holding a conversation. He often feels as though a voice comes from his stomach.

Delusions.—Delusions are to be elicited in the same manner as are hallucinations. Unless the patient spontaneously describes them, they should be tactfully elicited by indirect and direct methods. The delusions may be systematized, unsystematized, transient, fixed or changeable. Often they are supported by more or less logical argument, as is the case in paranoia. A delusional interpretation may be put upon actual facts and great care must be exercised to distinguish facts from delusions, especially in alcoholic hallucinosis. The patient should be carefully interrogated about his delusional beliefs, and the types that are expressed may be pathognomonic of the disease from which the patient suffers. He may be asked questions to determine whether or not he entertains ideas of unworthiness, whether he believes he has committed the unpardonable sin and is doomed to eternal punishment, whether he fears he will die in the poor-house, whether he believes he will be committed to prison, whether or not he believes he is suffering from some constitutional disease, as syphilis, cancer, tuberculosis or Bright's disease. He may tell, without questioning, of the existence of nihilistic ideas, complaining that he is dead, that his limbs are missing, that he is petrified. He may volunteer the statement that he is spied upon by his enemies, that they poison his food, that he is

insulted, that he is robbed of his money and cheated of his political rights. Grandiose ideas are common. The patient may believe that he is a millionaire, that he is the ruler of the universe, that he is God, that he possesses the most powerful mentality in the world, that he is the strongest man in the world, etc. Any sort of combination of hallucinations and delusions may be expected.

Insight.—This is determined by asking the patient such questions as "Where are you?" "Are you sick?" "How do you feel?" "Is there anything wrong with your mind?" "Are you depressed, sad, or afraid?" "Are you unhappy?" "Have you been well treated by your family and relatives; by your employers; by your neighbors and friends?" In answering these questions the patient may betray the existence of hallucinations and delusions and the condition of his emotions.

Orientation.—The patient may be asked to tell his location; whether he is in a hospital or a hotel; whether he is with his family or friends. He may be asked to identify himself; to give his name, age and birthplace. The examiner may ascertain whether he is oriented as to time by asking the patient the time of day, the day of the week, the month, and the year; whether or not he has had his breakfast; how long he has been in the place where the examiner finds him. His orientation in regard to persons may be ascertained by asking him to give the names of persons about him, of his friends and family, of his doctor, nurse and ward attendants and others who come in contact with him.

General Memory.—The patient's general memory should be tested by asking him about his personal and family life, his occupation, marriage and children, the diseases from which he has suffered and the injuries he has sustained.

Special Memory.—Special memory is tested by asking questions which are in harmony with the individual's educational

advantages and experiences and his nationality. Questions concerning high school and college subjects should not be asked of an individual who has completed only a grammar school course. Individuals who have completed grammar school grades in the United States may be asked the following questions: Give the dates of the beginning and ending of the Civil War. Mention four generals of the Civil War, two on the Federal and two on the Confederate side. What is the capital of this state? Give the capitals of three European countries; the names of the last three Presidents; the capital of your native state; the name of the Governor of your native state; dates of the Spanish-American War. Of a high school or college graduate, questions bearing upon his high school or college education may be asked. The patient may be given a street number, such as No. 875 Washington Street, to remember for five minutes while the examination is continued. He should be asked to mention the principal items that have appeared in recent daily papers, magazines or books. If the individual is a mechanic he may be asked to give the names of the parts of the machines with which he works; to explain the difference between a steam engine and a gas engine. If he is a farmer he may be asked when he plows, when he plants certain grains and vegetables, when the crops are harvested. If the patient is a musician he may properly be questioned about musical composition and the theory of music and the names of famous composers. The patient may also be given a series of figures to remember, from three to six, such as 385, 48792, 384861, 54892.

Stories.—The patient may be told short, simple stories and asked to repeat them in his own words. The stories should contain ideas which involve simple processes of imagery, reasoning and judgment, and that appeal to the emotions. The stories may be printed upon cardboard and the patient allowed to read them. After he has read the stories the card is taken

from him and he is asked to repeat them. The classical stories are The Cowboy, The Gilded Boy, The Shark Story and The Gold Dollar Story. Other stories may be used at the discretion of the examiner. *Æsop's* fables serve the purpose very well. The specific stories mentioned are taken from Ziehen and others and are extensively used in psychiatric tests in hospitals for the insane in Europe and throughout America. These stories contain details which are likely to awaken emotional responses, and the patient's reaction to them is to be judged in the light of his education and experience.

1. It is related that at the coronation of one of the popes about three hundred years ago a little boy was chosen to act the part of an angel, and in order that his appearance might be as gorgeous as possible he was covered from head to foot with a coating of gold foil. He was soon taken sick and although every known means was employed for his recovery, except the removal of his fatal golden covering, he died in a few hours.

2. A female polar bear with two cubs was pursued by sailors over an ice field. She urged her cubs forward by running before them, and, as it were, begging them to come on. At last in dread of their capture she pushed, then carried and pitched each before her, until they actually escaped. The polar bear is a wonderful swimmer and diver. In the capture of seals lying on the ice, it dives some distance off and, swimming underneath the water, suddenly comes up close to the seals, cutting off their retreat to the sea.

3. A cowboy from Arizona went to San Francisco with his dog which he left at a dealer's while he purchased a new suit of clothes. Dressed finely, he went to the dog, whistled to him, called him by name and petted him. But the dog would have nothing to do with him in his new hat and coat, but gave a mournful howl. Coaxing was of no effect, so the cowboy went away and donned his old garments, whereupon the dog immediately showed his wild joy on seeing his master as he thought he ought to be.

4. A ship was sailing in the Indian Ocean and all of a sudden a terrific storm came up. The second officer of this boat was swept overboard by a tremendous wave. The boat was stopped and life boats lowered to rescue the officer who had been swept off, but before the crew could rescue the drowning man a shark grabbed him and all that was left was a streak of blood.

Catch Questions.—Which is the heavier, a pound of lead, iron or feathers?

Absurd Statements.¹—An unfortunate bicycle rider fell on his head and was killed. He was taken to a hospital and they fear he will not recover. The police found the body of a young girl cut into eighteen pieces. They think she killed herself. A man said, "If I were going to kill myself, I would not do so on Friday, because Friday is an unlucky day and would cause me to have ill luck." There was a railroad accident yesterday, but it was not a bad one. The number of deaths is only forty-eight. A lady wanted the tail of her pet dog taken off. She was afraid it would hurt him, so she decided to have a little piece cut off every day.

Problems.²—A person walking in the forest suddenly stopped much frightened, hurried to the nearest policeman, and told him that he had just seen hanging from the limb of a tree—(after a pause) what?

My neighbor has been having some strange visitors. He has received, one after the other, a doctor, a lawyer, and a priest. What has happened at my neighbor's house?

Some boys were playing ball in the street. The ball rolled between the hind legs of a mule and one little boy picked it up. Two days later there was a funeral at his house. What happened?

If you were out in a small boat five days from shore and had on board a box of gold and a box of bread, which box would you throw away if it became necessary to throw one of them overboard to prevent the boat from sinking?

A man who had some potatoes to take to town put them in a bag and hung them over the side of his mule. This looked strange to him, and the weight all on one side seemed to worry the mule, so he filled a bag with stones and hung it over the other side. What would you have done under the circumstances?

¹ Portion of the Binet-Simon Scale.

² Portion of the Binet-Simon Scale.

Suppose you and a companion were floating at sea in a small open boat, having been shipwrecked and left with two buckets of fresh drinking water. Several days have passed since the accident, and you have consumed all the water in one bucket. The other bucket is still full of fresh water, your only supply. The empty bucket and full bucket are setting beside you when you suddenly discover that your companion's coat is on fire. Would you pour the bucket of fresh water over him, or what would you do?

Motor Reactions.—Tapping with a pencil. Handling cards. Picking out letters or figures.

Arithmetical Problems.—Simple problems in arithmetic, 9 times 9, 6 times 7, 8 times 8, 24 from 32. How much change would you get back if you bought at the grocery store 2 cents worth of crackers, 3 cents worth of cheese, 5 cents worth of butter and 8 cents worth of sugar, and gave the grocer 25 cents in payment?

Interpretation of Pictures.—Simple pictures may be placed before the patient and he may be asked to explain what is represented in the picture. His interpretation of the pictures will reveal in a rough way the state of his attention, his ability to grasp multiple ideas, and the range of his imagination and power of imagery. The liveliness of memory is also tested, for the picture, no matter how simple, requires the process of memory in its interpretation. The response will also indicate in some degree the state of comprehension and apperception and the integrity of the patient's reasoning powers and the accuracy of his judgments.

Questions in Definition.—The patient may be asked, "What is an automobile?" "What is a ship?" "What is a typewriter?" "What is the difference between a lion and a lamb; the difference between a plant and a mineral; the difference between a

man and a plant; a mistake and a falsehood; fact and fancy; religion and ethics; shiftlessness and thrift?"

Sentence Building Tests.—The patient may be asked to place the following groups of words into sentences: Man—automobile—gasoline—tank. Shoulder—soldier—gun—march—camp. Cigarette—match—lighted—smoke. Out—man—went—coat—hat—put—on.

Forward and Backward Association Test.—Give months of the year backward; days of the week backward. Repeat 5729 forward and backward; 64189; 265497. Repeat the seasons of the year forward and backward.

General Information.—The cost of postage stamps. Color of stamps. The meaning of holidays—Christmas, Easter, Fourth of July. News items.

Interpretation of Proverbs.—"Make hay while the sun shines," "A stitch in time saves nine," "The early bird catches the worm," "Too many cooks spoil the soup," "Lies have short legs," "Burning the candle at both ends."

Drawing Test.—Designs are drawn by the examiner, or printed cards may be used on which are designs ranging from a simple to a fairly complex character. The patient is allowed to look at a design for half a minute, and then he is asked to draw it from memory. This test is of value in determining the integrity of the powers of attention, memory, motor ability, the accuracy of movements, and the presence or absence of tremor and ataxia. The patient may be asked to assemble the various types of jigsaw puzzles or to fit specially shaped blocks into form boards of various patterns.

Supplying Words in a Sentence.—A printed or typewritten sentence, in which certain words are left out, is shown to the patient, and he is asked to supply the words necessary to complete the sense of the sentence. The rapidity and accuracy with

which the patient does this test indicates the condition of his powers of perception and apprehension.

Attention Tests.—A series of numbers or letters is read to the patient at the rate of two per minute, and he is asked to make a tally each time a specified number or letter is read. Patients who are distracted or who show variable moods of attention will fail in this test.

Tapping Test.—Patient is asked to make as many dots upon a paper with a pencil as is possible within, say, ten seconds. This test shows the degree of psychomotor retardation and lack of attention.

Syllogisms.—These tests are of value in determining the attention, apperception and reasoning power of the patient. He may be given the following syllogisms and asked whether the conclusions are correct or incorrect, and the reasons for his answers:

Bad men are brave. George Washington was a brave man, therefore George Washington was a bad man.

All crystals are salty. Sugar is a crystal, therefore sugar is salty.

Ethical Conceptions.—Which is the worse, to lie or to steal? Why do you love your parents? What would you do if you saw a person drop a ten-dollar bill? Why should one pay his debts? What would you do if someone accidentally struck you? What occupation do you prefer, and why? Explain the Golden Rule.

Psychoanalysis.—Psychoanalysis, as the term indicates, is the analysis or dissection of the content of consciousness by the methods of psychology.

The hidden source of the patient's mental trouble may be a complex which gives rise to a group of symptoms which do not in any way bear an apparent relationship to the mental symptoms manifested. Only the barest outlines of the methods of the technique of psychoanalysis can be given here, and for

greater elaboration the student is advised to consult specific texts upon this subject.

Free Word Association Method.—The examiner should sit at the head of the patient, who is allowed to recline upon a couch or reclining chair in a quiet, slightly darkened room. No third person should be present at the time of these examinations. All distracting objects should be removed from the room to prevent the possibility of the patient's thoughts straying to extraneous objects, such as chairs, or pictures upon the wall. The patient's face may be covered with a handkerchief. It goes without saying that the physician must enjoy the absolute confidence of the patient. All elements of fear and restraint should be eliminated.

When the situation just described has been effected, the patient is instructed to discuss, freely and at length, any subject or thoughts that may come into his mind, without any mental reservation, secrecy or modification whatsoever. The thoughts or ideas that come to the patient's mind may seem trivial, worthless and not related to his trouble, but they should be freely told to the physician, as they may shed an abundance of light on a repressed, painful complex that the patient may have. The ideas that pass through a patient's consciousness may be unrolled as a panorama to the physician just in the manner that a picture film is unwound. When the free word association test is completed, the method of limited word association test is employed.

Limited Word Association Test.—A group of familiar words, ranging from fifty to one hundred, consisting of nouns, adverbs, adjectives and verbs mingled indiscriminately, is read to the patient, one word at a time, in a neutral manner. The patient is asked to say the first word or words that may come into his mind after the stimulus word is given. He is not to make any effort to find any particular word or words to suit the

word that has been given, but is to say just whatever comes into his consciousness. It is often well for the examiner to illustrate in advance of the test by using a few words which do not occur in the list. The time that elapses between the giving of the stimulation word and the reaction word of the patient is measured by a stop watch marking fifths of a second. These words which have a decided emotional value will cause a delayed response. The greater the delay, the greater the value of the stimulus word. We often find that the emotional reaction that follows any given word may be spread to the next two or three words, and the patient may give evidence of his emotional reaction by a flushing or blanching of the face, by an uneasy gesture, or possibly by glancing at the examiner. After the stimulus words have been given, the test may be repeated, careful attention being paid to see whether the same words produce the same reaction time.

ILLUSTRATION

<i>Stimulus Word</i>	<i>Reaction Word</i>	<i>Time (Seconds)</i>
House	Dwelling	3
Home	Mother	8
Lover	John	10
Love	Disappointment	15
Trust	Betrayed	30

In this illustration the word house is promptly responded to and the reaction word indicates no particular emotional activity, while in contrast the words lover, love and trust are followed by reaction words after increasingly long intervals and the reaction words are quite significant and suggest the existence of a painful complex of a sexual character, such as is often found in hysteria.

After the test has been given a second time, the examiner may use the words giving the longest reaction time, and note the reaction time as before. When the words which have the greatest emotional value have been discovered and carefully studied by the psychiatrist, the key to the patient's complex will very likely

be revealed. The following is a group of words that may be used in this test, although any group of words may be used, at the examiner's discretion:

Mother	Glad	Baby
Father	Bitter	Children
Sister	Sweet	Disappointment
Lover	Beautiful	Mockery
Sweetheart	Sad	Patriotism
Pain	Cry	Country
Man	Depression	Flag
Woman	Kiss	Traitor
House	House	Amorous
Love	Happiness	Success
Fear	Sickness	Failure
Hate	Evil	
Home	Marriage	

It is held by various authorities on the subject of psychoanalysis that the patient unburdens his mind of painful ideas, or relieves himself by the method of mental catharsis and uncovers and lays bare past experiences which he may have forgotten and pushed into the unconscious, and to which he may have attached at the time of their happening, little or excessive importance. Certain experiences in his life may have been painful and distressing; they may have been associated with ideas of sinfulness, especially as they relate to the conventional ideas of sex, and may have been abhorrent to the patient. After the examiner has discovered the painful, submerged complex, he is in a position to explain to the patient the needlessness of his fears, and to show him that he has attached, in some instances, undue importance to ideas that he may have regarded as sinful. With the complex uncovered, the physician is in a position to instruct his patient as to the proper mode of mental life—to give him rational advice about his mental conflicts and troubles—to assist him in making better mental and social adjustment to his environment. The Catholic Church has long known the value of the method of mental catharsis, and has

used it in the rite of the confessional. The study of dreams often has a very great value in the practice of psychoanalysis, for in them painful and repressed ideas are expressed in more or less disguised forms. When dreams are analyzed they will be found to have greater significance than is due them as the mere result of a disordered digestion due to indiscretions at the evening meal.

The success of attempts at psychoanalysis largely rests with the skill of the psychiatrist and his insight into the patient's condition. The examiner must not always expect to uncover the source of the patient's trouble in one seance, for often quite a number of seances are necessary.

CHAPTER XXIII

BINET-SIMON SCALE OF INTELLIGENCE TESTS

This group of tests was devised and standardized in 1905 in Paris, by Binet and Simon, for the purpose of measuring the intelligence level of individuals. These tests are now used throughout America, in public schools, psychopathic clinics, prisons, hospitals for the insane and institutions for the feeble-minded. Several revisions of the tests have been made to meet the needs encountered in America in their application and to correct the various errors that existed in their original forms. Quite a number of modifications have been made and none is free from criticism, but the one now most generally used in the United States is the Stanford revision devised by Terman, and this modification will be taken as an example of these tests.

When these tests were first introduced it was held by over-enthusiastic examiners that the methods of examining the mentally defective would be revolutionized, for they held that by these tests the intelligence could be mathematically and accurately measured. Much harm was done because this so-called scale of intelligence was promiscuously applied by many who were unqualified to use it and because the errors in it were not recognized.

These tests have a relative value in determining to an approximate degree the mental level of a person, but they should be supplemented by careful neuropsychiatric examination lest very serious errors be made. The performance of these tests depends to a great degree upon normal hearing and normal vision. The tests do not take into account language difficulties or the emo-

tional states of either the examiner or the patient, all of which are very serious elements of an examination. It has been the author's personal experience to see persons suffering from the essential psychoses, states of dementia and diseases of the endocrine glands, labeled mentally retarded and feeble-minded by psychologists of repute but without training in pathology or psychiatry. These tests are no more to be depended upon alone than is a reading of a clinical thermometer or a single blood test in physical diagnosis. In conjunction with the standard neuropsychiatric tests they are useful to a degree, as are other single tests or groups of tests, and their limitations are always to be borne in mind.

METHOD OF APPLYING BINET-SIMON TESTS

The test should be performed in a quiet, simply furnished room where the child's or patient's mind is not likely to be distracted, or diverted by anything unusual. On the examining table, at which are seated the patient and the physician, there should be no articles except those used in the performance of the test.

The patient's confidence should be gained, his fright relieved, if present, so that the patient may be in a comfortable frame of mind during the examination. The attitude of the examiner should be friendly, but he should not indicate in any manner any displeasure or judgment concerning the patient's answers to questions. The purpose of the test is to measure the child's intelligence and not to instruct him.

Any method that is satisfactory to the physician may be used in recording the results of the patient's answers. The following one has been used by the author: The plus sign (+) indicates that the answer is correct; the minus sign (-), that the patient has remained silent; the zero sign (0), that the answer is incor-

rect; the question-mark sign (?), that the answer is doubtful; the minus question-mark signs (-?), that the doubtful answer is nearer failure than success; the plus question-mark signs (+?), that the answer is nearer success than failure.

The tests should be begun by giving the child the mental test corresponding to his chronological age. If this test is answered correctly, continue with the next higher one, and so on. A child may be said to have the mental level at which he passes all tests correctly. The mental level may be raised by giving credit for two to four months for each individual test the child answers correctly in any group above the highest group of tests where he has answered all correctly.

If the child fails at the test corresponding to his chronological age, the tests immediately below this age should be tried.

Inability to answer questions of the test corresponding to the chronological age do not necessarily indicate mental enfeeblement. The child is not to be considered mentally defective unless the defect shows at least three years' reduction below the chronological age.

It must be remembered that the score resulting from the Binet test is often misleading, particularly if the child is given credit for passing any test above the year in which he passes all tests. For example, the ten-year-old passes completely only the eight-year tests, but because of a particular ability in memory is able to successfully complete test No. 2 in 10 (drawing designs from memory), test 4 in 12 (memory of numbers), test 4 in 14 (changing the clock hands), tests 2 and 4 in the 16-year test (enclosed boxes and code tests), making a total score of approximately twenty points. This, added to his score at eight years, brings him almost up to his chronological age. Actually, he does not approach this in any particular, except his ability to reproduce images—a minor part of intelligence.

AVERAGE NORMAL PSYCHOLOGICAL LEVEL OF CHILDREN AT
THREE YEARS OF AGE

1. The child is asked to locate his nose, his eyes, his mouth, his hair.

2. The child has a picture placed before him and is to enumerate the details. The pictures used by Terman are: a mother and child in a Dutch home; two Indians and a man and woman in a canoe; a group of men in front of a post-office reading a newspaper; a colonial room in which there is a man leaving and a woman who is weeping.

3. He is asked to repeat correctly a sentence containing six to seven syllables, as "I have a little dog," "The dog runs after the cat."

4. The child is asked his family name.

1. In answering the first question, the child shows evidence of comprehension and understanding of the words if he merely points to the portions of the face referred to in the question.

2. A child of this mental level can usually recognize and point out the chief components of the picture. He usually fails to see the action indicated.

3. A normal child of three years can repeat words or sentences containing six to seven syllables. This is no indication that he understands what he repeats, but the normal child of two or three years is accustomed to imitate. High-grade idiots and lowest grade imbeciles do not acquire much facility in the repetition of language which they hear.

4. The child should know his name at this age.

AVERAGE NORMAL PSYCHOLOGICAL LEVEL OF CHILDREN
AT FOUR YEARS OF AGE

1. The child is asked to compare the length of two lines.

2. Counting of coins. Four pennies are placed in a row and

the child counts them, using his fingers as he makes the count.

3. The copying of a square from a model which has a diameter of three or four centimeters. This drawing is made in pencil.

4. He should repeat four digits, as: 4-7-3-9.

1. The lines drawn for comparison should be parallel and should differ at least three centimeters in length. Prolonged hesitation in making the judgment is to be counted as failure.

2. No error is allowed in the counting test.

3. If the child can make a drawing which at all resembles a square, the test is passed.

4. The child should repeat correctly one of the series of four digits. The numbers are given to the child slowly and distinctly.

AVERAGE NORMAL PSYCHOLOGICAL LEVEL OF CHILDREN AT FIVE YEARS OF AGE

1. Comparison of weights. The weights used are blocks of wood of the same appearance, one of which weighs three grams and the other fifteen grams.

2. Recognition of four colors.

3. Giving definitions in terms of use. "What is a chair?" also horse, fork, doll, pencil and table.

4. The execution of three different small acts. "Here's a key. I want you to put it on that chair over there; then I want you to shut (or open) that door, and then bring me the box which you see over there. Do you understand? Be sure to get it right. First, put the key on the chair, then shut (open) the door, then bring me the box. Go ahead."

1. Three trials are given, two of which must be correct. After the first trial the position of the weights is reversed. At the third trial the position is the same as in the first trial. This is neces-

sary because of the stereotyped behavior which some children exhibit of choosing always the block on a certain side.

2. The colors (red, blue, green and yellow) used in this test are printed on a cardboard. In performing the test the examiner should point to the color and ask, "What is the name of that color?" The test is passed if all the colors are named correctly and without marked uncertainty.

3. If a child correctly defines four objects out of the six, he is credited with having passed the test. Most children of five or six years will define the objects in terms of use. Two-thirds of eight-year-old children will give definitions superior to use; that is, by description, by giving the class to which it belongs, what it is made of, etc.

4. After the child has been told to perform the simple commands he should not be given any help or suggestion. This is a test of memory of a type that is needed in every-day life.

AVERAGE NORMAL PSYCHOLOGICAL LEVEL OF CHILDREN AT SIX YEARS OF AGE

1. Right hand; left ear; right eye. Examiner says to child, "Show me your right hand," etc.
2. Mutilated pictures.
3. Naming four coins.
4. Distinction of time. Question: "Is this morning or evening?"

1. In answer to these directions three sorts of responses are most frequently found. There is confusion by the child of the right and left. If he is a right-handed child he may show the right hand because of habit. He often shows the right ear. Again, the child may not be sure of his knowledge of right and left. He often puts forth the right hand and then touches the right ear, but corrects himself. The last response is counted in all cases of double responses. If the child cannot make it plain

that he knows which is right or left, he must be regarded as having failed. At the four-year level children cannot ordinarily distinguish between right and left. Normal children of six years succeed with this test. Imbeciles below the middle-grade very rarely pass this test.

2. In this test the faces of the women are without eyes, mouth or nose, and the female figure is without arms. The child should tell correctly, in three of the four problems, what is missing.

3. The coins used are a nickel, a penny, a quarter, and a dime. The child should name the coin or give its value. Three correct responses are necessary for the test to be passed.

4. Many children are inclined to answer the latter of two alternatives. It is well, then, if it is morning, to put the question, "Is this morning or afternoon?" or if it is afternoon, to say, "Is this afternoon or morning?"

AVERAGE NORMAL PSYCHOLOGICAL LEVEL OF CHILDREN AT SEVEN YEARS OF AGE

1. Description of pictures as to characters and situations.
2. He should repeat five digits.
3. The comparison of three sets of objects from memory; the difference between a fly and a butterfly; between wood and glass; between a stone and an egg.
4. Copying a diamond from a model given.
5. Naming the days of the week.

1. The child should describe the situations and not merely enumerate the objects in the picture.

2. The child should repeat correctly one of the series of five digits.

3. This test is passed if the real difference is given in two out of the three comparisons. It is not necessary for the difference to be an important one, but it must be a real difference.

4. Two of the three drawings must be made in approximately the correct position. The diagonals must not be reversed. Size is disregarded.

5. The days of the week must be named in the correct order, without errors, in fifteen seconds.

AVERAGE NORMAL PSYCHOLOGICAL LEVEL OF CHILDREN
AT EIGHT YEARS OF AGE

1. Counting backwards from twenty to one.
2. Comprehension questions such as: "What's the thing for you to do when you have broken something which belongs to someone else?"
3. Giving similarities.
4. Definitions of twenty words.

1. This test must be done in forty seconds. Only one error is allowable.

2. Two of the three questions must be comprehended and a reasonably sensible answer given, such as: "Pay for it," "Apologize," etc.

3. The following things are to be compared: (a) wood and coal, (b) an apple and a peach, (c) iron and silver, (d) a ship and an automobile. A likeness must be given in two out of four comparisons. Any likeness, whether trivial or important, is acceptable.

4. The definition is regarded as correct if the right meaning of the word is given, whether this meaning is the most common one or whether it is the original or a derived meaning.

AVERAGE NORMAL PSYCHOLOGICAL LEVEL OF CHILDREN
AT NINE YEARS OF AGE

1. Giving the date.
2. Grouping of weights in proper order.

3. Subtracting 4 cents from 10 cents; 12 cents from 15 cents; 4 cents from 25 cents.

4. The formation of a sentence, using three words given by the examiner.

1. If the child gives the correct month, day of month, year, and day of the week, he is regarded as having passed the test.

2. Five wooden blocks are used, similar in size and shape but so loaded as to have different weights, which are respectively 3, 6, 9, 12 and 15 grams. These are placed in front of the child and he is told to place the weights in a row, beginning with the heaviest and placing the others in properly graduated order. Three trials are given, two of which must be correct.

3. The test is passed if two out of three problems are answered correctly in 10-15 seconds for each problem.

4. Three sets of words are given: "Boy, runs, ball," "Work, money, men," "Rivers, deserts, lakes." Each set of words is to be put into one sentence. Often the child answers by giving three single sentences, using each word. No credit is to be given for such an answer.

AVERAGE NORMAL PSYCHOLOGICAL LEVEL OF CHILDREN
AT TEN YEARS OF AGE

1. Absurd sentences.
2. Drawing two designs from memory.
3. More difficult comprehension questions, such as: "What ought you to say when someone asks your opinion about a person you don't know very well?"
4. Form board puzzle.

1. The sentences contain some absurdity. The examiner should explain to the child that the sentences are absurd and let the child discover the absurdity. An example of the absurd sentence

is the following: "A man said, 'I know a road from my house to the city which is down-hill all the way to the city and down-hill all the way back home.'" The absurdity must be detected in four out of the five sentences.

2. Two designs are shown to the child, and he should be given the opportunity to examine them for ten seconds. The designs are taken away and the child should reproduce them.

3. Two of the three questions must be comprehended and a reasonably sensible answer given for each.

4. The child is to put the blocks into the frame so that all the space is filled up. He must fit the blocks into place three times, five minutes being the total amount of time taken for all the trials. This makes no demands on language ability and is one of the few tests in the scale that gives an index of the child's ability to deal with concrete material.

AVERAGE NORMAL PSYCHOLOGICAL LEVEL OF CHILDREN AT TWELVE YEARS OF AGE

1. Definition of abstract words, such as "pity" or "justice."
2. Disarranged sentences, as: For - the - started - an - we - country - early - at - hour.
3. Interpretation of fables.
4. Repeating backwards five digits.
5. Interpretation of the same pictures which were used in years three and seven.

1. If the child expresses the essential idea, even though in very poor English, the answer is to be regarded as correct. Three out of the five words must be defined correctly.

2. For each sentence the child is allowed one minute in which to rearrange the words so that they make a good sentence. Two out of the three sentences should be correctly rearranged.

3. Fables teach a moral lesson. The child should discover

the moral lesson in at least two of the fables and state it in general terms. It is a valuable test to see whether the child is able to generalize the concrete.

4. It is much more difficult to repeat a series of digits backwards than in the direct order. It is also less mechanical and requires more attention. If the child has success in any one of the three series, he passes the test.

5. Three pictures out of the four must be given an interpretation which is plausible. For example, in the first picture, "The baby has hurt herself and the mother is comforting her."

AVERAGE NORMAL PSYCHOLOGICAL LEVEL OF CHILDREN
AT FOURTEEN YEARS OF AGE

1. The distinction between a president and a king.
2. Answering two concrete problems.
3. Problems in arithmetic such as, "If two pencils cost 5 cents, how many pencils can you buy for 50 cents?"
4. Changing the hands of a clock.
5. Repeating seven digits forward.

1. The subject is asked to state three differences between a president and a king. This test is psychologically related to that of giving differences and similarities but it requires a comparison which is based on essential distinctions rather than on unimportant distinctions.

2. Two out of the three responses must be sensible and plausible answers to the problem. Example of the problems: "My neighbor has been having queer visitors. First a doctor came to his house, then a lawyer, then a minister. What do you think happened there?" A correct answer to this would be that a man is dying and making a will.

3. Two out of the three problems should be answered correctly, allowing one minute for each.

then certain ciphers of the code are shown to him which interpreted mean, "syp," "war." The subject is then asked to write a sentence of two words, using this code. This should be done in five minutes, with no more than two errors.

4. This test is passed if one of the three sentences is repeated without a single error.

AVERAGE PSYCHOLOGICAL LEVEL OF SUPERIOR ADULTS

1. Definition of seventy-five words.
2. Repeating eight digits forward.
3. Repeating the thought of a passage read aloud to the subject.
4. Repeating seven digits backward.

1. The subject should be able to define correctly seventy-five out of one hundred words. The words vary in difficulty.

2. The subject should repeat correctly one of the series of eight digits.

3. The test is passed if the subject repeats in reasonably consecutive order the chief ideas in at least one of the selections read.

4. The subject should repeat backward one of the series of seven digits.

CHAPTER XXIV

TREATMENT

In this small volume the subject of treatment can be no more than briefly outlined. The general principles of therapeutics are applicable to the psychoses as they are to disease in general. The subject will be dealt with under three heads, as follows:

1. PREVENTION.
2. EXTRAMURAL TREATMENT.
3. INTRAMURAL TREATMENT.

Prevention.—The old adage, "An ounce of prevention is worth a pound of cure," is beginning to be applied in the treatment of insanity. Within the last ten years there have come into being national, state and local organizations for the study and demonstration of facts concerning mental diseases, and these organizations are educating the public in regard to matters that pertain to insanity and allied subjects, such as mental and social hygiene. By means of public lectures and the distribution of literature, these organizations are quietly but effectively using their influence to remove the stigma that has heretofore attached to insanity. They are making the public understand that commitment to a hospital for the insane is no more disgraceful than is admission to a general hospital for the treatment of a physical disorder.

Many persons who suffer from the incipient stages of mental disorders shrink from seeking hospital treatment in state institutions because, as before stated, the idea of disgrace is attached to mental disease. The result is that the mental disorders of these persons progress to a degree which makes commitment

to a state institution an absolute necessity, because of lack of care at the proper time. To overcome this evil of delayed treatment, some states have wisely provided the privilege of voluntary commitment to a state hospital for the insane, so that an individual may go there in the incipient stages of his disease and, without publicity, receive treatment at the time when therapeutics are most likely to be of benefit. In most states all that is required is a certificate of the family physician, to be submitted to the superintendent of a state institution, stating that the patient who asks for commitment is in need of treatment. The applicant signs a statement to the effect that he will abide by the rules of the institution so long as he is a patient, and that when he desires to be discharged he will give written notice in advance (seven or ten days', as the case may be). At the end of the time stated, he is permitted to leave the hospital on his own responsibility.

Psychopathic Hospitals.—The advance in modern psychiatry and the needs of the social body make it highly desirable that there should be established in all large cities or in certain definite districts throughout the various states, psychopathic hospitals where the acutely insane or mentally sick could be taken, classified and treated in the early stages of their disorder. From such institutions those who recover after a relatively short lapse of time could be returned to their homes or sent to private institutions for temporary care, and those whose ills prove to be of a chronic nature could be distributed to hospitals and colonies for the chronic insane.

Commitment.—In most of our states the present method of committing patients to hospitals for the insane should be corrected. As a rule, the patient is haled into court as though he were a criminal. He is arrested and charged with being insane, and is subjected to insults and embarrassment for which there is not the slightest reason. It is at once conceded that insanity

is a sociological as well as a medical affair and that the rights of society must be carefully protected, but it is also apparent that to arrest an individual because he has an illness of the brain is just as unreasonable as it would be to arrest a person because he was suffering from a delirium due to appendicitis. A lay jury, moreover, is in nowise competent to pass upon mental diseases, yet in many instances juries ignorant of medical facts are making decisions as to whether or not insane persons should be committed to state hospitals.

It is gratifying to realize, however, that progress is being made. Many courts are now employing medical experts to advise them as to whether or not mentally sick persons should be committed to state institutions. In course of time no doubt much of the red tape and legal procedure will be abolished and the matter of commitment will be placed in the hands of medical persons. Probably the only legal procedure that will be retained will be that which is necessary to protect society and the civil rights of the patient.

Heredity and Eugenics.—The greatest single factor in the production of insanity is heredity; fifty to ninety per cent of all cases of insanity owe their origin to the direct or indirect transmission of insanity, or to the passing on of a predisposition from the progenitors to the offspring. This point has been discussed under "Causes of Insanity," in Chapter III. Society is beginning to learn that mentally defective persons mated with mentally defective persons can produce only mentally defective offspring. The public is not yet ready to receive and act upon medical advice to any great extent in the matter of marriage. Sterilization, regulation of marriage and the segregation of the racially unfit is possible in only a very small percentage of instances. A few states have laws concerning these matters, but they are by no means adequately enforced.

Syphilis.—Syphilis is directly and indirectly responsible for at least twenty-five per cent of all cases of insanity. Syphilis is the direct cause of insanity in the form of general paresis and other types of cerebral syphilis, and indirectly by bringing about conditions of arteriosclerosis affecting the brain and the cardiovascular-renal systems. Forms of mental defect, such as idiocy, imbecility and feeble-mindedness, may have their origin in syphilis. The public is beginning to learn of the widespread effects of syphilis and its relation to insanity, and the value of mental and social hygiene will be demonstrated within a few years by an appreciable reduction in the number of cases of insanity due to syphilis.

Tuberculosis.—Tuberculosis plays a part in the production of insanity, since it weakens the human mechanism and makes it susceptible to the development of mental diseases. The interrelation of tuberculosis and dementia præcox is well known.

Drugs.—The chronic use of alcohol, cocaine, morphine and other drugs is responsible for many cases of insanity. The general campaign for the education of the public against these potent factors in the production of mental disease will in a few years result in a reduction of the percentage of mental disorders due to these agencies.

Heredity, syphilis and drugs are the great triad of contemporaries that fill our hospitals for the insane. The hope of the future lies in a reduction of their influence.

Present Problems.—We, as physicians, must deal with the problem as it exists at the present time. The neurotic or psychopathic child and the individual predisposed to insanity must be dealt with as we find them. The neurotic or psychopathic child should be early singled out and safeguarded through infancy, childhood and adolescence. Proper food and clothing, kindly discipline, the teaching of self-control, regulation of work and play and limitation of hours of study are necessary if the neu-

rotic child or youth is to be saved from the development of mental disorders.

Briefly, physical and mental hygiene are necessary. The same general principles of prevention apply to the neuropathic or psychopathic adult who has in some way acquired the predisposition to the development of mental disorder.

Extramural Treatment.—Certain mental disorders such as temporary delirium, mild states of depression, mild types of dementia præcox, senile dementia, harmless types of paranoia, paranoid states, hysteria and the allied psychoneuroses can in many instances and for a while at least, be treated outside of an institution, and the knowledge of how to treat these conditions in the general practice is essential. In many instances, persons have been committed to institutions for the insane while they were suffering with delirious states originating before, during or after infectious and febrile diseases such as typhoid, influenza, pneumonia or erysipelas. This should not be found necessary. The temporary delirium and confused states following the use of certain drugs such as alcohol, morphine, cocaine, aspirin or potassium bromide, may occasionally be cared for outside of a hospital under appropriate conditions. No person should be committed to an institution for the insane until he has been examined by psychiatrists or other physicians competent to diagnose and treat mental cases.

The majority of mental cases will require institutional care. The physician is able to treat his patient to better advantage away from the influence of relatives, whose anxiety often leads to injudicious interference with treatment. When the patient is removed from his home he is taken away from the atmosphere in which his trouble has developed and from an environment about which he may entertain delusional conceptions. The routine of an institution has a decidedly beneficial effect upon the mentally ill. The safety of the patient and the welfare of others

often demand that the patient be removed to an institution where he can be properly guarded.

Intramural Treatment.—Just so soon as it is determined that the patient cannot be treated at home in a successful manner—because he cannot receive the necessary attention, or because he is dangerous to himself or others—he should be committed to an institution for the insane, either private or public. In such an institution the patient will receive custodial care and the necessary symptomatic treatment called for in his case.

Delirium.—Delirium incident to febrile and infectious diseases calls for the isolation of the patient, the employment of coolheaded, trained nurses or attendants, the elimination of toxins or drugs by way of the emunctory organs, the maintenance of the patient's strength and the allaying of his delirium, confusion or excitement. The patient should be placed by himself in a quiet, darkened room. Liquids should be administered in large quantities, together with light, nutritious food. Baths should be given freely, having due regard for the patient's strength. The temperature should be controlled by sponging, the use of ice caps, warm and cold packs, neutral baths, and by medication when indicated. It is quite possible in some cases to give the patient a prolonged bath ranging from 90° to 95° F. Often a wet pack is of great service, but great care must be exercised in using this measure because excessive reactions are likely to occur if the patient is kept in a pack too long. A cold pack may be given to robust patients. A sheet is dipped in luke warm water; the arms are placed at the sides; the sheet is then carefully wrapped about the body and around this is folded one moist and one dry blanket. An ice cap is applied to the patient's head. The patient should not remain in this pack more than an hour. The pulse and temperature should be taken each ten minutes and the greatest care and closest observation should be given to prevent exhaustion.

In excited cases, preliminary to this treatment a mild hypnotic may be given an hour or two before the patient is put into the pack. Small doses of bromide, veronal, trianol, sulphonal or adalin may be used. In very excited cases one 1/100 of a grain of hyoscine or 1/8 grain of morphine may be employed. *In all cases of delirium and excitement the heart should receive careful attention.*

In ambulatory cases where excitement or delirium prevails, hot and cold packs may be given at stated intervals. Hydrotherapy may be employed in any of its forms, such as prolonged baths, continuous baths, sitz baths, shower, needle, fan and spray baths. Spinal and Scotch douches may be used, regulated to suit the needs of the patient. Following any form of hydrotherapy the patient should be given a vigorous rub, a glass of milk, cocoa or other hot liquid, a mild sedative, if indicated, and put to bed.

Hydrotherapy is to be employed in any of the psychoses where excitement is to be overcome and rest secured. As a rule there is a general improvement in the bodily nutrition following the use of hydrotherapy. This form of treatment is of particular value in preventing and relieving decubitus.

Use of Cathartics.—The theory that auto-intoxication is the basis of many mental diseases has no doubt been overworked. However, constipation is undoubtedly the bane of mankind, sane or insane, and in many instances the correction of this condition in the treatment of the insane has been followed by splendid results. The inaccurate and excessive use of cathartics is of course to be condemned. The author has found that a vigorous dose of castor oil, or three grains of calomel, or frequent colonic flushings, has relieved irritability, insomnia, lassitude, malaise and anorexia, symptoms that are so frequently exhibited by the insane. The use of saline laxatives such as seidlitz powders, citrate of magnesia, Epsom salts and other similar cathar-

tics is often attended by excellent results. Elimination, often repeated, renders incalculable service in treating morbid mental states.

Liquid petrolatum, given twice a day, in the afternoon and evening, is a remedy that is quite satisfactory in regulating the bowels. Free elimination by way of the kidneys is obtained by the use of cooling and mildly acidulated drinks such as lemonade and orangeade.

Sleep.—It is essential that a person suffering from a mental disorder procure as much natural sleep as possible. It often comes following a prolonged warm bath, a salt glow, a gentle massage, a moderate amount of exercise a few hours before bedtime, or a ride in the open air. A glass of hot milk or hot water just before going to bed is often sufficient to produce sleep. So long as drugs can be avoided in the securing of sleep, they should not be used. However, many cases will be encountered which will require the use of drugs, and the choice of these agents must be governed by the condition of the patient and the degree of his insomnia. Veronal, trianol, sulphonal, adalin, chloral hydrate and paraldehyde may be used, according to the indications at hand. When the habit of insomnia has been thoroughly established and the condition exists as more or less of a bugaboo to the patient, these sleep producing drugs may be used over a sufficient length of time to break the habit and dispel the fear that attends it. Psychotherapy is always to be used in conjunction with these drugs, and the practice of proper suggestions will go a long way toward preventing the establishment of the habit of dependence upon them. Placebos may be used, alternating with the hypnotic drugs. These somnofacient drugs are to be discontinued so soon as it can be safely done. Cases of insomnia due to pain are more difficult to handle, and occasional doses of morphine or some other derivative of opium may be used, and in cases of violent frenzy and profound suicidal ten-

dency it sometimes requires the use of morphine, opium or hyoscine to allay and prevent mental distress. Caution, however, is the watchword in using these agents.

Tonic Medication.—In the majority of instances a patient suffering from a mental disorder is in need of tonic medication. We find conditions of anorexia, lassitude and general debility, states of secondary anemia which require for their relief various bitter tonics, elixir of iron, quinine and strychnine, Blaud's pills, cacodylate of iron, Basham's mixture, the hypophosphites and the various preparations of malt. Whenever tonics are needed the jaded appetite must be stimulated by the employment of egg nogs, milk punch, and daintily prepared and appetizing foods.

Forced Feeding.—One of the most annoying symptoms exhibited by the insane is the refusal to take food. The depressed patient, in particular, often refuses his food. Occasionally a little persuasion will induce the patient to eat. He will frequently swallow milk if the cup is put to his lips, or will eat if food is placed in his mouth. In many cases, however, a patient cannot be prevailed upon to take food at all. If the patient is in a fair state of physical health and is well nourished, it may be well to allow him to refuse his food for at least three days; hunger may induce him to eat. If it does not, resort must be had to forced feeding. There are several methods but the only one deserving mention is that of feeding by the use of the ordinary stomach tube, which is introduced into the esophagus through the mouth by way of the nose. In attempting to introduce the stomach tube through the mouth it must be borne in mind that the patient may energetically resist; he may clench his teeth and bite the tube or the finger of the physician. The better plan is to pass the tube through the patient's nose, first ascertaining whether or not there are any obstructions. The physician should have two nurses in attendance when resorting to this manner of feeding. The patient should be placed in a

chair in an upright position, or if it is necessary he may lie upon his bed with his back and head raised on a back rest or on pillows. In either case the patient's arms and legs should be gently but firmly restrained to prevent struggling. The nostrils should be cleansed with absorbent cotton and lubricated by the application of petrolatum. The operator should stand behind the patient and hold the patient's head firmly with his left arm and hand. The tube should be carefully, gently and slowly introduced along the floor of the nose. If no obstruction is met, the tube should be pushed backward. It will glide along the posterior wall of the pharynx and pass down into the esophagus and thence into the stomach. The operator should be careful not to pass the tube into the larynx. If this should happen the air will be heard rushing in and out of the tube and the patient will strangle. To prevent such a mishap it is well to tip the head slightly forward as the tube slips down into the esophagus. The patient should not be permitted to throw his head backward while the tube is being inserted, as this may cause it to pass forward into the mouth. After the tube has been introduced the physician should wait for a few seconds to see that there is no interference with the breathing. Occasionally there is a slight rush of air from the stomach through the tube, which may be mistaken for air from the larynx. The physician may hold his ear to the funnel of the tube after it has been introduced into the stomach, to assure himself that the tube is in the proper place.

After the tube is passed, a pint and a half of milk, with eggs or other forms of liquid food, to which may be added medicines if necessary, may be poured very slowly into the rubber funnel. The funnel should never be allowed to empty itself entirely before the feeding is finished, for if this is permitted air will be introduced into the stomach. The amount of food may be increased to meet the needs of the patient. When the tube is withdrawn it should be tightly pinched so that no liquid leaks from

it as it passes the larynx. Patients should be fed night and morning. This manner of feeding may be continued over long periods of time without the slightest difficulty if proper care is exercised.

It is well to remember that paretic patients are likely to have anesthesia of the posterior nares, the pharynx and the larynx, and that the tube may pass into the larynx for a short distance without any symptoms whatever. Patients having marked forms of heart disease or pathological conditions of the esophagus and cardia should not be fed in this manner.

Focal Infections and Surgical Conditions.—Up to within the last five years, insufficient attention has been paid to focal infections and surgical conditions in the insane. The overwhelming press of work in state institutions has very materially hindered physicians in such institutions from giving this subject more careful attention. A survey of every insane patient should be made with a view to discovering whether or not he has hidden foci of infection or whether there exist surgical conditions such as a sliding, uncomfortable hernia, or lacerations of the perineum and the uterus in female patients, which upset and disorder the physical economy and indirectly disturb the mental integrity. While academic questions concerning the relation of focal infections to the development of insanity are still being debated, those who labor earnestly to remove these pathological conditions from insane patients are in many instances rewarded by the recovery of their patients. At any rate, whether a patient is insane or not, he should receive necessary surgical and medical attention. No argument can be brought to bear to refute this statement.

Gastrointestinal Tract.—Careful examination of the gastrointestinal tract in insane patients often reveals carious or impacted teeth. Or the tonsils may be enormously large and filled with pus and other pathological debris, or they may be very small and buried beneath the pillars, but nevertheless pouring in-

fection into the general system. Reddened, inflamed and purplish tonsils are decidedly suspicious of diseased conditions.

Occasionally it is necessary to examine the stomach contents by the Rehfuß fractional method. Such an examination may disclose the presence of virulent bacteria in the stomach contents. Duodenal ulcer, a diseased gall bladder, chronic enteritis or chronic appendicitis, or hemorrhoids, fissures or ulcerated conditions about the rectum, may be found upon careful examination. The patient is entitled to relief from these conditions, and it is always possible that relief from them may bring about a recovery from his psychosis.

Genital Organs.—All diseased conditions of the genital organs should be corrected and to this end a careful examination must be made of the external genitalia, the vagina, the ovaries, the tubes and the body, neck and cervix of the uterus. In the male the condition of the external genitals, the seminal vesicles and the prostate gland should receive attention.

Sinuses.—The frontal, ethmoidal, sphenoidal sinuses and mastoidal cells may prove to be sources of virulent infection, as may the antrum of Highmore. All pathological conditions of these parts are to be remedied.

Vaccine and Serum Therapy.—Vaccine and serum therapy are to be used as indicated in the process of detoxication of the patient. The author has found vaccine therapy in the form of autogenous vaccines and serums of particular value in a number of cases of dementia præcox. In the preparation of vaccines and serums the results are likely to be disappointing unless it is borne in mind that the patient may be suffering from a number of strains of one or more types of bacteria.

Endocrine Therapy.—The mental integrity is very largely dependent, if not wholly so, upon the proper functioning of the physiological processes, and the endocrine system plays an enormous part in the metabolic functions, growth and development of

the body and central nervous system. The pineal, pituitary, thyroid, thymus and gonadal glands play an enormous rôle in regulating the mechanism of growth, as has been abundantly proved by animal experimentation and clinical experience.

It follows that disturbances of the endocrine functions must have, at times, at least, very definite and decided detrimental effects upon the mental state. The exact relation between dysfunction of the ductless glands and the development of insanity is not clear. Herein lies a fruitful field for research. In the developmental defects and mental disorders of retarded children, endocrine imbalance is prominently manifested, especially by the physical stigmata.

The mental disturbances which often attend puberty, adolescence, pregnancy, childbirth and the menopause, have an intimate relationship with the disturbances of the function of the ductless glands.

The nervous system is extremely sensitive to disturbances of the endocrine functions and excessive elaboration of the internal secretion of the thyroid gland produces the well-known mental and nervous symptoms of hyperthyroidism. The failure in childhood of the thyroid gland to produce its internal secretion is followed by the development of the classical symptoms of cretinism. Loss of the normal thyroid secretion in an adult gives us the well-defined picture of myxœdema.

The ductless glands of the body respond to temporary and continued disturbance of the emotions. Jealousy, anger and fear, acting through the sympathetic nervous system, produce states of endocrine imbalance. When these psychogenetic factors exert their influence over long periods of time, actual structural change takes place in the glands of the endocrine chain. It has been established also that focal infections exert an untoward influence upon the ductless glands. When these focal infections have been removed the endocrine balance is often restored.

At the present time organo-therapy is in the empiric and experimental stage. In many cases endocrine therapy appears not to have the slightest value in the treatment of mental disorder. In others, brilliant results have followed its use. The author has used organo-therapy in dementia præcox, involutional melancholia, and psychotic disturbances attending the menopause, with very decided benefit in a number of cases.

The present state of our knowledge on this subject leads one to believe that pluriglandular therapy is superior to the monoglandular forms of treatment. While in any given case the symptoms of glandular disturbance may point almost specifically to disturbance of a single gland, yet it has been found that the use of the single extractive is not as effective as when combinations of synergic extracts are used. The physician, however, is to be guided by his own experience in these matters. There is no occasion to view the methods of glandular therapy in a spirit of disapproval and in a nihilistic attitude. On the contrary, an open mind is to be maintained concerning the use of these substances in the practice of psychiatry.

Psychotherapy.—The mechanism of the influence and effect of the mind upon the body is still a mystery. Sensation is transformed into thought and thought initiates muscular action; thought likewise, through the emotions, modifies the bodily secretions in some mysterious fashion.

Mental suggestion as a mode of healing is as old as the practice of medicine itself. The modern conception of suggestive therapeutics embraces the idea that it is a definite procedure based upon the laws of psychology and physiology and not merely the indeliberate, unconscious suggestion and power of personality that a physician may exert upon his patients in the treatment of their disorders.

Briefly, psychotherapy may be defined as the deliberate use of the power of benevolent suggestion in the treatment of dis-

ease. Psychotherapy cannot affect organic disease of the brain or the essential insanities directly, but it can help the patients suffering with these disorders to assume the attitude of mind which will marshal their mental and physical powers in the fight against disease.

The methods of psychoanalysis are to be used in the treatment of the insane in a very careful manner. Psychoanalysis is of no greater benefit to the patient suffering from mental disorder than is the physician's sympathetic understanding of the patient's disorder and the application of direct suggestion to the relief of these conditions. Yet psychoanalysis can occasionally remove the excessive emotional value that the patient has attached to his worries, fears and delusions. For this reason it is of great value in certain instances. In the psychoneuroses psychoanalysis is of value when cautiously and carefully employed. Unwisely used, it is decidedly harmful and often leads to morbid introspection and self-analysis.

Recreation and Occupation.—Occupational and recreational therapy are now playing important parts in the treatment of the insane. The maniacal patient's useless expenditure of energy can often be diverted into useful channels of work, or into play, and the brooding, melancholic and delusional patient finds relief, at times, from his painful mental reveries in pleasurable activities.

In conclusion, the treatment of the insane can be summarized by saying that each insane patient is to be studied individually—he is not to be given mass treatment. Physically he is to be reconstructed; focal infections and surgical conditions are to be removed and remedied, disorders of body metabolism are to be corrected, constructive and tonic medication are to be employed when indicated, and psychotherapy is to be used as may be necessary. Merely to label an individual's psychosis is unavailing. The patient's mental mechanism must be understood and treatment administered accordingly.

CHAPTER XXV

RELATIONSHIP OF INSANITY TO CRIME

There is probably no type of crime that has not been committed by insane, persons, and often the intrinsic acts of crime are not to be distinguished from crimes committed by normal persons, except by the underlying motives which prompted their commission.

The overt act committed by the mentally alienated usually carries with it tangible evidence of mental disease. The attending circumstances in such instances likewise are marked by the distinguishing characteristics of mental unsoundness.

The dangerous assaults committed by the insane epileptic in the furore and frenzy of an epileptic automatism, the violent acts perpetrated in the agitation and delirium caused by alcoholism or other narcotic drugs are so labeled as to leave but little room for doubt as to the mental status of the persons performing them.

Impulsiveness is a symptom of insanity which is often shown by crime. The insane often react in a very sudden and precipitous manner to overpowering obsessions and imperative ideas. The very lack of forethought, the suddenness and violence of certain criminal acts point to the nature of their origin. Very often the misdemeanors are so absolutely silly, ludicrous and devoid of any purpose whatsoever that they could not have been committed by any individual than one suffering from some form of dementia. We are at once suspicious of the mental integrity of the person who commits crime openly and boasts of it as an accomplishment.

The crimes of some types of insanity are so characteristic that

the misdemeanor committed at once suggests the form of insanity with which its perpetrator is suffering, yet, on the other hand, the mentally unbalanced may use such deliberateness, such skill in execution, such a degree of apparent reasonableness, that all except qualified alienists are ready to condemn them as willful and perfectly sane criminals. An insane criminal may be so cunning as to hide his crime and seek to evade responsibility and the consequent punishment. But his self-preserved act should not be employed as an argument or criterion to prove the sanity and responsibility of an individual.

Again, the pathology of a criminal act may be so hidden and obscure as to defy the ordinary means of detection. In other words, the physical act of the crime may be but a bubbling expression of its hidden pathological source, which lies deep in the substrata of a diseased intelligence. Instances of this variety often furnish the bone of medico-legal contention.

The author established at the Indiana State Prison and the Indiana Hospital for Insane Criminals in 1911 a psychopathic laboratory for research in clinical criminology. Five thousand prisoners were examined physically, neurologically and psychologically in this laboratory with the special object in view to discover the types of crime that usually attend the different psychoses. Much has been written in a general way about the relationship of insanity to crime, but heretofore little has been published concerning the definite connection of disordered states of mind with the commission of criminal acts. Each psychosis in its relation to criminal behavior will be dealt with separately in this chapter.

EPILEPSY

History is replete with examples of the causal relationship that this disease has sustained to delinquency. The remotest ages of antiquity furnish us with very striking examples. Mythology

tells us that Hercules murdered his wife, Ophelia, and their children, during one of those unconscious automatic states that are characteristic of epilepsy. Seneca tells us: "One day, as Hercules was offering a sacrifice to Jupiter, he suddenly stopped, rolling his bloodshot eyes in a hideous manner, the saliva ran down his beard, his smile was convulsive and strained, and laying aside his garments, he became very much agitated. They thought he had returned to his senses, when he suddenly rushed to his weapons, ran after his father, his own children, and everybody, till finally he slew his wife and children. He was about slaying his father when Pallas appeared and checked him, throwing him on the ground. Then he quickly fell into a profound sleep. As he awoke the sight of all the slain around him terrified him and his despair became extreme when the news was broken to him that he alone was the author of all this slaughter."

Epilepsy is probably responsible for more pathological offenses than any other form of positive mental disease. It is very common for prison physicians to observe that many prisoners have distinct dizzy spells, and these are many times true forms of *petit mal* which may be overlooked by a careless mental examination.

Marked changes in the morals and the emotions are most constant characteristics. The epileptics, as a rule, are most mercurial and volatile in their temperaments. The nearest trifles are sufficient to stir them to serious outbreaks of temper and violence. They are radicals of the most extreme type, and especially is this true in the sphere of religion and politics.

Their manner of living and their modes of behavior are practically regulated by their appetites. They love power and notoriety, and they shrewdly use immoral and illegal methods to secure these. They are extreme sensualists and are prone to commit sexual crimes, as rape, incest and sodomy.

Delusions of persecution are common characteristics of the

epileptic mental degeneration and therefore it is very easy to see why dangerous assaults should be so common among epileptics with their hair-trigger temperaments, their lack of emotional control and their impetuosity.

Clouston has well said that "Murder by an epileptic should be looked upon as being as much a symptom of his disease as is larceny by the general parietic."

Delasiauve forcibly states: "It is certain that on passing an epileptic, we elbow one who might be an assassin, and that epilepsy, through the delusional ideas it originates, furnishes a considerable share of the crimes ascribed to mental alienation."

The phenomenon of epileptic automatism has long been observed, but a concise explanation of this phase of the disease has not yet been offered. We know, however, that some epileptics complete certain definite acts in a seemingly perfectly conscious and coherent manner, but in reality consciousness is practically blotted out, and when the individual regains his mental status there is likely to be no memory of any of the acts that he may have committed during such periods, or if he does have any memory, it is usually but an indistinct hypnogogic idea that closely corresponds to the dream state.

The automatic acts of the post-epileptic stage more frequently follow the petit mal paroxysm and it is rare for criminal acts to be committed following a severe form of the major paroxysm. It is usually the rule that the actions which are performed in a post-epileptic automatic state are always the same in character. The act performed usually portrays in some manner an habitual movement that is customary to be made in normal consciousness. In the consideration of epileptic criminal acts we must bear these facts in mind. If called upon to give expert testimony as to the responsibility for criminal acts that may have been performed by an epileptic in the post- or pre-epileptic automatic state, we must determine whether the overt act was habitual in any character

or whether the person was accustomed to performing similar actions when "at himself."

It would be in perfect harmony with the observations that have been made to find an epileptic butcher who had assaulted another individual with a knife, nor would it be strange to find a soldier in a post-epileptic state shooting someone. But should a butcher kill an individual by administration of poison, we should be exceedingly slow to regard such a crime as an expression of epilepsy, since the handling of drugs is a procedure foreign to the act of cutting meat.

The condition known as psychical epilepsy is one in which the paroxysm is replaced by a nervous storm which is not accompanied by the usual signs of epilepsy. "Psychic epileptics may commit all manner of crimes—thefts, arson, rape, assaults and homicides. They are not infrequently pyromaniacs, entirely without reason or impelled by the flimsiest motives."

"The medico-legal aspects of this type of epilepsy depend, so far as responsibility is concerned, upon our ability to determine the existence of the automatic state at the given moment. This may be difficult to do beyond reasonable doubt, though if we can prove the person is a sufferer from epilepsy at the time, or ever had it in any form, we can always create a reasonable belief that the patient may have acted while in a seizure, without any intent whatever, and under conditions that should free him from responsibility.

"The evidence of the presence of epilepsy * * * needs to be carefully studied in order to arrive at a just conclusion in medico-legal cases. If it can be proven beyond reasonable doubt that the individual has epilepsy, the question of responsibility is not difficult after that. We may not be able, it is true, to say positively that he was under the influence of a seizure at the moment an overt act was committed, while, on the other hand, we are equally as unable to prove that a seizure was not present.

Psychic convulsions defy all ordinary methods of detection. They can readily be noted, however, by one trained in the observance of their expression."

PARANOIA AND PARANOID STATES

Paranoia and allied paranoid states furnish us with a very large quota of pathological crimes. The most common of these are homicide, homicidal attempts, assault and battery, blackmail, perjury, impersonation of officers and sexual crimes. The most dangerous of all insane patients is the one who harbors in the recesses of his diseased mentality systematized delusions of persecution. This is especially true of the paranoiac, who many times appears to be intellectually normal and occasionally, aside from his paranoidal tendencies, he may be the superior of the average individual. The proper perspectives of life are impossible for the paranoiac since each instance and circumstance is colored and tinged by an abnormal sensibility and reaction to the most commonplace and trivial affairs.

The paranoiac in the stage of persecution, out of the most insignificant circumstance, constructs a nebula of persecutory ideas which are intangible and obscure. Finally these hazy, indistinct ideas of persecution take on a more definite character, and then, step by step, supportive and contributive ideas are formed and elaborated which build up a definite, systematized, delusional preconception or system of thought through which must pass every idea that is translated into action.

This delusional formation is so closely and intimately connected with the whole of consciousness, that it regulates and dominates the individual's manner of feeling, thinking and acting. It is easy to see, therefore, that any paranoiac is a potential homicide while harboring delusions of persecution. Should he believe that his supposed enemies have designs upon his life, or that they desire to make him the butt of their ridicule, or the

object of some diabolical conspiracy, it is not at all strange that the persecuted should turn persecutor.

He employs logical methods of argument to convince himself that he is perfectly right in seeking means to protect himself against machinations, and should he ever be called into court to explain some of his erratic behavior, he is more than convinced that he is justified in seeking any measure that he may see fit to employ.

DEMENTIA PRÆCOX

The crimes of those suffering from dementia præcox partake of the fundamental basic characteristics of mental enfeeblement that mark this psychosis. The misdemeanors and unlawful offenses of those affected with this disease are characterized by more or less defect of reason and judgment, a marked emotional poverty, a more or less complete state of indifference, a condition of puerility and often a thoughtless, senseless and impulsive brutality. A very large number of violations of the law committed by insane persons are directly chargeable to dementia præcox. "Many of these cases go to swell the ranks of the criminals, the prostitutes and hoboës, and are often mistaken for cases of feeble-mindedness. Wilmans, in a study of one hundred and twenty-seven vagabonds, found sixty-six cases of dementia præcox."

Cases of arrested dementia præcox are often noted in prison. In these types of this disease, the progress of the underlying dementia is inhibited, and though the psychosis fails to reach a stage of dementia, the individual never again reaches his own normal mental status.

A distinct difference corresponding to the three main divisions of dementia præcox is shown in the character and the circumstances attending the crimes committed by the patients with this disorder. The crimes and misdemeanors of hebephrenia partake

of the character of this form of dementia præcox—the crimes are petit larceny, trespass, vagabondage, drunkenness, the breaking of box cars, sexual offenses, and public prostitution in the female. The offenses which often go to make a part of the catatonic symptom-complex occur with much less frequency than in the paranoid and hebephrenic form. The crimes and misdemeanors of this type are marked by impulsiveness, a lack of premeditation, thoughtlessness, and usually no effort is made by the patient to escape the consequences entailed by criminal actions. The catatonic makes vicious assaults, commits murder, and destroys property by incendiarism. The paranoid form furnishes a large number of criminals; the delusions of persecution lead to assault, homicides, theft of property, blackmail and perjury. The crimes of hebephrenia and paranoid dementia præcox are about equal in number.

GENERAL PARESIS

The crimes of general paresis as compared with epilepsy, dementia præcox and paranoid states are comparatively rare. Of two hundred and five admissions to the Indiana Hospital for the Insane Criminals but five patients were general paretics.

The criminal offenses of general paresis generally fall into one of the following categories: immorality, alcoholic debauch, indecent behavior, thievery, dishonest speculation, forgery, and very rarely homicide and suicide. The misdemeanors of paresis generally occur in the incipient stages of this disease. The moral qualities of the mind share in a very large way in the general degeneration. Very often the moral symptoms are the first to point to paresis. The paretic fails to understand and seems entirely oblivious to the moral relations that he sustains to society and his family. His speech, which was formerly chaste and decent, becomes filled with profanity and obscenity. The once temperate individual indulges in wild alcoholic debauches,

and the formerly respectable husband and father seeks the company of the public prostitute openly and without shame.

"Volition, as the highest function of the mind, is one of the first to suffer in general paresis. The loss of control, both of actions and of ideas, is one of the earliest symptoms, and in the fully developed stages there is no longer any volitional direction of the thoughts, and consciousness is filled with the creations of a morbid phantasy, and with such sensorial impressions as chance to rise. This failure of will power and of all persistency of purpose makes the general paretic a comparatively easy subject for management."

The paretic manner of committing misdemeanors, and the environments and circumstances attending them, generally leave room for little doubt as to the source and nature of their real origin. The patient has no apparent knowledge of the quality and nature of his overt act. The paretic seldom tries to hide his crime and he displays no foresight or caution. If on a tour in a department store, the rich and well-to-do patient may steal articles of small value, such as handkerchiefs and gloves. He will pocket them under the eyes of the clerk in a state of apparent forgetfulness, after having examined them as a prospective buyer.

Magnan recites the case of a paretic who asked the aid of a policeman to help him steal a barrel of wine. The perfect frankness, innocence and apparent reasonableness of the request made upon the policeman so impressed him that he assisted the paretic to carry out his theft.

"The apparent kleptomaniacal propensities of the general paretic consist mostly in an automatic appropriation of whatever articles attract his attention rather than in any perverse desire to steal. In the demented stage he still continues to accumulate things when he is no longer capable of making any distinction as to ownership."

Under the dominating influence of grandiose delusions, the vic-

tim of paresis forges checks, makes fraudulent claims on property, gives false promissory notes, makes wild speculations in the market and undertakes impossible financial operations, without apparent knowledge of the quality of his acts.

MANIC-DEPRESSIVE INSANITY

Crimes of the manic-depressive psychoses are relatively rare. The alternate cycles of good behavior and freedom, crime and imprisonment which the author has noticed in habitual criminals somewhat resemble the manic-depressive psychosis with its intervals of lucidity, separated by periods of depression and excitement. In the period of remission of the cyclic form of criminality the prisoner is exceedingly well behaved and often takes a very active part in the religious services and societies at the prison, and often it is thought the individual has reformed and that he will become a model citizen. He is sooner or later discharged from the prison and he does exceedingly well for a limited time. But shortly our hopes are dashed to the ground, for a second cycle of criminality develops, new crimes are committed, and the individual is returned to the prison from which he was but recently discharged or is sent to some institution in another state.

Depressive Phase.—The most common violent act of this phase is suicide. All melancholic patients are potential suicides, and in a state of raptus this act is frequently performed in public and without premeditation. The depressive patient sometimes becomes so occupied with a single idea that it amounts to an obsession. These ideas are often very terrifying and brutal, and because they occupy the entire field of consciousness there often develops a state of "raptus melancholicus" in which their absorbing obsessions are translated into murder, vicious assaults, mutilations of the body, especially of the genitals, and the most painful forms of suicide.

Consciousness is markedly clouded in these outbreaks by delirious passion, and the memory, if retained at all, is imperfect and hazy concerning any actions performed during this period. In the state of raptus, guided by a delusional sympathy, a mother will murder her children to protect them from hardship, trials and supposed evils with which she thinks they are threatened. An individual once made an attack on an English king knowing that such a crime would result in his death. He was impressed with ideas of his own sinfulness and unworthiness and thought that his own death was necessary for the good of humanity, but because he was so scrupulous about the sin of suicide he assaulted the king, knowing that the punishment for this act was death.

Manic Phase.—The crimes of the manic phase are also rare. The extreme psychomotor activity interferences with the accomplishment of definite criminal acts. The patient is destructive rather than criminal. He is given to the demolition of furniture, mirrors and window panes. They not infrequently disturb public peace by running amuck through public thoroughfares. They often frequent saloons and indulge heavily in liquor, thereby becoming obstreperous and unruly in public places. The ordinary womanly modesty is frequently lost in the manic phase. Female patients of this type are often arrested and charged with public indecency and exposure. Nymphomania, kleptomania and dipsomania are not uncommon symptoms. The maniacal excitement occasionally assumes a character of extreme fury and frenzy, during which vicious assaults and homicides are committed.

HYSTERICAL INSANITY

It is not at all to be wondered at that crimes, misdemeanors and the violations of morality should be found in the symptom-complex of hysterical insanity. The exaggerated impression-

ability to external stimuli, the abnormal tendency to simulation, the excessive emotionalism, the volitional impairment, render the patient a plaything of his whims and passion and the easy victim of evil circumstances. The combination of these named psychic attributes of this mental anomaly create or constitute a condition of moral incoordination.

Delusions of persecution are to be expected in the hysteric whose abnormal sensitivity to the slightest irritating trifles translates the most common relations of life into schemes and machinations for his injury. It naturally follows that homicidal assaults should grow out of this disordered, paranoid state of mind.

The basic eroticism of hysteria leads to sexual crimes. The hysterical ascetic in his life of imperfectly repressed sexual desires and celibacy often sinks to a state of homosexuality, which finds relief in such sexual crimes as sodomy and bestiality. Other hysterics, through fear of venereal disease, through dread or shame, or a horror of being detected in illicit sexual relations, frequently commit rape on infant children.

Individuals of this type are to be found in every prison. Often overt acts are perpetrated in the periodic episodes of this psychoneurosis that are attended by states of amnesia.

"Many of the cases of blackmail and false accusations against physicians may be credited to this form of hysteric derangement in females, and we have known one or two striking instances of the kind. One, a young woman, well connected, but cut loose from her family and rather repudiated by her relatives, used to frequent doctors' offices and have hysterical attacks there, and in one or two cases, at least, attempted to get up compromising situations, and once succeeded so far as to give considerable mental uneasiness for a time to a rather prominent physician. There are cases on record where still more serious consequences have resulted; men have been convicted of crimes

of which they were innocent, on false testimony of hysteric women."

"While this mental disorder is by far most frequent in the female sex, it is not unknown to males; of course, in these cases the symptoms are somewhat modified, but it occurs only in men with somewhat abnormal and feminine mental organizations. In some of these, sexual perversion is a notable symptom, and it seems probable that this hysteria is at the bottom of many cases of this abnormality."

"In male hysteric insanity we see many of the same tendencies to morbid emotionalism, eroticism, false accusations, the exaggerated suggestibility, certain kinds of delusive conceptions, occasional threats or apparent attempts at self-injury or suicide, refusal of food, etc., that we observe in the female, but actual hysteric convulsive attacks are very rare, and the well-marked hysteric physical stigmata are also uncommon. Male hysteric insane are more likely to be suicidal or homicidal than are the females."

"Something may be said in regard to traumatic hysteria, which sometimes amounts to a kind of insanity, showing itself in an exaggerated valuation of physical disabilities and a certain moral weakening that leads the individual to overact and sometimes to simulate. There are probably sometimes actual hallucinations and certain delusive conceptions. These cases may be regarded as rare, though hysteria from this cause is common. They have chiefly a forensic importance."

The hysterical type of prisoner is the *bête noir* of the prison surgeon. He is irritable, quarrelsome, goes about seeking to provoke an argument, and constantly complains that he is ill-treated by the prison officials, that unfair tasks are assigned to him, and that fellow prisoners steal his tools and delay his work. He constantly makes demands for interviews with the disciplinary officer. He is rebellious at discipline; finds obedi-

ence to the prison's simplest rules a hard task. At other times he is extremely cheerful, vivacious, and his actions are liable to overstep the bounds of prison convention. This brief period of apparent improvement in conduct is usually followed by a train of hypochondriacal complaints.

This type of prisoner comes to the sick line every morning. One day he complains of precordial distress, the following day he confidentially tells the prison physician that he has very frequent nocturnal emissions, that he is troubled with nightmare and insomnia. At the next morning's sick call he gives a new revelation concerning gastric disturbances with which he suffers. In a few days he becomes extremely depressed and melancholy. He imagines himself the victim of conspiracy by the officials of the institution. He becomes lachrymose and he relates his grievances to his fellow prisoners to create sympathy. Failing to do this he frequently pretends to attempt suicide. Should this fail to arouse the sympathy which he morbidly craves, he frequently becomes maniacal, throws his food on the floor, breaks the dishes, tears his clothing and talks in an incoherent and senseless manner. After a few days, whether placed in the hospital or not, his mental condition returns to its normal state and in course of time another cycle of such conduct is enacted.

The hysterical criminals constitute possibly four per cent of the insane cases in prisons among the male prisoners, and this percentage is much higher among the female delinquents. Dr. Spaulding of the Woman's Reformatory in Massachusetts, stated, in a recent report, that eleven per cent of the female offenders showed manifestations of hysteria. It has been noted among female prisoners that maniacal hysterical outbreaks occur very frequently and more especially at the time of the menstrual periods. The following stenogram is taken from Mrs. Mary Carpenter's "Female Life in Prison": " 'Miss G., I'm going to break out tonight.' 'Oh, nonsense; you won't think of any such

folly, I'm sure.' 'I'm sure I will.' 'What for?' 'Well, I've made up my mind, that's what for. I shall break out tonight. See if I don't.' 'Has anyone offended you or said anything?' 'N-No, but I must break out.' 'And then you will go to the dark cell.' 'I want to go to the dark.'” And the breaking out often occurs as promised; the glass shatters out of window frames, strips of sheet and blankets are passed through or left in a heap in the cell, the guards are sent for, and there is a scuffling and fighting and scratching and screaming that pandemonium might equal, nothing else.

PUERPERAL INSANITY

Puerperal insanity is a generic term applied to certain psychotic symptoms which occasionally attend the physiological epochs of pregnancy, parturition and lactation in those who possess a hereditary predisposition. The causal factors operating to produce this psychosis are the lack of proper medical attention at the time of childbirth, the infection and exhaustion, shock and hemorrhage, the mental anxiety and fear attending this physiological cataclysm. It has been claimed that this mental disturbance takes place about twice as often in illegitimate pregnancies as in legitimate ones. This fact seems to indictate that the psychogenic factor of worry, remorse and shame exert a tremendous influence for the production of this disorder.

Occasionally violent states of mania and frenzy are noted in puerperal insanity and during these periods of great motor excitement, restlessness and delirium, criminal acts are committed, and chief among them are infanticide, suicide and homicide.

A large percentage of infanticides may be charged to the insanity attending the puerperium. It is a strange perversion of the maternal instinct for a mother to murder her helpless offspring, and in every case of puerperal insanity the infant should be taken from its mother. It seems as though this mental dis-

order is not confined to human beings alone. It is a well-known fact that horses, cows, rabbits, squirrels and cats often kill their young at birth or soon after. It is a very frequent occurrence for a female hog to kill and devour her entire litter.

“When the disease develops at this time, delirium is common, particularly in cases occurring early—before the fourteenth day. Here also there are, in at least half the cases closely observed, prodromal symptoms during pregnancy. These symptoms may have been overlooked, or the offset may arise with startling suddenness accompanied by suicidal or homicidal tendencies. Fever, which is commonly present, may be very high in septic cases. If the patient is maniacal, which is the most common type, she is sleepless and violent and attempts to destroy those about her. There are delusions and hallucinations. The ideas and language of the patient flash from her with remarkable rapidity and incessant change. Now sensuous, obscene, profane, and making attempts at self-exposure; in an instant she may revert to religious ideas, to indulge in prayer and the singing of hymns. In one case, that of an illegitimately pregnant colored girl of nineteen, the writer was thought to be the Almighty, from whom the girl piteously besought pardon for her sins. The moment while counting her pulse he was turned upon with a frenzy from which he barely escaped, the patient, now terrorized by his presence, believing him to be Satan himself, upon whom she spat with fury. Within a very short time he left her singing a Sunday school song, which was soon followed by word pictures of obscene situations mingled with revolting profanity. Melancholia in the puerperium occurs less frequently than mania—usually after the fourteenth day—and it is very apt to be accompanied by persistent attempts at suicide, requiring unremitting watchfulness on the part of the attendants; delusions involving frequently the husband’s fidelity, and hallucinations of sight and hearing are commonly present.”

SENILE PSYCHOSES

It is commonly observed that, as the period of senescence approaches, the fires of passion are cooled, the ambitions of youth are quieted, the scheming and planning of youthfulness for the future successes and work to be accomplished ceases, and all is changed into a life of reminiscences, metaphysical and religious speculation. We pay the proverbial reverence to gray hair, the stooped form, the slow, unsteady, tottering gait, and to the kindly, human sympathy so characteristic of the aged.

But this senile period of mental and physical decay is not always attended by a peaceful and undisturbed serenity. Occasionally there is a profound moral deterioration. An even, quiet spirit gives way to excessive irritability. The senile dement objects to any change in this manner of living. He becomes exceedingly egotistical and unreasonable. He makes senseless demands upon his wife and children, and it is not an uncommon occurrence for vicious assaults to be made on them, should they neglect his slightest whim.

The formerly chaste and respected individual becomes intemperate, his conversation is filled with coarse and obscene remarks. Satyriasis is not an uncommon symptom, and this manifests itself in acts of rape, especially on young female children, or by disgraceful or bigamous marriages and indecent exposure of person.

I have observed in a hundred and seventy-five cases of rape and attempts at rape that I have studied, that two-thirds of these sexual crimes were committed by decrepit and physically defective individuals, in whom the physical and mental signs of senile decay were evident.

In some instances in senile insanity, there develops a paranoid state with delusions which may be loosely organized, systematized, and accompanied by auditory hallucinations. Conscious-

ness is fairly clear and orientation is but little disturbed. The emotions are exceedingly unstable, and tears and laughter can be alternately produced in a space of a few seconds. Homicides are frequently a symptom of this form of senile insanity.

Regis, in speaking of misdemeanors and crimes of senile insanity, says: "Their actions all carry the stamp of dementia. They are: absurd and infantile thefts, like those of general paralytics, but even more foolish; sudden and causeless fits of passion; ridiculous and heedless attempts at suicide; there are also especially libidinous actions, obscene exhibitions of themselves in public, attempts at rape, unnatural crimes, all resulting from lack of conscience and absolute loss of the feeling of modesty."

Arteriosclerotic Dementia.—The unlawful acts of this psychosis are essentially the same in character as those of senile dementia, with the possible exception that homicide and homicidal attempts are slightly more frequent because of the paranoid nature of the delusions and hallucinations entertained by this class of patients. Their crimes usually show a little more premeditation, lucidity, provision and foresight to escape the consequences of illegal acts.

CEREBRAL SYPHILIS

Psychopathic states are likely to develop during any stage of syphilis, but they more commonly occur during the secondary and tertiary periods. They appear in the form of a delirious mania or acute depression. There is a profound disturbance of the moral and emotional qualities. The maniacal excitement may consist of any degree of psychomotor activity ranging from simple cerebral excitement to a state of mania attended by automatic agitation, incoherence and violence. After this state of mental alienation there may follow a mental lethargy and sluggishness, a clouding of consciousness, a defective ideation and a perversion of the sentiments. In the depressed form of

acute syphilitic insanity the patient is often exceedingly morose and sullen. He may entertain delusions of persecution, he may be fearful of poisoning or of secret enemies. The delusions are usually attended by olfactory, gustatory and aural hallucinations.

"In some cases the psychical defect may show itself in the field of the moral sentiments by indifference, brutal conduct, selfishness and a tendency to revelry."

"Among the early symptoms are irritability, culminating in alarming explosions of anger or in acts of violence. Suspicion, too, is heightened and takes the form of delusions of persecution. These delusions often arise from the many strange and annoying sensations to which the patient is subject and which he seeks to explain by reference to external agencies. Thus the paraesthesiae are attributed to electricity or irritating gases, which enemies use as means of torment. The hallucinations of taste and smell, which may be due to local syphilitic processes, lead to delusions of poisoning or of foul odors, which patients believe are generated in their rooms at night to injure their health."

"Hallucinations of sight and hearing are also common, and they are often the result of specific lesions of the organs of sense. Their general character, furthermore, is disagreeable, like the prevailing emotional tone, and they sometimes reinforce and at other times are the sole origin of the delusions of persecutions."

"The diagnosis of syphilitic insanity must rest not only on the history of specific infection, but also on the actual presence of syphilitic lesions, which may reasonably be supposed to bear a causative relation to the mental disease. If the physician is called to pronounce an opinion in a case with something like the following medley of symptoms, he need not hesitate to diagnose syphilitic insanity. These symptoms are not all supposed to be present in a single case, and a few of them would suffice for

a diagnosis, and they are chiefly as follows: Great irritability and violent outbreaks of temper, confusion of ideas and loss of memory, exacerbations of mania or of hypochondriacal melancholia, and a constantly progressive dementia, accompanied by cephalalgia, insomnia, vertigo, syncope, apoplectiform attacks, sudden and temporary paralysis of cranial nerves, loss of power in single muscles or in one arm or less, loss of sight and optic neuritis, or loss of hearing, and a sudden and unaccountable remissions in all the symptoms."

DRUG PSYCHOSES

Under this title of drug psychoses will be considered the aberrant and disordered mental states due to the use of alcohol, cocaine and morphine.

Alcoholic Insanity.—Alcoholic insanity is a generic term employed to embrace the various forms and types of reaction which follow alcoholic indulgence. We have more or less arbitrarily applied to these different alcoholic reactions the terms acute and chronic drunkenness, delirium tremens, alcoholic hallucinosis, dipsomania, alcoholic pseudo-paranoia, alcoholic pseudo-paresis, alcoholic epilepsy and Korsakow's psychosis.

The disastrous effects of the narcotic, alcohol, on the brain and central nervous system are to be seen every day throughout the civilized world. Acute alcoholic intoxication or the ordinary form of drunkenness, from a psychological viewpoint, is but a transitory form of insanity. "Both psychologists and jurists have properly, however, maintained a distinction between those mental disturbances produced by the direct imbibition of alcoholic liquids, and which cease in a few hours after the imbibition ceases, and those mental derangements and hallucinations that may continue for days, weeks or months after all use of alcohol has ceased."

The exact relationship that alcohol bears to crime is problem-

atical and cannot with mathematical precision be determined. I found that ninety-three per cent. of three thousand prisoners were users of some form of alcoholic beverages and that eighty-three per cent. claimed that they used this narcotic to excess, getting drunk at very frequent intervals.

Prison authorities, and especially prison surgeons, know that many prisoners in order to have an excuse for their overt acts, readily attribute their crimes to temporary states of drunkenness. Therefore statistics on alcoholism from penal institutions and reformers are to be taken *cum grano salis*, for they are more or less inaccurate.

Apropos of this subject, Mercier has stated: "The insanity that is most frequently associated with crime and directly leads to crime in a large number of cases, is undoubtedly the insanity of drunkenness. In nine years, one and three-quarters of a million of persons were sentenced, in courts of summary jurisdiction in this country (England), for offenses committed during drunkenness, and to which the drunkenness contributed, even if it were not, in every case, the efficient cause, without which the offense would not have been committed."

The usual answer that I received from prisoners during my examination of them concerning the cause of their crimes was generally one of this sort: "I was drunk; I did not know what I was doing; I may or may not be guilty; I cannot remember."

These excuses for crime are so common and so easily made, that the courts are extremely reluctant to place any confidence or value in them. In many instances, however, they are absolutely correct concerning the state of consciousness and memory.

We find in the misty, nebulous mental states that occupy the borderline regions which separate insanity from sanity, conditions of automatism, somnambulism, double consciousness,

cataleptic states, conditions of frenzy and furore, all of which are attended by amnesia.

During these apparent dream states, which are probably due to disassociation or cleavage of consciousness, every conceivable crime in the criminal category has been committed.

In delirium tremens, murders have been committed by the frenzied alcoholic under the delusion that those about him are his enemies. Suicide is not an infrequent termination of this form of alcoholism. The dilapidated, deteriorated mental state of chronic alcoholism is conducive to crime, for the moral sense is perverted, the will power is practically inert and the individual becomes the abject slave of his own passions.

The crimes of acute alcoholism are petty thefts, larceny, forgery, rape, incest, sodomy, assaults and homicides. Petty thefts, obscene exhibitions and sexual crimes have been noted in alcoholic pseudo-paresis.

Alcoholic hallucinosis, which is attended by persecutory delusions of a sexual nature and by hallucinations, especially of the auditory variety, leads to homicide and homicidal attempts.

I have observed that a large number of wife murderers committed their crimes when reacting to delusions of marital infidelity.

The same crime producing delusions and auditory hallucinations are characteristic of alcoholic pseudo-paranoia. We usually find dipsomania to be dependent upon neuropathic heredity, diseased conditions brought about by trauma, malnutrition and lack of proper food. The inebriate is, in fact, a diseased person.

"The best statistics show that from seventy to eighty per cent of persons who drink spirits convulsively, and are called inebriates, have a defective heredity. All studies of the steady drinker show a profound and progressive impairment of all the senses, functional activities of the body and reasoning. The more accu-

ate the measurements are made, the more positive the deviation from the normal becomes."

"There can be but little doubt that much the larger number of those shocking homicides which disgrace the criminal annals of civilized countries, in which mothers, or children, or both, have been suddenly slaughtered in the midst of the father's debauchery, have been the direct result of true paroxysms of mania a potu, such as we have briefly described. The medico-legal bearing of this class of cases deserves more thorough investigation than it has hitherto received. And as one attack of this form of mania leaves the patient more disposed to another, whenever indulging in the use of alcoholic drink, they constitute the most dangerous class of inebriates."

It will be well to review briefly the attitude and beliefs that society has entertained concerning alcoholism and responsibility.

Lord Coke of England set forth the idea in his ruling in the seventeenth century that drunkenness and inebriety augmented a crime or misdemeanor and therefore called for an increase of punishment.

For many years moralistic speculation and theories have determined in a large degree the attitude society has held toward drunkenness.

The reformers and philanthropists have ever held the inebriate morally responsible. They have endeavored fruitlessly to rehabilitate the dipsomaniac by moral suasions, recriminations, insults and punishments.

It cannot be denied that moral treatments do exercise some influence in cases of inebriety, but they should always be secondary to medical and hygienic measures.

Dr. Crothers, America's leading authority on alcoholism, convincingly stated, relative to this phase of the subject, the following: "It is a delusion to interpret acts associated with premeditation and reasoning in inebriates as evidences of sanity. It is

a delusion to consider inebriety and alcoholism as not impairing the sanity and integrity of the brain and body. It is a delusion to consider such persons as possessing free will and judgment, with consciousness of their condition and ability of control. It is a delusion often repeated and has become incorporated in jurisprudence, that alcohol may be used to give capacity to commit crime. In reality this is true, but in a very narrow limit."

"The exciting stage following the use of alcohol might be limited to ten minutes or an hour, but after that, there is no certainty that any act premeditated could be carried out. The fact is sustained by unmistakable evidence that all crimes committed by such persons are the acts of defective minds. All this signifies a recognition of the condition of the criminal, not to diminish the punishment, but to change it to more rational lines. Criminals of this class need control, care and changed conditions. They are clearly defectives and degenerates who have lost the power of rational thought and conduct."

The positions taken by our courts on the subject of intoxication are contradictory and illogical. If an individual in a state of intoxication makes a will, signs a contract, a deed, a promissory note, or a bank check, the courts of law do not hold such papers and testaments as valid or legal, if a proof of intoxication can be brought to bear. Law in this case questions and even denies the responsibility and the capacity of an intoxicated individual to execute a legal instrument.

In the practice of criminal law this is quite the reverse. If a drunken man commits a crime while intoxicated he is held to be responsible and qualified to commit a crime. Yet psychologically and physiologically, the mental impairment, the lack of reason and judgment, the incapacity to act normally are just the same whether an offense be committed against criminal or civil law. Our conceptions concerning alcoholism and responsibility must change. Society in general and law in particular still look upon

an individual as the possessor of an absolutely free will. Can we look upon intemperance as *prima facie* evidence of deliberate viciousness? This is hardly possible in the light of recent research.

It has been demonstrated beyond the shadow of a doubt that the dipsomaniac is always a neurotic. His nervous system is impaired by heredity, disease or trauma. The defects of his brain and central nervous system produce at intervals an insatiable, uncontrollable craving for alcoholic stimulants.

Morphinic Insanity.—The medico-legal aspects of the narcotic drug habits need to be more carefully studied than they have been in the past. Eight per cent of the prisoners received at the Indiana State Prison were users of cocaine, morphine or other narcotic drugs. Fully five per cent of all the crimes for which prisoners were committed to this institution were due directly or indirectly to the use of these agents.

The victim of morphinic insanity is absolutely a slave to the almost insatiable desire that possesses him to use opium or any of its alkaloids. The moral degradation and misery of oxymorphinism will lead the habitue into the performance of any crime in his efforts to secure morphia. The drug victims will commit larceny, burglary, forgery, arson, blackmail, homicidal attempts, murder and sexual crimes to satisfy their morbid cravings.

Women have many times been known to prostitute themselves to secure the drug. A very large percentage of the commercial prostitutes are morphino-maniacs. The psychotic disturbances of morphinism frequently develop a depressive and melancholy character, and these are attended by delusions of persecution and a tendency to suicide. Occasionally states of incoherence, confusion and mania are observed, during which periods homicidal attempts are frequently made.

Police surgeon Dr. Guimball, who has had a wide experience with criminal drug habitues, says the following: "First, morphine

causes defects of attention, particularly of sense observation; second, the ethical sense * * * is blurred. The victim is unable to discriminate any moral basis that should dominate. He acts from impulse; third, his will is lost and power of control over the impulses lessened. Both physical and mental impulses dominate him from the slightest exciting causes; fourth, the morphinist is literally a lunatic, only more subtle and concealed; like the dipsomaniac he is liable to be dominated any moment by impulses that are unforeseen; fifth, the responsibility, like judgment, is impaired and enfeebled. He is constantly doing acts and saying things the import of which he does not understand."

Cocainism.—The criminal manifestations of cocaine insanity are essentially those of morphinism, except possibly that they are slightly more profound. The cocainists as a rule are very easily irritated, and their conduct is largely governed by violent impulses. Pronounced changes in their characters take place; the patients become dishonest and deceitful and seem to possess a morbid propensity for lying. The will power is markedly enfeebled; all sense of moral or legal responsibility is weakened; reason and judgment are greatly impaired.

The development of a paranoid state is a very common occurrence. The victim develops and entertains delusions of a persecutory nature; he becomes suspicious of his wife's attitude toward other men. Frequent homicidal assaults grow out of these delusions of marital infidelity. Erlenmeyer has observed that the sudden withdrawal of the drug from the cocaine fiend often induces a profound state of depression and delirium which is accompanied by persecutory delusions that render the individual an extremely dangerous person. Suicide is not an infrequent termination of chronic cocaine intoxication.

The psychotic states dependent upon the chronic use of such narcotic drugs as cannabis indica, sulphonal, veronal, hyoseyamus, chloral, bromides, ether, chloroform, belladonna, lead, ar-

senic and mercury, are usually acute or chronic confused paranoid conditions attended by delirium.

FEEBLEMINDEDNESS

The greatest causative mental factor of crime is feeble-mindedness. Several divisions of mental defect have been made, and while they are more or less arbitrary, they are very useful for the purposes of description. As we are only concerned with the symptoms of feeble-mindedness that relate to crime, no other symptomatology will be described.

Brutality and cruelty seem to be universal symptoms of imbecility. The precocious cruelty of the feeble-minded which enables them to torture animals, to cripple birds, to tear the wings and legs off insects, to laugh at the pain of others, to inflict torture with delight, forms the basis, when they are physically able, for assault and battery and for homicidal attempts and murder.

The easy disintegration or cleavage of consciousness which occurs so often in the feeble-minded permits violent explosions of anger against those who interfere with their pleasure. Their wrath is shown by outbursts of fury and frenzied attacks; again it is exhibited by well calculated and cunning cruelty.

The feeble-minded, lacking in reason and judgment and devoid of all moral critique, commit all manner of sexual crimes without any feeling of restraint or shame. They masturbate openly and excessively. The imbecile father impregnates his own daughter, or he may commit sodomy with his own son. Imbeciles may attempt intercourse with their mothers and "sexual satisfaction with animals is frequently attempted. The great majority of cases of injury (sexual) to animals must be attributed to imbeciles." Many of the attempts to murder, and murder itself, committed by the mentally defective, are perpetrated when the person attacked resisted their erotic assaults.

Often they are cunning thieves; articles of small worth seem

to have a great attraction for them. To satisfy their vanity, they often steal wearing apparel. They set fire to property to appease their desire for the excitement which attends conflagrations. Many of the pyromaniacs who are a constant source of worry to the fire insurance companies are feeble-minded persons.

"Higher imbeciles are predisposed to systematized delusions, and more particularly to communicated insanity. Imbeciles are the near neighbors of paranoiacs and are apt to pay tribute to them by blindly professing their delusions on the occurrence of the slightest opportunity."

"When a paranoiac is a propagandist of mystical ideas, and reigns as a sovereign or high priest, it is the imbeciles who compose his court and form the majority of his subjects. (Jacoby.) The contagion is favored by the affinity of tendencies in paranoiacs and imbeciles; every paranoiac is mildly imbecile, and every imbecile is at least a candidate for endemic paranoia if he lives in isolated and fanatical surroundings. * * * In epidemics of religious and political delusions, it is among imbeciles that spies and traitors are most easily found. Their want of critical power, their fickleness of character, and the servility that drives them to become the apostles and slaves of paranoiacs, whose ideas they do not understand, lead them also to surrender when intimidated by warnings, flattery and threats. Their intelligence is equally incapable either of originating a delusion or of spontaneously correcting a delusion; but it is accessible to the positive and negative suggestions of others, and does not appreciate how compromising it is to suddenly abandon a principle."

"In the moral point of view the lacunæ are perhaps more marked than in the domain of the intellect, and if these patients are capable of showing to varying extent sentiments and affections of a low order, they are only the least elevated ones, and the lower instincts that dominate them. The majority are vain, gluttonous, cowardly, credulous, idle, irascible, inclined to vene-

real and alcoholic excesses and to acts of violence (Marce); nearly all are given to onanism, and some to unnatural crimes. At certain times they may be seized more or less suddenly with melancholic or maniacal attacks, during which they are particularly liable to commit acts of obscenity, or even arson, robbery, suicide, or homicide. When these attacks, which very often assume in them a periodical or circular character, occur many times, the patients soon fall into a condition of dementia."

Alcohol plays a very important rôle as an element for the production of crime in the feeble-minded. It serves to intensify the defect already existing; it weakens the already enfeebled volitional powers; it is influential in firing misguided, wild and erratic emotions. It distorts previously inefficient and irrational judgments. In fact, it raises to the *n*th power all potential and latent elements for criminality that lie in the constitution of the feeble-minded.

Feeble-minded Prisoners.—I classed 23 per cent of the criminals whom I studied as feeble-minded. In the employment of this term I have endeavored to limit its application to those persons who as a group possess "All degrees of mental defect due to arrested or imperfect mental development as a result of which the person so affected is incapable of competing on equal terms with his normal fellows, or of managing himself or his affairs with ordinary prudence." This, in the language of the American Association for the Study of the Feeble-minded, is necessary for the diagnosis of feeble-mindedness.

Various estimates have been made by different psychologists and physicians as to the number of feeble-minded persons in penal and reformatory institutions. This number has varied from 20 to 60 per cent, and these differences can be easily understood when we consider the various natures of the institutions giving these data and the general broadness or narrowness or the psychopathological examination employed in such determinations.

Dr. Walter Fernald has stated: "At least 25 per cent of the inmates of our penal institutions are mentally defective and belong either to the feeble-minded or to the defective delinquent class."

"At any rate we should have twenty thousand such individuals in adult prisons, and six thousand in juvenile reformatories, making a total of twenty-six thousand defective delinquents in actual custody, not to mention those who have never been arrested and the large number who have been discharged or paroled from institutions and are now at large. There are doubtless as many defective delinquents at large as there are in custody."

HOSPITALS FOR CARE OF DANGEROUS INSANE

Since it has been shown that the insane may commit dangerous and criminal acts, we are confronted with the problem of segregating and caring for this type of anti-social persons. The class of insane offenders may be divided into two groups; namely, the insane criminal and the criminal insane.

There is need for an explanation of these terms; the last term especially needs some elucidation to explain what seems to be an apparent contradiction. How can an individual be both insane and criminal at the same time? The classical school of criminologists has denied this possibility on the theoretical grounds that no crime can be committed without criminal intent, and that the insane do not have criminal intent of mind because of their insanity. From a standpoint of rhetoric this argument is logical enough. Admitting for argument's sake the plea of the classical school of criminology, that it is impossible for an individual to be both criminal and insane at the same time, we are confronted with the imperative necessity of recognizing that there is a class of violent madmen who must be recognized as such, and restrained accordingly.

Without quibbling over hair-splitting technicalities, we are compelled to make certain practical definitions that we may have a working basis upon which to formulate our treatment of the dangerous insane.

The criminal insane individual is a person whom the court has found to be insane at the time of trial or insane at the time he committed a criminal or dangerous act. He is an individual who is positively dangerous to the welfare of society because he is unable to control his conduct by reason of mental disease or lack of mental development.

The insane criminal is an individual who has become insane or whose insanity was discovered after he was sent to prison, or an individual who becomes insane while serving sentence in prison.

In the State of New York these two classes of patients have been separated, but the distinction made between them is largely an artificial one. The criminal insane are sent to the Matteawan State Hospital, and the insane criminals are sent to the Danmore State Hospital. Even though his arbitrary difference is made between these two groups, they are made of essentially the same types of persons. An individual who is classified as "criminal insane" may be one who has served several sentences in prison and while on parole or discharged from a penal institution he commits a crime and is found to be insane at the time of trial, and because his history is unknown he is sent to a hospital for insane criminals. There is very little reason to separate these two classes since they are largely recruited from the same ranks of society and they require the same kind of treatment in the same sort of a hospital.

If we examine carefully the records of hospitals for the criminal insane, we will find that the majority of the inmates have been habitual criminals or individuals who have occupied all their lives a region that lies midway between sanity and insanity.

The crimes of the insane and otherwise mentally defective prisoners show an extremely high percentage of crimes against the person. I have found that the percentage for murder among the insane prisoners was three times as high among this class as among the inmates of the prison proper. For rape, sodomy and incest, it was one and one-half times greater. Among 169 insane prisoners, 43 were murderers and 16 were convicted of assault and battery with intent to murder; 25 of them were convicted of burglary, and every burglar is a potential murderer; 11 were convicted of rape and attempt to rape, and 4 were convicted of sodomy.

The records of the Indiana State Prison of 2,365 consecutive admissions show the following interesting percentages:

	<i>Per Cent</i>
Murder	5.2
Rape, incest and sodomy ..	6.1
Murder, manslaughter, rape	14.6
Petit and grand larceny	53.2

Of mentally defective prisoners:

	<i>Per Cent</i>
Murder	16.6
Rape, incest and sodomy	9.8
Murder, manslaughter, rape	30.5
Petit and grand larceny	37.7

From these figures and tables we see that the majority of the crimes of the criminal insane and insane criminals is chiefly against the person. This fact is extremely pertinent and suggestive and indicates that there should be an indefinite seclusion of the individuals of these types.

The insane criminals and criminal insane suffer with the same mental and nervous diseases as do the civil insane. I have noted, however, no matter what type their insanities may be, their symptoms are distinctly colored with delusions of persecution; 70 per cent of the patients at the Indiana State Hospital for Insane Criminals entertain some form of delusions

of a persecutory nature; some of the delusions are organized, and some are not. In my opinion this delusional state of mind is but a reflection of the whole course of their lives and indicates the deep-seated and inherent anti-social tendencies of their mental organizations. It explains to some degree the reason why their lives have always been in conflict with society. Their delusions, when organized, generally concern society, with whom they have always been at war, but the definite fabric of their false beliefs is woven about prosecuting attorneys, judges, prison officials and the medical officers of the prison. It is a very common practice for them to prepare long statements replete with legal terms setting forth their grievances and complaints against the world at large. Their daily conversations and behavior are filled with discussions and actions which relate to crime. Very often the more intelligent insane criminals attempt to play the part of attorneys and very often plead the case of some terminal dement to the hospital officials; even the games they play in the hospital grounds are very suggestive. Here in their sports they constantly refer to, and enact, scenes of their past lives. They play at having jails and prisons; they designate one another as policemen and detectives to catch make-believe criminals who are always made the central figures of their pastimes.

In the hospitals for the criminal insane are to be found the sexual perverts of all descriptions. There were at this institution thirty-five sexual perverts, and they constitute a very dangerous and troublesome class. It is necessary to keep them under the strictest observation to prevent them from committing homosexual acts. Quarreling and fighting among them is extremely common, and this results from their love affairs and jealousies. They form attachments for each other, indulge in hugs and personal caresses, and slip into one another's beds if they have the slightest opportunity. The lovers are separated

and placed in different wards in various parts of the hospital, and yet they send love notes, trinkets and favors to their sweethearts if they get an opportunity. They have even used salve boxes in which to send their semen to the objects of their affection. I have also noticed that the most violent love affairs occur between the white and colored men. The negroes are usually more aggressive and take the masculine part in their acts of sodomy. Some of these patients display absolutely no shame whatsoever about their perversions. Others, while apparently embarrassed, make splendid promises that they will never again commit homosexual acts, but of course their promises are broken the first time they have an opportunity.

The insane criminals, whether they are still in prison or in hospitals for the criminal insane, are constantly manufacturing dangerous weapons. They display their ingenuity by converting the most harmless things into instruments of assault. Out of pieces of wood, spoons, toothbrushes, pens, pencils, stones and even thorns from plants, they make daggers. They steal socks, if they get an opportunity, and fill them with pebbles, sand, cinders, earth, pieces of soap, or anything else they can find, with which to make "blackjacks" to use in personal encounters. It is not an uncommon thing for them to make saws of clock springs. It is necessary to inspect the hospital furniture at very frequent intervals to see whether or not the reinforcing rods used in bracing chairs have been removed. In several instances the inspecting officers failed to find the missing rods. The thefts had been carefully concealed in a most novel manner. The patient, after removing the rod, molded a bolt head of putty and placed it at the site of the missing rod; wooden pins have been substituted for the same purpose. They make clubs by rolling newspapers and magazines tightly together, then soak them in water and wrap them firmly with bits of grass or string.

It is necessary to search their clothing at very frequent intervals for their home-made weapons.

The criminal insane and the insane criminals do not belong in prisons or in civil hospitals for the insane; they interfere with all reformatory methods. They cannot be disciplined as are the normal prisoners; they create disturbances, are dangerous to the physical welfare of mentally normal prisoners and institutional officers. The presence of epileptics, mattoids, paranoids, paranoiacs, imbeciles and sexual perverts in our prison populations is a menace because of their dangerous tendencies and lack of capacity to adjust themselves to the environments and discipline of penal institutions. They threaten the lives of their fellow inmates and the institutional officers and not infrequently make dangerous and vicious assaults. These persons do not belong in penal institutions, which should be relieved of their presence whenever discovered. In our hospitals for the innocent insane are to be found dangerously violent persons, congenital, homosexual perverts and persons who are constitutionally immoral who do not belong in the civil hospitals, since they cannot be given the proper care and restraint in such institutions.

It has been found by experience that it is very poor policy to place these dangerous insane in a separate department in ordinary civil hospitals. It has likewise been found faulty and ineffective to set apart for the care of this same class a certain part of the prison. Under the present state of affairs a hospital cannot be converted into a penal institution and neither can a penal institution be changed into a hospital. The purpose, organization and construction of a prison are diametrically opposed to those of a hospital for the insane. The spirit of these two institutions is entirely different. The official personnel of the hospital looks upon its inmates in an entirely different manner from the prison personnel, where the rules are far more strict, where there are definite tasks to be accomplished, and

where certain definite punishments are inflicted for the violation of discipline.

The question now arises, what is to be done with the criminal insane, since they neither belong in an ordinary hospital for the insane, nor a prison? The solution of the problem is to be found in a hospital for the criminal insane, and for this definite reason hospitals for the criminal insane and insane criminals were called into existence and developed to meet the specific problem of caring for persons who were at the same time insane and criminal. Let us make a brief review of the history of the establishment of such institutions. The English Government was the first to initiate and construct a department for the care of this class of persons, and this was done by appropriating a special department at the Bedlam Asylum, in 1786, for the reception and treatment of criminal lunatics. Bethlehem Hospital was converted to this use in 1815; another institution of similar character was opened at Dundrum, Ireland, in 1850; another at Perth, Scotland, in 1859; and the famous Broadmoor Hospital was founded in 1863. One was established in our own country in New York State, in 1859, at Auburn.

In France, after an unsatisfactory attempt to care for insane criminals at Bicetre, a separate wing was built for them at Gaillon Prison. The criminal insane in Holland were isolated in the hospital of Bosmalen. Germany established psychopathic wards in the prisons at Waldheim, Halle, Hamburg and Bruchsaal.

There are two great fundamental reasons for the establishment of these institutions. The first, which is most important, is the social defense. Society must be defended against the dangerous and anti-social acts of all classes of individuals, whether they be criminal, insane, feeble-minded, epileptic or otherwise mentally defective. The first great principle regulating our dealings with them must be that of social preservation. Our safety must be

equally insured against the robber who would take our money or our life, or the dangerous paranoiac who kills in a wild, homicidal mania, reacting to the systematized delusions of persecution, or the mentally irresponsible, erratic imbecile who may murder a helpless infant merely to gratify his depraved appetites. The second reason for the existence of hospitals for the criminal insane is born of humanitarian impulses; for we recognize that the criminal, the insane, the epileptic and the feebleminded owe their origin largely to the defects of the social organism. And since society is responsible for their existence, these defective, delinquent and dependent classes must share our humanity and our pity.

Just as soon as psychopathic laboratories become an integral part of the legal machinery of our courts of justice, those individuals who commit dangerous acts because of unsoundness of mind will be promptly discovered without running the whole gamut of criminal court procedure, as it is now practiced. When those individuals are discovered, they will be sent, without further loss of time, to hospitals for the criminal insane, and they will not be turned loose upon society because they are "not guilty of crime, because they are insane," and they will not be sent to ordinary prisons as normally minded felons, to be punished for acts which were purely symptomatic expressions of their unrecognized disorders.

The psychopathic laboratory in the prison will at once discover and classify the dangerous insane, who find their way into our prisons, because of the miscarriage of justice, and those prisoners who became insane while serving sentence, and are therefore dangerous to the rest of the prison inmates, will be transferred to hospitals for the criminal insane. Two very definite conclusions are to be drawn from the study of criminal psychiatry: the modern psychiatrist, making due allowances for rhetorical differences, academic and legal finesse, recognizes

that there is a distinct class of dangerous or criminal insane, who are to be discovered by psychopathic laboratories in the criminal courts, and in penal institutions. Since there does exist a dangerous mentally defective class, it becomes necessary for the states of the union to establish hospitals for the criminal insane, or to make equivalent provision for the care of these individuals in connection with other state institutions.

BIBLIOGRAPHY

1. "Outlines of Psychiatry." William A. White, M. D.
2. "Nervous and Mental Diseases." Church and Peterson.
3. "Diagnostic Symptoms in Nervous Diseases." F. L. Hunt, M. D.
4. "Mind and its Disorders." W. H. B. Stoddart, M. D.
5. "Clinical Psychiatry." A. R. Diefendorf (and Kraepelin).
6. "Principles of Psychology." William James.
7. "Abnormal Psychology." I. H. Coriat.
8. "Textbook of Insanity." Kraft-Ebing.
9. "Psychopathia Sexualis." Kraft-Ebing.
10. "Diseases of the Memory." Th. Ribot.
11. "Criminology." Parmelee.
12. "The Neurotic Constitution." A. Adler. Tr. by Glueck and Lind.
13. "Pathological Lying, Accusation and Swindling." W. Healy and M. T. Healy.
14. "Introduction to the Study of Physiological Psychology." Th. Zeihen.
15. "Textbook of Psychology." E. B. Titchener.
16. "The Psychology of the Emotions." Th. Ribot.
17. "Introduction to Social Psychology." William McDougall.
18. "The Unconscious." M. Prince.
19. "Diseases of the Nervous System." Oppenheim.
20. "The Binet-Simon Measuring Scale for Intelligence." H. H. Goddard.
21. "The Measurement of Intelligence." L. M. Terman.
22. "Mental Deficiency." A. F. Tredgold.
23. "Examiner's Guide." Medical Dept. U. S. Army.
24. "The Theory of Schizophrenic Negativism." E. Bleuler.
25. "The Disassociation of a Personality." M. Prince.
26. "The Psychology of the Unconscious." C. Jung.
27. "A Mind that Found Itself." C. W. Beers.
28. "Sanity and Insanity." Mercier.
29. "A First Study of Inheritance in Epilepsy." Davenport & Weeks.
30. "Heredity of Feeble-mindedness." Goddard.
31. "First Principles of Heredity." Herbert.
32. Eugenics, Records, Office Bulletins.
33. "The Mind Twist and Brain Spot, Hypotheses in Psychopathology and Neuropathology." E. E. Southard.
34. "Diseases of the Nervous System." S. E. Jelliffe and William A. White.
35. "The Psychology of Dementia Praecox." C. G. Jung.
36. "Fundamental Conceptions of Dementia Praecox." A. Meyer.
37. "A Textbook of Mental Diseases." Bevan Lewis.

38. "Mental Medicine." Regis.
39. "The Diagnosis of General Paresis." C. M. Campbell.
40. "The Occurrence of the Syphilitic Organism in the Brain in Paresis."
J. W. Moore.
41. "Morphinism and Narcomania from Other Drugs." T. D. Crothers.
42. "Mechanisms of Character Formation." William A. White.
43. "Epilepsy and its Treatment." W. P. Spratling.
44. "A Case of Psychasthenia." M. Solomon.
45. "Mental Diseases." Tanzi.
46. "Psychology and Mental Disease." C. B. Burr.
47. "The Psychology of the Unconscious." Paul E. Bowers, "International
Clinics, Vol. III, Series 33."
48. "The Dangerous Insane." Paul E. Bowers, "International Clinics,"
Vol. II, Series 32.
49. "Crime and Insanity." Paul E. Bowers, "International Clinics," Vol.
IV, Series 32.
50. "Insanity." Spitzka.
51. "Delinquent Man." Lombroso.
52. "The Criminal." Havelock Ellis.
53. "Criminal Sociology." Ferri.
54. "Idiocy and Imbecility." Mills.
55. "Mentally Deficient Children." Shuttleworth and Potts.
56. "Paretics Sent to Prison." Journal, American Medical Assn., Paul E.
Bowers, March 16, 1912.
57. "Mental Diseases." Clouston.
58. "Traumatic Psychoses and Posttraumatic Psychopathic States."
Glueck. Journal, American Medical Assn. April, 1911.
59. "The Syphilitic Psychoses." Frank Barnes. Medical Record, October
19, 1912.
60. "Epilepsy and Crime; The Cost." Healy.
61. "Efficient Causes of Crime." von Kleinsmid.
62. "The Recidivist." Paul E. Bowers, Journal of Criminal Law and
Criminology. Vol. V, No. 3.
63. "Practical Manual of Insanity." Brower and Bannister.
64. "The Modern Treatment of Nervous and Mental Diseases." White
and Jelliffe.
65. "Causes of Crime." Paul E. Bowers. New York Medical Journal, July
19, 1913.
66. "General Paresis." Paul E. Bowers, Venereal Disease Information.
U. S. Public Health Service Reports.
67. "Syphilitic Psychoses." Paul E. Bowers. Venereal Disease Information.
U. S. Public Health Service Reports.
68. "General Paresis." Kraepelin.
69. "The Psychology of Insanity." B. Hart.

¹ Chapter on "Crime and Insanity," excerpts from the two above papers.
by permission of the J. B. Lippincott Co.

INDEX

- ABOULIA, 205, 228
Abscess, brain, psychoses in, 104
Absence in petit mal, 187
Absurd statements, 277
Aerophobia, 203
Ageusia, 63
Agoraphobia, 203
Agraphia, 64
Alcohol, psychoses due to, 106
Alcoholic amnesia, 53
 coma, 46
 deterioration, 118
 course, 120
 diagnosis, 120
 etiology, 118
 pathology, 118
 prognosis, 120
 symptoms, 119
 treatment, 120
dream states, 117
epilepsy, 117
hallucinosiis, acute, 112
 course, 114
 diagnosis, 114
 etiology, 113
 prognosis, 114
 symptoms, 113
 treatment, 114
 chronic, 115
insanity, relationship to crime, 332
paranoia, acute, 115
 course, 116
 diagnosis, 116
 prognosis, 116
 treatment, 116
 chronic, 117
pseudo-paresis, 117
Alcoholism, paresis and, differentia-
 tion, 93
 psychology of, 106
Algolagnia, active, 221
 passive, 221
Alternating insanity, 153
Alzheimer's disease, symptoms, 76
Amaurosis, 62
Amaurotic family idiocy, 242
American Psychiatric Association,
 classification of mental
 diseases as outlined by,
 33-35
Amnesia, 53
 alcoholic, 53
 anterograde, 53
 retrograde, 53
Anesthesia, moral, 224. See also
 Constitutional immorality.
Anger, morbid, 56
Anorexia, 61
Anosmia, 63
Anterograde amnesia, 53
Anxiety neuroses, 211
 diagnosis, 213
 etiology, 212
 hysteria and, differentiation, 213
 neurasthenia and, differentia-
 tion, 213
 pathology, 212
 prognosis, 213
 symptoms, 212
 treatment, 214
Aphasia, 63
Apoplectic coma, 48
Apraxia, 64
Aprosexia, 54
Argyll-Robertson pupil, 62
Arithmetical problems, 278
Arsenical poisoning, psychoses due
 to, 128
Arteriosclerotic brain atrophy,
 symptoms, 80
 dementia, paresis and, differentia-
 tion, 92
 relationship to crime, 330
 psychoses, symptoms, diagnostic
 grouping, 255
Astasia-abasia, 205
Asterognosis, 63
Astraphobia, 203
Atasia abasia, 24
Ataxia, mental, 74
Atrophy of brain, arteriosclerotic,
 symptoms, 80

- Atropin poisoning, psychoses due to, 128
- Attention tests, 280
- Attitude, 269
stereotypy of, 58
- BABINSKI reflex, 65
- Babinski's theory of hysteria, 195
- Behavior, 22
- Behavioristic psychology, 22
- Belladonna poisoning, psychoses due to, 128
- Bestiality, 222
- Bibliography, 351
- Binet-Simon tests, 285
method of applying, 286
- Blindness, 62
- Blocking of thought, 55
- Blood in paresis, 84
- Born criminal, 229
- Bradycardia, 61
- Brain abscess, psychoses in, 104
atrophy, arteriosclerotic, symptoms, 80
diseases, psychoses in, 102
treatment, 105
tumor, neurasthenia and, differentiation, 210
psychoses in, 102
- Bromide poisoning, psychoses due to, 128
- Bulimia, 61
- CANNABIS indica poisoning, psychoses due to, 128
- Carbonic acid gas poisoning, psychoses due to, 128
- Cardio-renal disease, psychoses in, 135
- Catatonic type of dementia præcox, 168
- Catch questions, 276
- Cathartics, use of, 304
- Causes of mental disorders, 37
exciting, 41
pathological, 41
physiological, 41
predisposing, 37
psychic, 41
surgical, 42
toxic, 42
traumatic, 42
- Cephalalgia, 65
- Cerebral embolism, psychoses in, 103
hemorrhage, psychoses in, 103
paresis and, differentiation, 91
syphilis, crime and, 330
thrombosis, psychoses in, 103
- Cerebrospinal fluid in paresis, 84
- Children's average psychological level, 288. See also *Psychological level of children*.
- Chloroform intoxication, psychoses due to, 128
- Chorea, Huntington's, psychoses in, 104
Sydenham's, psychoses in, 105
- Circumstantiality, 53
- Civil conditions, relation of, to insanity, 40
- Civilization, relation of, to insanity, 41
- Classification of mental disorders, 27
- Claustrophobia, 203
- Climate, relation of, to insanity, 40
- Clinical classification of mental disorders, 31
- Clouding of consciousness, 44
- Cocaine bug, 122
- Cocainism, 121
course, 123
etiology, 121
pathology, 122
prognosis, 123
relationship to crime, 338
symptoms, 122
treatment, 123
- Collapse delirium, symptoms, 133
- Coma, 45
alcoholic, 46
apoplectic, 48
diabetic, 50
epileptic, 47
hysterical, 47
opium, 46
paretic, 49
uremic, 48
- Comatose states, 45
- Commitment to hospitals for insane, 299
- Complaint, spontaneous, 271
- Complex, 58
Friedman's, 69
submerged, 59
- Compulsions, 57
- Concentric constriction of visual field, 63
- Conceptions, 18
ethical, 280
- Confusion, 45
- Consciousness, clouding of, 44
definition of, 18
disorders of, 44
- Constipation, treatment, 304

- Constitution, post traumatic symptoms, 69
- Constitutional depression, states of, 217
treatment, 218
- excitement, states of, 218
treatment, 219
- immorality, 224
diagnosis, 231
due to defect in emotional sphere, 229
in intellectual sphere, 227
in volitional sphere, 227
etiology, 226
mechanism, 226
symptoms, 226
treatment, 232
- inferiority, psychoses with, 215
- Convulsions, 64, 268
- Coördination tests, 267
- Cortical devastation, senile, symptoms, 80
- Cretinism, psychoses in, 137, 138
- Crime, relationship of alcoholic insanity to, 332
of arteriosclerotic dementia to, 330
of cocaineism to, 338
of dementia præcox to, 319
of drug psychoses to, 332
of epilepsy to, 314
of feeble-mindedness to, 339
of general paresis to, 320
of hysterical insanity to, 323
of imbecility to, 339
of insanity to, 313
of manic-depressive insanity to, 322
of morphinic insanity to, 337
of paranoia to, 318
of paranoid states to, 318
of puerperal insanity to, 327
of senile psychoses to, 329
of syphilitic insanity to, 330
- Criminal, born, 229
insane, hospitals for, 342
- DEFINITION of mental disorders, 27
questions in, 278
- Delirious states, 45
- Delirium, collapse, treatment, 133
exhaustion, 133
course, 134
diagnosis, 134
etiology, 133
pathology, 133
prognosis, 134
symptoms, 133
treatment, 134
- Delirium, febrile, 132
post traumatic, symptoms, 68
postfebrile, 132
prefebrile, 131
treatment, 303
- tremens, 109
etiology, 109
pathology, 109
symptoms, 110
treatment, 111
- uremic, 135
diagnosis of, 136
prognosis, 136
treatment, 136
with infectious diseases, 131
- Delusions, 51, 273
classification of, 52
- Dementia, arteriosclerotic, paresis and, differentiation, 92
relationship to crime, 330
- præcox, 24, 162
catatonic type, 168
definition, 162
diagnosis, 174
etiology, 162
hebephrenic type, 166
hysteria and, differentiation, 199
mixed type, 174
neurasthenia and, differentiation, 210
paranoid type, 171
pathology, 163
psychology, 174
relationship to crime, 319
simple type, 165
symptoms, 164
diagnostic grouping, 248
traumatic psychoses and, differentiation, 70
treatment, 175
medical, 176
prophylactic, 175
senile, paresis and, differentiation, 92
- Depersonalization, 54
- Depression, constitutional, states of, 217
treatment, 218
marked, 56
- Depressive mania, symptoms, 152
with flight of ideas, symptoms, 152
- Deterioration, emotional, 56
- Diabetes, psychoses in, 138
- Diabetic coma, 50
- Diagnostic groupings of symptoms of psychoses, 248
- Diagrammatic explanation of mind, 25

- Dipsomania, 120
 treatment, 121
 Disassociated state, 59
 Disposition, mercurial, 56
 Dizziness, 66
 Drawing test, 279
 Dread neuroses, 211
 Dream states, 50
 alcoholic, 117
 Drug psychoses, relationship to
 crime, 332
 Drugs and insanity, 301
 psychoses due to, 106, 127
 treatment, 129
 Ductless glands, diseases of, psy-
 choses in, 136
 Dysarthria, 63
 Dysfunction of thyroid gland, psy-
 choses in, 138
 Dysgraphia, 64

 ECHOLALIA, 57
 Echopraxia, 57
 Education, relation of, to insanity,
 41
 Elation, pathological, 56
 Electrical reactions, 268
 Embolism, cerebral, psychoses in,
 103
 Emotion; disorders of, 56
 Emotional deterioration, 56
 poverty, 56
 status, 271
 Encephalitis, lethargic, psychoses
 in, 143
 symptoms, 144
 treatments, 145
 subcortical, symptoms, 80
 Endocrine therapy, 309
 Enuresis, 65
 Epilepsy, alcoholic, 117
 Jacksonian, 188
 psychic, 189
 psychical, 317
 relationship to crime, 314
 syphilitic, 99
 Epileptic coma, 47
 idiocy, 242
 psychoses, 185
 definition, 185
 diagnosis, 190
 differential, 190
 etiology, 185
 grand mal, 187
 intraparoxysmal symptoms, 189
 nature, 190
 paroxysmal symptoms, 187
 pathology, 186
 petit mal, 187

 Epileptic psychoses, post paroxys-
 mal symptoms, 188
 preparoxysmal symptoms, 186
 prognosis, 191
 psychology, 190
 symptoms, 186
 treatment, 191
 Eroticisim, 220
 Ethical conceptions, 280
 Etiological classification of mental
 disorders, 30
 Eugenics and heredity, 300
 Exaggerated impulses, 228
 Examination, absurd statements,
 277
 arithmetical problems, 278
 attention tests, 280
 attitude, 269
 catch questions, 276
 delusions, 273
 drawing test, 279
 emotional status, 271
 ethical conceptions, 280
 family history, 260
 forward and backward association
 test, 279
 free word association test, 281
 hallucinations, 272
 history of present illness, 262
 insight, 274
 interpretation of pictures, 278
 of proverbs, 279
 limited word association test, 281
 manner, 269
 memory, 274
 mental, 268
 mental make-up, 269
 methods of, 260
 motor reactions, 278
 neurological, 264
 orientation, 274
 personal history, 261
 physical, 263
 problems, 277
 psychoanalysis, 280
 questions in definition, 278
 sentence building tests, 279
 spontaneous complaint, 271
 stories, 275
 stream of mental activity, 271
 supplying words in sentences, 279
 syllogisms, 280
 tapping tests, 280
 Excitement, constitutional, states
 of, 218
 treatment, 219
 Exciting causes of mental disorders,
 41

- Exhaustion delirium, 133
 course, 134
 diagnosis, 134
 etiology, 133
 pathology, 133
 prognosis, 134
 symptoms, 133
 treatment, 134
- Exhibitionism, 222
- Exophthalmic goitre, psychoses in, 137
- Explosive will, 228
- Extramural treatment, 302
- FACIAL muscles, tests for, 266
- Family history, 260
 idiocy, amaurotic, 242
- Fear, 55
- Febrile delirium, 132
- Feeble-minded prisoners, 341
- Feeble-mindedness, 238
 definition, 239
 diagnosis, 246
 etiology, 239
 pathology, 240
 prognosis, 246
 relationship to crime, 339
 symptoms, 245
 treatment, 246
- Feeding, forced, 306
- Fetichism, 222
- Flexibilitas cerea, 57
- Flexibilities cerea, 169
- Flight of ideas, 53
- Focal infections, treatment, 308
- Forced feeding, 306
- Formications, 65
- Forward and backward association test, 279
- Free word association method, 281
- Freud's theory of hysteria, 195
- Friedman's complex, 69
- GANSER'S symptom, 54
- Gastro-intestinal disorders, psychoses in, 139
 tract, diseases of, treatment, 308
- Genital organs, diseases of, treatment, 309
- Gliosis pervascular, symptoms, 80
- Goitre, exophthalmic, psychoses in, 137
- Gout, psychoses in, 138
- Grand mal, 187
- HALLUCINATIONS, 51, 272
 somatic, 273
 tactile, 273
- Hallucinations, varieties of, 51
 visual, 272
- Hallucinatory confusion, acute, 133
- Hallucinosis, alcoholic, acute, 112
 course, 114
 diagnosis, 114
 etiology, 113
 prognosis, 114
 symptoms, 113
 treatment, 114
 chronic, 115
- Handwriting, 267
- Headache, 65
- Hearing, tests for, 266
- Heart, diseases of, 61
- Hebephrenic type of dementia præcox, 166
- Hemorrhage, cerebral, psychoses in, 103
- Heredity and eugenics, 300
 relation to insanity, 37
- History of present illness, 262
- Homosexuality, 221
- Hospitals for care of dangerous insane, 342
 psychopathic, 299
 commitment to, 299
- Huntington's chorea, psychoses in, 104
- Hydrotherapy, 304
- Hyperamnesia, 53
- Hyperprosexia, 54
- Hyperthyroidism, psychoses in, 137
- Hypomania, symptoms, 150
- Hypothyroidism, psychoses in, 137
- Hysteria, 193
 anxiety neuroses and, differentiation, 213
 definition, 193
 dementia præcox and, differentiation, 199
 diagnosis, 199
 etiology, 193
 motor symptoms, 198
 neurasthenia and, differentiation, 209
 prognosis, 200
 psychic symptoms, 196
 sensory symptoms, 197
 symptoms, 196
 diagnostic grouping, 257
 traumatic psychoses and, differentiation, 70
 treatment, 200
- Hysterical coma, 47
 insanity, relationship to crime, 323
- Hystero-epilepsy, 200

- IDEAS, flight of, 53**
Ideation, incoherent, 53
Idiocy, 238
 amaurotic family, 242
 definition, 238
 diagnosis, 246
 epileptic, 242
 etiology, 239
 inflammatory, 243
 microcephalic, 242
 Mongolian, 243
 paralytic, 242
 pathology, 240
 physical symptoms, 241
 prognosis, 246
 sclerotic, 243
 sensorial, 243
 symptoms, 241
 syphilitic, 243
 thyroigenous, 242
 traumatic, 243
 treatment, 246
Illness, present, history of, 262
Illusions, 51
Imbecility, 238
 definition, 239
 diagnosis, 246
 etiology, 239
 mental symptoms, 244
 mild type, 244
 moral, 224. See also *Constitutional immorality.*
 pathology, 240
 prognosis, 246
 pronounced type, 244
 relationship to crime, 339
 savant, 244
 symptoms, 244
 treatment, 246
Immorality, constitutional, 226.
 See also *Constitutional immorality.*
Impulses, exaggerated, 228
Impulsions, 57
Impulsive states, 219
Incoherent ideation, 53
Incontinence of urine, 65
Infections, focal, treatment, 308
Inflammatory idiocy, 243
Influenza, psychoses in, 143
Infectious diseases, delirium with, 131
Inherited predisposition to insanity, 37
Insanity, 27
 alcoholic, relationship to crime, 332
 alternating, 153
 Insanity, definition of, 29
 legal, 28
 manic depressive, paresis and, differentiation, 92
 traumatic psychoses and, differentiation, 70
 masturbatic, 221
 medical, 28
 moral, 224. See also *Constitutional immorality.*
 morphinic, relationship to crime, 337
 relationship to crime, 313
Insight, 274
Insomnia, treatment, 305
Intellection, disorders of, 44
Intelligence tests, Binet-Simon, 285
Internal organs, diseases of, 61
Intoxication, pathological, 108
 treatment, 109
Intramural treatment, 303
Involitional melancholia, 156. See also *Melancholia, involutional.*
Iridoplegia, 62

JACKSONIAN epilepsy, 188
Janet's theory of hysteria, 195
Juvenile paresis, 83

KLEPTOMANIA, 204
Korsakow's psychosis, 111
 treatment, 111

LACTATION, psychoses in, 141, 142
Lead poisoning, psychoses due to, 127
Legal insanity, 28
Lethargic encephalitis, psychoses in, 143
 symptoms, 144
 treatment, 145
Lethargy, 50
Liars, pathological, 230
Limited word association test, 281
Luminal in epilepsy, 192

MALARIA, psychoses in, 140
Malingering, 233
Mania, acute, symptoms, 151
 depressive, symptoms, 152
 with flight of ideas, symptoms, 152
 exhaustive, symptoms, 152
 hyperacute, symptoms, 152
 recurrent, symptoms, 152
 stuporous, symptoms, 152
 unproductive, symptoms, 152

- Manic-depressive insanity, paresis
 and, differentiation, 92
 traumatic psychoses and, dif-
 ferentiation, 70
 psychoses, 146
 acute mania, symptoms, 151
 melancholia, symptoms, 148
 alternating insanity, 153
 course, 154
 definition, 146
 depressive mania, symptoms,
 152
 with flight of ideas, symp-
 toms, 152
 phase, symptoms, 147
 treatment, 154
 diagnosis, 153
 etiology, 146
 exhaustive mania, symptoms,
 152
 hyperacute mania, symptoms,
 152
 hypomania, 150
 manic phase, symptoms, 149
 treatment, 155
 neurasthenia and, differentia-
 tion, 210
 pathology, 147
 prognosis, 154
 psychology, 153
 recurrent mania, symptoms, 152
 melancholia, 153
 relationship to crime, 322
 simple depression, symptoms,
 148
 stuporous mania, symptoms,
 152
 melancholia, symptoms, 149
 symptoms, 147
 diagnostic grouping, 251
 treatment, 154
 unproductive mania, symp-
 toms, 152
 states due to syphilis, 99
- Mankopf's symptom, 70
- Manner, 269
- Masochism, 221
- Masturbatic insanity, 221
- Masturbation, 220
- Mattoids, 231
- Medical insanity, 28
- Medication, tonic, 306
- Melancholia, acute, symptoms, 148
 involuntal, anxiety type, 158
 apathetic type, 159
 course, 160
 definition, 156
- Melancholia, involuntal, delusions
 of, 159
 diagnosis, 159
 etiology, 156
 pathology, 157
 pre-senile type, 158
 prognosis, 160
 psychology, 160
 self-accusatory type, 158
 symptoms, 157
 diagnostic grouping, 252
 treatment, 160
 recurrent, 153
 stuporous, symptoms, 149
- Memory, 274
 defect of, 52
 definition of, 18
 loss of, 53
- Mendelian hypothesis, 37
- Meningitis, psychoses in, 103
- Mental activity, stream of, 271
 disorders, causes of, 37
 exciting, 41
 predisposing, 37
 psychic, 41
 civil conditions and, 40
 civilization and, 41
 classification of, 27
 climate and, 40
 clinical classification, 31
 definition of, 27
 education and, 41
 etiological classification, 30
 heredity and, 37
 inherited predisposition to, 37
 pathological causes, 41
 classification, 31
 physiological causes, 41
 psychological classification, 30
 surgical causes, 42
 toxic causes, 42
 traumatic causes, 42
 enfeeblement, post traumatic,
 symptoms, 69
 syphilitic, 98
 examination, 268
 make-up, 269
 criminalistic type, 270
 depressive type, 269
 erotic type, 270
 fault-finding type, 270
 hysterical type, 270
 irritable type, 270
 manic type, 269
 paranoid type, 270
 seclusive type, 269
 unstable type, 270
- Mercurial disposition, 56
- Meteorism, 61

- Methods of examination, 260
 Microcephalic idiocy, 242
 Mind, definition of, 17
 diagrammatic explanation, 25
 functions of, 19
 Misophobia, 203
 Mongolian idiocy, 243
 Moral anesthesia, 224. See also
 Constitutional immorality.
 imbecility, 224. See also *Constitutional immorality*.
 insanity, 224. See also *Constitutional immorality*.
 Morbid anger, 56
 Moron, definition, 238
 Morphinic insanity, relationship to
 crime, 337
 Morphinism, 123
 course, 125
 diagnosis, 125
 etiology, 123
 pathology, 124
 prognosis, 125
 symptoms, 124, 125
 treatment, 126
 Motor reactions, 278
 speech, tests for, 267
 Movement, stereotypy of, 57
 Multiple personality, 54
 sclerosis, psychoses in, 104
 Myxedema, psychoses in, 137
- NARCISSISM, 222
 Necrophilia, 222
 Negativism, 57
 Nervous diseases, psychoses in, 102
 treatment, 105
 Neurasthenia, 206
 anxiety neuroses and, differentiation,
 213
 brain tumor and, differentiation,
 210
 cerebral type, 207
 circulatory type, 208
 course, 209
 definition, 206
 dementia præcox and, differentiation,
 210
 diagnosis, 209
 etiology, 206
 gastro-intestinal type, 208
 genital type, 208
 hysteria and, differentiation, 209
 manic-depressive insanity and,
 differentiation, 210
 paresis and, differentiation, 92,
 209
 pathology, 207
- Neurasthenia, prognosis, 210
 spinal type, 208
 symptoms, 207
 diagnostic grouping, 256
 traumatic, 211
 treatment, 210
 Neurological examination, 264
 symptoms, 62
 Neuroses, 193
 anxiety, 211
 diagnosis, 213
 etiology, 212
 hysteria and, differentiation, 213
 neurasthenia and, differentia-
 tion, 213
 pathology, 212
 prognosis, 213
 symptoms, 212
 treatment, 214
 dread, 211
 Numbness, 65
 Nutrition, state of, 60
 Nymphomania, 204, 220
- OBSESSIONS, 55
 varieties of, 55
 Occupational therapy, 312
 Onomatomania, 204
 Opium coma, 46
 Organic reflexes, tests for, 267
 sensations, 268
 Organo-therapy, 309
 Orientation, 50, 274
 personal, 50
 spatial, 50
 temporal, 51
- PALATE, tests for, 267
 Paragraphia, 64
 Paralexia, 64
 Paralysis agitans, psychoses in, 103
 of thoughts, 55
 Paralytic idiocy, 242
 Paramnesia, 53
 Paranoia, 178
 alcoholic, acute, 115
 course, 116
 diagnosis, 116
 prognosis, 116
 treatment, 116
 chronic, 117
 definition, 178
 diagnosis, 183
 etiology, 178
 pathology, 179
 prognosis, 184
 relationship to crime, 318

- Paranoia, stage of hypochondriasis, 179
 of persecution, 181
 of subjective analysis, 179
 of systematized delusions, 181
 of transformation of the personality, 182
 symptoms, 179
 diagnostic grouping, 250
 syphilitic, 98
 occurring in absence of tabes dorsalis, 98
 treatment, 184
- Paranoid states, 178, 183
 relationship to crime, 318
 type of dementia præcox, 171
- Paraphrenia, 172
- Paresis, 23, 83
 agitated form, symptoms, 89
 alcoholism and, differentiation, 93
 arteriosclerotic dementia and, differentiation, 92
 blood in, 84
 cerebral syphilis and, differentiation, 91
 cerebrospinal fluid in, 84
 course, 93
 definition, 83
 demented form, symptoms, 88
 depressed form, symptoms, 90
 diagnosis, 91
 etiology, 83
 expansive form, symptoms, 88
 general relationship to crime, 320
 symptoms, diagnostic grouping, 253
 juvenile, 83
 manic depressive insanity and differentiation, 92
 neurasthenia and, differentiation, 92, 209
 neurological symptoms, 86
 pathology, 84
 prognosis, 94
 pseudo, syphilitic, 98
 psychological analysis in, 93
 psychoses with cerebral arteriosclerosis and, differentiation, 81
 senile dementia and, differentiation, 92
 symptoms, 85
 traumatic psychoses and, differentiation, 70
 treatment, 94
 Wassermann reaction in, 84, 85
- Paretic coma, 49
- Parturition, psychoses in, 141, 142
- Patellar reflex, 65
- Pathological causes of mental disorders, 41
 classification of mental disorders, 35
 elation, 56
 intoxication, 108
 treatment, 109
 liars, 230
 swindlers, 230
- Pellagra, psychoses in, 139
- Perception, definition of, 18
- Perivascular gliosis, symptoms, 80
- Perseveration, 58
- Personal history, 261
 orientation, 50
- Personality, disorders of, 54
 multiple, 54
- Perverted sexual instincts, 219
- Petit mal, 187
- Physical examination, 263
- Physiological causes of mental disorders, 41
- Pictures, interpretation of, 278
- Pithiatism, 195
- Poisoning, arsenical, psychoses due to, 128
 atropin, psychoses due to, 128
 belladonna, psychoses due to, 128
 bromide, psychoses due to, 128
 cannabis indica, psychoses due to, 128
 carbonic acid gas, psychoses due to, 128
 lead, psychoses due to, 127
 santonin, psychoses due to, 128
 veronal, psychoses due to, 128
- Postfebrile delirium, 132
- Post-infectious psychoses, 132
- Post-traumatic constitution, symptoms, 69
 delirium, symptoms, 68
 mental enfeeblement, symptoms, 69
- Poverty, emotional, 56
- Prefebrile delirium, 131
- Pregnancy, psychoses in, 141
- Presbyohrenic type of senile psychoses, symptoms, 75
- Preventive treatment, 298
- Problems, 277
 arithmetical, 278
- Proverbs, interpretation of, 279
- Pseudo-paresis, alcoholic, 117
 syphilitic, 98
- Psychasthenia, 202
 definition, 202
 diagnosis, 205
 emotional obsessions, 203
 etiology, 202

- Psychasthenia, imperative ideas, 204
 intellectual obsessions, 203
 morbid desires, 204
 pathology, 202
 prognosis, 205
 symptoms, 202
 treatment, 205
 volitional obsessions, 204
- Psychic causes of mental disorders, 41
 epilepsy, 189
- Psychical epilepsy, 317
- Psychoanalysis, 280, 311
- Psychogenetic states due to morbid fear of syphilis, 99
- Psychological analysis in paresis, 93
 of psychoses with cerebral arteriosclerosis, 81
 of senile psychoses, 77
 of traumatic psychoses, 71
- classification of mental disorders, 30
- level of adults, average normal, 296
- of children at eight years of age, average normal, 292
- at five years of age, average normal, 289
- at four years of age, average normal, 288
- at fourteen years of age, average normal, 295
- at nine years of age, average normal, 292
- at seven years of age, average normal, 291
- at six years of age, average normal, 290
- at ten years of age, average normal, 293
- at three years of age, average normal, 288
- at twelve years of age, average normal, 294
- of superior adults, average, 297
- Psychomotor activity decreased, 57
 increased, 57
- Psychoneuroses, 193
- Psychopathic hospitals, 299
 commitment to, 299
 states due to inherited syphilis, 99
- Psychoses, arteriosclerotic, symptoms, diagnostic grouping, 255
- due to alcohol, 106
- to arsenical poisoning, 106
- to atropin poisoning, 128
- to belladonna poisoning, 128
- to bromide poisoning, 128
- Psychoses due to cannabis indica poisoning, 128
- to carbonic acid gas poisoning, 128
- to chloroform intoxication, 128
- to drugs, 106, 127
- treatment, 129
- to exogenous toxins, 106
- to lead poisoning, 127
- to santonin poisoning, 128
- to veronal poisoning, 128
- epileptic, 185. See also *Epileptic psychoses*.
- in brain abscess, 104
- tumor, 102
- in cardio-renal disease, 135
- in cerebral embolism, 103
- hemorrhage, 103
- thrombosis, 103
- in cretinism, 137, 138
- in diabetes, 138
- in diseases of ductless glands, 136
- in dysfunction of thyroid gland, 138
- in exophthalmic goiter, 137
- in gastro-intestinal disorders, 139
- in gout, 138
- in Huntington's chorea, 104
- in hyperthyroidism, 137
- in hypothyroidism, 137
- in influenza, 143
- in lactation, 141, 142
- in lethargic encephalitis, 143
- in malaria, 140
- in meningitis, 103
- in multiple sclerosis, 104
- in myxedema, 137
- in paralysis agitans, 103
- in parturition, 141, 142
- in pellagra, 139
- in pregnancy, 141
- in puerperium, 141, 142
- in rheumatic fever, 140
- in Sydenham's chorea, 105
- in tabes dorsalis, 104
- manic-depressive, 146. See also *Manic-depressive psychoses*.
- post-infectious, 132
- senile, 72. See also *Senile psychoses*.
- symptoms, diagnostic groupings, 248
- syphilitic, psychoses with cerebral arteriosclerosis and, differentiation, 81

- Psychoses, traumatic, 67
 definition, 67
 dementia præcox and, differentiation, 70
 differential diagnosis, 70
 etiology, 67
 hysteria and, differentiation, 70
 manic depressive insanity and, differentiation, 70
 paresis and, differentiation, 70
 pathology, 67
 prognosis, 71
 psychological analysis, 71
 symptoms, 68
 treatment, 71
 with brain diseases, 102
 treatment, 105
 with cerebral arteriosclerosis, 79
 definition, 79
 diagnosis, 81
 etiology, 79
 paresis and, differentiation, 81
 pathology, 79
 prognosis, 81
 psychological analysis, 81
 senile psychoses and, differentiation, 81
 symptoms, 80
 syphilitic psychoses and, differentiation, 81
 treatment, 82
 syphilis, 95
 definition, 95
 diagnosis, 99
 endarteritic type, 95
 etiology, 96
 gummatous type, 95
 meningitic type, 95
 mixed type, 96
 pathology, 96
 primary stage, symptoms, 96
 secondary stage, symptoms, 97
 symptoms, 96
 tertiary and quaternary states, symptoms, 97
 transient states of confusion attended by hallucinations, 99
 treatment, 100
 with constitutional inferiority, 215
 etiology, 215
 pathology, 216
 symptoms, 216
 with mental deficiency, 238
 with nervous diseases, 102
 treatment, 105
- Psychoses with somatic diseases, 130
 etiology, 130
 pathology, 131
 symptoms, 131
 Psychosis, Korsakow's, 111
 treatment, 111
 Psychotherapy, 311
 Psychotic states associated with syphilitic disease of heart or aorta, 99
 Puerperal insanity, relationship to crime, 327
 Puerperium, psychoses in, 141, 142
 Pulse, 61
 Pupil, Argyll-Robertson, 62
 rigidity of, 62
 Pupillary disturbance, 62
 Pyromania, 204
- QUERULANTS, 231
 Questions, catch, 276
- REASONING, 19
 Recreational therapy, 312
 Recurrent mania, 152
 melancholia, 153
 Reflex, Babinski, 65
 patellar, 65
 Reflexes, 64
 deep, tests for, 267
 organic, tests for, 267
 superficial, 64
 tests for, 267
 Repression, 23
 Respiration, 61
 Retardation of thought, 55
 executive, 55
 initial, 55
 Retrograde amnesia, 53
 Rheumatic fever, psychoses in, 140
 Rigidity of pupil, 62
- SADISM, 221
 Santonin poisoning, psychoses due to, 128
 Satyriasis, 205, 220
 Savant imbecility, 244
 Schizophrenia, 162. See also *Dementia præcox*.
 Sclerosis, multiple, psychoses in, 104
 Sclerotic idiocy, 243
 Senile cortical devastation, symptoms, 80
 dementia, paresis and, differentiation, 92

- Senile psychoses, 72
 definition, 72
 delirious and confused types,
 symptoms, 76
 depressed and agitated types,
 symptoms, 76
 diagnosis, 77
 differential, 77
 etiology, 72
 paranoid type, symptoms, 76
 pathology, 73
 physical symptoms, 75
 presbyophrenic type, symptoms,
 75
 presenile type, symptoms, 76
 prognosis, 78
 psychological analysis, 77
 psychoses with cerebral arterio-
 sclerosis and, differentia-
 tion, 81
 relationship to crime, 329
 simple deterioration, symptoms,
 75
 symptoms, 73
 diagnostic grouping, 254
 treatment, 78
 Sensation, definition of, 18
 Sensations, organic, 268
 subjective, 268
 Sensibility, disturbances of, 66
 Sensorial idiocy, 243
 Sensory functions, tests for, 268
 Sentence building tests, 279
 supplying words in, 279
 Serum therapy, 309
 Sexual abnormalities, 219
 diagnosis, 224
 etiology, 220
 prognosis, 224
 qualitative, 220
 quantitative, 220
 symptoms, 222
 treatment, 224
 hyperesthesia, 220
 Simulation, 233
 Sinuses, diseases of, treatment, 309
 Sleep, 268, 305
 Smell, loss of sense of, 63
 tests for, 265
 Sollier's theory of hysteria, 195
 Somatic diseases, psychoses with,
 130
 etiology, 130
 pathology, 131
 symptoms, 131
 hallucinations, 273
 symptoms, 60
 Somnolence, states of, 45
 Spasms, 64
 Spatial orientation, 50
 Speech, disorders of, 63
 motor, tests for, 267
 stereotypy of, 57
 Sphincteric control, 65
 Spontaneous complaint, 271
 Stereotypy, 57
 of attitude, 58
 of movement, 57
 of speech, 57
 Stethoscope test, 266
 Stories, 275
 Stuporous mania, symptoms, 152
 melancholia, symptoms, 149
 states, 45
 Subcortical encephalitis, symptoms,
 80
 Subjective sensations, 268
 Submerged complex, 59
 Suggestibility, 57
 Surgical causes of mental dis-
 orders, 42
 conditions, treatment, 308
 Swindlers, pathological, 230
 Sydenham's chorea, psychoses in,
 105
 Syllogisms, 280
 Symptoms, 44
 neurological, 62
 of psychoses, diagnostic group-
 ings, 248
 somatic, 60
 Syncope, 50
 Syphilis and insanity, 301
 cerebral, crime and, 330
 paresis and, differentiation, 91
 inherited, psychopathic states due
 to, 99
 morbid fear of, psychogenetic
 states due to, 99
 Syphilitic epilepsy, 99
 idiocy, 243
 insanity, relationship to crime,
 330
 mental enfeeblement, 98
 paranoia, 98
 occurring in absence of tabes
 dorsalis, 98
 pseudo paresis, 98
 psychoses, diagnosis, 99
 endarteritic type, 95
 etiology, 96
 gummatous type, 95
 meningitic type, 95
 mixed type, 96
 pathology, 96
 primary stage, symptoms, 96

- Syphilitic psychoses, psychoses with cerebral arteriosclerosis and, differentiation, 81
 secondary stage, symptoms, 97
 symptoms, 96
 tertiary and quaternary states, symptoms, 97
 transient states of confusion attended by hallucinations, 99
 treatment, 100
- TABES dorsalis, psychoses in, 104
- Tactile hallucinations, 273
- Tapping test, 280
- Taste, loss of sense of, 63
 tests for, 266
- Temperature, changes of, 62
- Temporal orientation, 51
- Tests, attention, 280
 Binet-Simon, 285
 method of applying, 286
 coördination, 267
 drawing, 279
 for deep reflexes, 267
 for facial muscles, 266
 for hearing, 266
 for motor speech, 267
 for palate, 267
 for reflexes, 267
 for sensory functions, 268
 for smell, 265
 for superficial reflexes, 267
 for taste, 266
 for visual fields, 265, 266
 forward and backward association, 279
 free word association, 281
 intelligence, Binet-Simon, 285
 limited word association, 281
 sentence building, 279
 syllogisms, 280
 tapping, 280
- Thought, blocking of, 55
 paralysis of, 55
 retardation of, 55
 executive, 55
 initial, 55
- Thrombosis, cerebral, psychoses in, 103
- Thyroid gland, dysfunction of, psychoses in, 138
- Thyroigenous idiocy, 242
- Tics, 268
- Tinglings, 65
- Tonic medication, 306
- Toxic causes of mental disorders, 42
- Toxins, exogenous, psychoses due to, 106
- Traumatic causes of mental disorders, 42
 idiocy, 243
 neurasthenia, 211
 psychoses, 67
 definition, 67
 dementia præcox and, differentiation, 70
 differential diagnosis, 70
 etiology, 67
 hysteria and, differentiation, 70
 manic depressive insanity and, differentiation, 70
 paresis and, differentiation, 70
 pathology, 67
 prognosis, 71
 psychological analysis, 71
 symptoms, 68
 treatment, 71
- Treatment, 298
 endocrine, 309
 extramural, 302
 intramural, 303
 occupational, 312
 prevention, 298
 recreational, 312
 serum, 309
 vaccine, 309
- Tremors, 64, 268
- Tuberculosis and insanity, 301
- Tumor, brain, neurasthenia and, differentiation, 210
 psychoses in, 102
- UREMIC coma, 48
 delirium, 135
 diagnosis, 136
 prognosis, 136
 treatment, 136
- Urine, incontinence of, 65
- VACCINE therapy, 309
- Veronal poisoning, psychoses due to, 128
- Visual field, concentric constriction, 63
 fields, tests for, 265, 266
 hallucinations, 272
- Volition, disorders of, 57
- Vomiting, 61
- WASSERMANN reaction in paresis, 84, 85
- Waxen flexibility, 169
- Will, arrest of, 228
 explosive, 228
- Writing, errors in, 64





WERT
BOOKBINDING
MIDDLETOWN, PA.
NOVEMBER 14
We're Quality Bound

WM 100 B786m 1924

43330630R



NLM 05219620 1

NATIONAL LIBRARY OF MEDICINE