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A HANDBOOK *of* PSYCHIATRY

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Know then thyself, presume not God to scan;
The proper study of mankind is man.—ALEXANDER POPE,
Essay on Man

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Normal Personality Functioning

It is almost a daily occurrence to meet or hear about some individual who is considered eccentric, sadistic, wicked, magnanimous, or virtuous to an extreme degree. These people are recognized as being out of the ordinary—unusual in their behavior. They are driven to react in their individualistic manner by forces that are not readily apparent. Closer study often reveals these characteristics to be the result of attempts by the various persons to adapt themselves to life's situations. Whether they belong in the realm of what constitutes normal personality functioning or whether these people are suffering from some form of mental disorder can be judged only on the basis of a knowledge of normal behavior and its development.

There is no definite demarcation between normality and abnormality. Normalcy is a relative term and its patterns vary continuously. What is considered normal in one country may be thought peculiar in another. Two Frenchmen kissing each other at a railroad station in Paris would attract little attention, but this would be thought most unusual in our country. Essentially, the manner in which an individual conducts himself with regard to the accepted moral code and cultural pattern of his community is the index of his normalcy. Behavior variations are expected depending upon age, sex, religion, and many other factors, but in general one adheres to the old saying "In Rome do as the Romans do" to be accepted as a well-balanced personality.

Everyone is born with a capacity for normal development

and growth, subject to biologic limitations. But circumstances do not always permit the full development of individual capacity. Thus, inadequate nutrition may limit bodily growth as in rickets, which may readily be overcome by the addition of vitamin D and sources of calcium and phosphorus in the proper ratio. Similarly the intellectual retardation of the cretin may be alleviated by the early use of thyroid medication to supplement such deficiencies in the body.

The elaboration of the individual from a one-celled organism to a complex, multicellular, highly developed and specialized one requires an integrating system that can co-ordinate the various functions so that they work smoothly and harmoniously. This need for integrated behavior to help the individual adapt himself to his environment is fulfilled by the nervous system. The development of sense organs allows the reception of stimuli both from the outer world and from within one's own body. At first our reactions to various stimuli are simple and undifferentiated, but as the central nervous system becomes increasingly complex an intricate pattern of reaction begins to emerge.

By the time the human embryo is four weeks old its nervous system is well advanced. A fetus eight weeks old will respond with reflex movements to a touch upon certain areas on the mother's body. The growth of the nervous system continues until, at birth, the normal infant is a highly integrated organism capable of complicated responses.

Various types of behavior characterizing different age groups will here be discussed in order to present the range of personality problems that may be nothing more than temporary incidents in the process of growth and development.

INFANCY

At first, bodily reactions are reflex in nature and are based simply upon the nervous connections established in the body.

Thus, if by chance some milk should enter an infant's trachea (windpipe) a cough reflex occurs that differs in no way, concerning the muscles involved, from the cough reflex of an adult. This is true, also, of the reflex responses of sneezing, yawning, or blinking. However, these simple behavior patterns soon take on social meaning and are utilized by the individual in accordance with his needs or desires. The infant may cough, not for the purpose of clearing his throat, but to signify discomfort or to direct attention to himself. At first a baby cries when hungry; after a while he may cry to get something besides food or because he is afraid; later he cries in the hope that his mother will pick him up. So we see that the cry that was originally an almost automatic response to feelings of hunger becomes the means of expressing desires other than for food. If the expected reward is not forthcoming, the infant substitutes another maneuver for crying. If he is successful the pattern will be repeated again and again. An infant may form such associations when only a few weeks old.

Vomiting is a not uncommon occurrence in infancy and an analysis of some of its causes will serve to illustrate how the infant may express himself. It is well known that some infants cannot tolerate certain types of foods and that when they are physically ill they will vomit. However, when an infant who previously has been eating well becomes a feeding problem, other factors require study. Vomiting may represent a natural rebellion against overfeeding or forced feeding. On occasion it may be a means of expressing antagonism or resentment at the intrusion of a new baby in the household who receives most of the attention. Maternal anxiety which manifests itself as a too rigid adherence to schedules and a refusal to make allowances for unusual events may result in feeding difficulties. Dissatisfaction and discontent may be shown in poor feeding habits as well as in other forms of be-

havior. The infant soon realizes that refusal to eat or vomiting are most effective ways to reject a distasteful environment. The causes are not to be sought in the infant himself but in the parents and their attitude toward him. Fear and insecurity may be generated by a cold, formal, and unsympathetic relationship with the infant and a train of symptoms including feeding problems may follow in its wake.

Thumb sucking, or other forms of oral stimulation, is also a behavior device that may persist normally until the fifth, sixth, or seventh years. Often it is the only comfort known to the anxious child or the one who feels he is not loved. It is his means of escaping from unhappiness, a withdrawal within himself for contentment.

CHILDHOOD

As the infant passes into childhood, his attitude toward the people in his environment, particularly the members of his family, becomes more and more differentiated. He is, of course, influenced largely by their attitude toward him, and by the presence or absence of factors upon which his emotional security depends. These are centered largely around his feeding and the love and affection in his environment. He may depend too much upon his oversolicitous mother, or he may accept the domination of an overbearing parent to such a degree that he indulges almost exclusively in fantasy and imagination for satisfaction. Sometimes he reacts with irritability. Or he may show his resentment at being forced to do something he does not wish to do, or his frustration at being deprived of activity he would enjoy, by a temper tantrum. The tantrum is usually accompanied by violent physical activity of a self-destructive nature, such as kicking, biting, scratching, screaming, and banging his head on the floor. If he should discover that he can dominate his parents in this way, he repeats the tantrum. Tantrums are seen oc-

casionaly in healthy children, but if they are frequent they lay the groundwork for future neurotic behavior.

A negativistic period characterized by a tendency toward spiteful behavior is natural for many children between the ages of two and five. It represents a growing feeling of independence and the desire to exercise this right. When parents relentlessly insist on strict obedience, the spiteful behavior is intensified; or the newly awakened feeling of independence may be repressed, leading to an unhealthy submissiveness and a withdrawal from reality.

Lying may be indulged in to avoid punishment or to capture attention. It is not a sign of a malignant personality disorder unless it is indulged in for its own sake over long periods of time. It is always wise to inquire into the circumstances surrounding such behavior to see if the situation itself needs modification.

Nail biting by older children is a sign of tension and uncertainty, or it may imply an aggressive tendency. Harping on the symptom or embarrassing and punishing the child merely encourages the habit by increasing the insecurity.

Involuntary urination (enuresis) may continue normally until the child is three or four years of age. It may occur even longer, chiefly during the night or at a time when the child is greatly absorbed in play of an exciting nature. In many children, enuresis is the result of poor hygiene, inadequate training, and the absence of proper toilet facilities. The fact that it may be a symptom of kidney or bladder infection or of a local genital irritation must not be overlooked. Neither should it be forgotten that enuresis may be a symptom of anxiety engendered by threats of punishment; it may also signify an unhappy home environment. More rarely, it is a substitute erotic manifestation that arises from the utilization of the same or proximal structures in urinary and genital functions.

Upon entering school the child is able to compare himself with others. His parents are no longer present to compensate for any of his disabilities, and inferiority feelings may become more apparent. If he is a child of superior ability, school may be fascinating and interesting for a time. The child is pleased with his own achievements but if he is not advanced rapidly enough or given sufficient work to do, boredom sets in. This then may lead to behavior problems, for the child has too much time available in class while the others are still trying to grasp the subject the teacher is presenting.

Interest in the anatomical differences between the sexes is part of this period in life. When mishandled it may lead to many complications, as illustrated by the following case:

J.T. was referred to the psychiatric out-patient department of a large city hospital by a child-placement agency. The story was that John had been a habitual truant, that he had stolen a pocketknife from another boy and a watch from his teacher, that he used profane language to the teacher and to his foster mother, and in general had been unapproachable, hostile, and unmanageable. He had been placed in four boarding homes in the past seven months, and the agency in each case had been requested to place him elsewhere because of his difficult behavior.

John, who was almost eight years old and appeared normal, was brought in. His first words to the psychiatrist were: "I know why they brought me here—to tell you how bad I am and have you do something about it. Well, I don't care what you do. The worst things that could ever happen to anybody have already happened to me. Nothing anybody does can bother me any more. I'm going to do what I want, and I'm going to take what I want, and even if you beat me up it won't hurt me, because I've already been through the worst things in the world."

During a long interview, in which John continued to express his hostility and resentment in the same deliber-

ate, cold, and self-contained way, he told of his feeling that he had been terribly punished by being separated from his family, that his mother had rejected him in favor of his sister, and in general that he was alone against the whole antagonistic world.

His history, obtained in detail afterward from the social worker, was that John had indeed been rudely separated from his family as a consequence of his mother's dismay at discovering him watching his little sister undress. Her turning for advice to a misguided social agency had resulted in the recommendation that he be boarded out to obviate the danger of sexual interest being stimulated. Neither the mother nor the social worker realized the terrific amount of harm that a separation from his family could do, compared with the questionable harm of expressing normal sexual curiosity. Answering his natural questions and keeping him well occupied would have attained the desired results, avoiding the emotional hurt he suffered by what he considered his family's punishment of him, and his perfectly normal reaction to their rejections.

After a series of interviews with John and later with his mother and father, he was sent back home. His behavior problems, so disturbing and so serious at the time of his first visit to the psychiatrist, disappeared. The only evidence of hostile maladjustment he showed in continuing talks with the psychiatrist was an openly expressed dislike of his sister.

ADOLESCENCE

The period of adolescence has been variously estimated. Most authorities, however, are agreed on the ages between twelve and twenty-one. In early adolescence, i. e., between twelve and sixteen, physiologic changes leading to physical maturity are experienced. Girls begin to menstruate; their breasts enlarge and become shapely. The girl who has not had the benefit of instruction concerning menstruation may become terror-stricken, believing she is bleeding to death,

or she may misinterpret the event as a punishment for "sinful" acts in the past. There is a wide range of individual variation to menstruation. Some girls are irritable and unduly emotional—crying and laughing too easily—just before the monthly period. Others will wash the month's accumulation of lingerie just before menstruation begins. Still others become greatly depressed and tire easily.

Boys also undergo a change as they enter the adolescent stage. Their voices become lower, a downy beard and pubic hair appear. Nocturnal emissions may occur as a normal physiologic development and if not explained the boy may fear he will become insane because of this loss of "vital fluid."

During this period sexual urges will lead to irritation and frustration unless directed along pleasurable and acceptable channels. If masturbation is practiced to relieve sexual tension, the individual should not be threatened with all sorts of dire implications (i. e., insanity or blindness). Masturbation represents a normal stage in sexual development which in all likelihood will be supplanted in time by a more mature form of sexual gratification. Masturbation at an even earlier age is not an abnormal habit. The child may have learned accidentally that rubbing the genitals, perhaps because of local irritation, produces a pleasurable sensation. Ordinarily the habit is forgotten by the child when the opportunities for social and recreational activities are sufficient to engage his interest, and the opportunities for sexual excitement are few. However, if the practice in adolescence is associated with a feeling of guilt or with a severe emotional conflict, it becomes a medical problem. It is the attitude toward masturbation and not the act itself that may lead to psychiatric difficulties.

ADULT LIFE

Heterosexual orientation is usually achieved in early adult life. With its questions of marriage and parent-

hood. Differences in inherent sexual passion, religion, social-economic status, and goals in life are modifying factors with the individual who contemplates marriage. It is quite common for instinctive strivings to result in rationalizations that allow the individual to engage in normal sexual practices even before marriage.

With the attainment of manhood or womanhood, a well-developed behavior pattern is usually apparent. In general, this presents the following traits:

An ability to mingle freely and without prejudice with other members of society in activities that are morally acceptable to the community.

A sense of responsibility toward those who are near and dear.

Flexibility toward new situations of both a pleasant and unpleasant nature and an ability to meet the event with an appropriate emotional response. The average person would not be made happy by the sudden news that his house had been destroyed by fire, assuming that he cherished his home and that articles in it were irreplaceable either because of lack of insurance or intrinsic value. Normally, he would be temporarily depressed. But he would not become morose, neglect his business, refuse to be consoled, go off on a long drinking spree, and perhaps commit suicide.

Ambition, with particular reference to a socially acceptable goal. The emotionally mature workman strives for promotion and the lawyer aspires to a judgeship.

The faculty of relaxation.

Finally, the normal adult neither overestimates nor underestimates his capabilities nor his intrinsic worth to society. To attempt to overawe people by boasting is certainly not in line with normal conduct. Similarly, to worry continually about one's mistakes, to be constantly dissatisfied with oneself, and to be afraid to act because of possible failure would not be the conduct of an emotionally mature adult.

LATER-LIFE PERIOD

During middle age we tend to become fixed in our ways of thinking and acting so that adaptation to rapid change is difficult. The emphasis is on holding what we have gained against the competition of younger people pushing up from below. Worry over economic insecurity may affect our behavior and we are no longer as ambitious as we were. Those who are not beset by economic problems may not know how to utilize their leisure—the fruit of their success. Various physiologic changes occur: there is a decrease in sexual virility, the skin wrinkles, the hair becomes gray or falls out, and there is lessened physical stamina. All or any of these situations may bring on behavior that seems abnormal but which is in reality not unusual for the age level at which it occurs.

The woman of middle age is near the menopause or climacteric when her menstrual bleeding will cease. Her reaction to this event will depend largely on the meaning of this occurrence to her. Some women erroneously expect it to spell the end of their sexual attractiveness and look forward to it with sadness. Other women anticipate it with pleasure because it means that a periodic annoyance will cease and with it the possibility of pregnancy. The woman who has many interests and sources of satisfaction in life will ordinarily pass through this period with little difficulty.

LATE-LIFE PERIOD

In the evening of life many of the inhibitions of adulthood disappear and we become talkative (if not garrulous), irritable and fussy, or kindly and paternal. Generally speaking, old age presents an exaggeration of the dominant personality trends. Efficiency diminishes and new ideas or ways of doing things are not easily accepted. Memory is dulled for new material and recent events, which leads to reminiscing

about the past. The same stories are told again and again. There is a decline in the variety of interests, physical skill decreases, and old people who have little responsibility often suffer from a feeling of inadequacy. From the physiologic standpoint the body's ability to replace worn-out tissues diminishes and there is a loss of adaptability and response to heat, cold, and sudden exertion. Cardiovascular changes predispose the individual to various physical illnesses (heart failure, cerebral vascular accidents, etc.) which often spell the end of life.

ADJUSTMENT MECHANISMS (DYNAMISMS)

Throughout his life, during periods of mental illness as well as of health, everyone feels the necessity for constantly adjusting himself to situations as they arise. The person may do this consciously or unconsciously, but he knows that he *must* do it if he is to live in harmony with his environment and avoid internal conflicts. The mechanisms by which he accomplishes this end are known as dynamisms.

SUBSTITUTION

One act is substituted for another to relieve an unpleasant emotional feeling. For example, pleasant and gratifying day-dreams may be substituted for an unpleasant task that lies ahead. Sublimation is a wholesome, constructive type of substitution, illustrated by the unmarried woman who satisfies her maternal desires by operating a children's nursery.

REPRESSION

Many of us refer to the earlier years of our lives as "the good old days." However, on closer investigation we realize that we have had many disagreeable experiences which are difficult to recall. The crowding of certain memories from the conscious into the subconscious realm of the mind constitutes

repression. Many mothers forget the intense pain and discomfort of childbirth soon after the delivery of the child. However, the psychic energy associated with the repressed experience may give rise to an internal conflict.

CONVERSION

When the psychic energy associated with the repressed feeling is changed into a physical manifestation, the process is known as conversion. This was shown in the case of an hysterical girl who, during the heat of a fiery argument with her mother, delivered the latter a hard slap in the face with her right arm. After the occurrence the girl became morose and repentant. She was unable to forgive herself for such disrespectful behavior. Shortly thereafter, when she had apparently forgotten the incident, she developed a paralysis of the right arm. Neurologic examination revealed no structural nerve lesion. The paralysis cleared up entirely after she was able to recall the distressing incident and could re-experience the painful emotions and feelings associated with it. The unpleasant episode had been repressed into the subconscious realm where the energy associated with it was converted into a paralysis of the arm. Upon allowing the repressed energies to express themselves directly with a working off (abreaction) of the associated emotions, there was no further energy available for the maintenance of the paralysis.

IDENTIFICATION

By means of identification we are able to behave as though we were not ourselves but other persons, deriving satisfaction from sharing their successes or failures. In everyday life we identify ourselves temporarily with the hero or heroine of the moving picture, even shedding tears when the story is very sad. In the mentally ill we often see people who claim to be

of royal birth and act accordingly, in this way satisfying a desire for self-recognition.

PROJECTION

By means of projection, which is the opposite of identification, we externalize feelings, expectations, and wishes; that is, we project them onto others because they are unacceptable to our conscience.

Individuals with certain shortcomings frequently criticize identical traits in others out of all proportion to the actual importance of the fault. The accusation of being unfaithful may be projected onto the marital partner by the spouse who has entertained similar ideas or who has indulged in extra-marital relations. During a major personality disorder a person may project his fears to the external world and hear voices of imaginary individuals telling him about his indiscretions. Another example is of a cashier who after illegally appropriating some of the bank's money began to scrutinize everybody else so carefully that soon he was convinced that all the cashiers had stolen money.

DISPLACEMENT

By the dynamism of displacement, the emotions associated with an object or situation are detached from that setting and linked with unrelated persons or circumstances. This mechanism is most often utilized when there is interference with the expression of our feelings. The man who quarrels with his wife and then, as soon as he arrives in his office, discharges his stenographer for some trivial cause is an illustration. Displacement may be exercised, also, by placing our esteem in someone who does not deserve it, or by being prejudiced against another person for insufficient cause. If we are unable to express our feelings against an authoritative friend or

parent, we may displace the hate onto someone else in authority, for instance a policeman; or an unpleasant relationship with one policeman may lead to hostility toward the entire force.

RATIONALIZATION

By rationalization we try to make our acts socially acceptable. We use rationalization, also, as a means of self-protection. We do not strike our husky neighbor for his sarcasm, because we rationalize that to do so would be to lower our dignity. But if he is frail, we reason differently, feeling obliged to strike in order to uphold our honor. Through rationalization we justify actions that have been thoughtlessly performed, or which may have been committed because of some instinctive urge. We may not be aware of the fact that we are rationalizing.

COMPENSATION

"He who excuses himself very strongly, accuses himself," is a truism. Those of us who have feelings of inferiority or insecurity may act in a superior, self-assured, sophisticated manner. The dynamism of compensation represents a defense mechanism that serves to protect our pride and vanity.

SYMBOLIZATION

Language itself is a symbolization understood by those who use it. It is this use of symbols that makes possible the transmission of thoughts and ideas. Other symbols may be charged with emotion. Our country's flag stirs patriotic feeling because it stands for liberty. Symptoms may also be symbolization. The paralysis of the girl's arm, described above, may be regarded as a symbolic confession of guilt. It was her attempt to punish the part that had sinned. Dreams often

express desires under the cloak of symbolic distortion. In mental illness, words may take on individualistic meanings and the symbols are difficult for others to understand. For instance, the patient with an involved thinking disorder may misinterpret the phrase "to look down on someone" as an actual physical situation in which one person looks down at another.

CONDENSATION

By means of the dynamism of condensation many thoughts can be concentrated or compressed into fewer words. Some writers will condense two or more words and in so doing vividly express their ideas. An example is the following sentence: "She chaperuined the party." Or by a *lapsus linguae* (slip of the tongue) we may reveal our true feelings. A mentally ill individual may so condense his ideas and words that they can be understood only if one discovers his associations with the words.

REGRESSION

When the adult passes from a more complicated mode of living back to reactions that were common in his early life, he may be doing so in order to escape from a painful reality. By his retreat into a period of his existence in which he carried fewer responsibilities he is partially relieved of present difficulties. Such regression is usually due to an emotional conflict or frustration. Crying when one is disappointed is a regression since it is a childish way of meeting a situation. Adults, when mentally ill, may regress to wearing short stockings and sucking lollipops. War, by lessening restraint, may also lead to regression.

A knowledge of normal personality functioning enables one to deal with problems in human behavior in a con-

structive manner. Moreover, it provides a background of normality in front of which abnormal variations in behavior become understandable.

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Abnormal Behavior

CERTAIN behavior patterns differ from the normal only in a quantitative measure; other reactions show a qualitative dissimilarity. Some are so slow and insidious in onset as to defy recognition until the process has become irreversible. Others can be detected early—in time for modification.

DANGER SIGNALS

Fortunately, there are danger signals to indicate that the normal personality is verging into the abnormal. For instance, sadness may be considered an appropriate response to misfortune, but should this deepen into a prolonged depressed mood it means that the individual is close to a serious mental illness. A distinctly unusual or bizarre response, such as marked elation called forth by an unfortunate event, has a similar significance. Some of the other variations indicating incipient pathologic personality change are:

A change of attitude toward friends or relatives.

Unusual or bizarre mannerisms.

An increase or decrease in efficiency.

The appearance of argumentativeness and diminished cooperation.

The development of hostility to suggestion, with a jealous or suspicious attitude.

Diminished self-confidence and hypersensitivity to criticism.

A marked change in ambition and vocational interests.

To evaluate these danger signals properly, a knowledge of the individual as he formerly functioned is essential. Furthermore, the various components of personality function that may become disordered must be understood on the basis of normal personality functioning. Let us consider some of the more common types of disordered behavior.

GENERAL CONDUCT AND ATTITUDES

Dress

Bizarre peculiarities of dress may indicate marked twists in thinking. For example, when an attempt was made to remove the pieces of rubber that a patient was wearing next to her skin, she resisted vigorously because she considered the rubber necessary to protect her skin from the poison gases that she thought were being circulated in her room. Or, certain aspects of dress may denote a sweeping hypochondriacal reaction, as in the case of a man who wore four tightly pulled belts to prevent his stomach from falling. Cosmetics may be used to excess with poor taste by women who are elated and erotically inclined.

Attitude toward Others

The relationship with other individuals is noteworthy. Some people are friendly, frank and co-operative, even when ill. Others are resentful, evasive, and suspicious without adequate cause.

Sleep

Disturbed sleep is another early indication of an emotional disorder or nervous disease. The total hours of sleep may be increased (hypersomnia), decreased (hyposomnia), or the person may not sleep at all (insomnia). Characteristic variations in the sleep pattern may be seen in the different emo-

tional states. In mood disorders with mental depression, early morning awakening is common, with difficulty in falling asleep again at that time. Individuals who are anxious may have difficulty in falling asleep with "fragmentation" of the sleep pattern. They awaken a number of times during the night and find it hard to go to sleep again because of their preoccupation with worry. Persons with structural disease of the brain (i. e., cerebral arteriosclerosis) may catnap during the day and be wakeful at night. With delirious reactions sleep is intermittent, the individual being so fearful that he is afraid to sleep at night. In illnesses characterized by disorders in the content of thought, such as delusions and hallucinations, there is variation in sleep from night to night. "White nights" (no sleep) may alternate with a full night's sleep, despite fear and worry. The sleepless nights are called "white nights" because on the sleep chart there are no crosses to indicate sleep.

SLEEP CHART

Date	To bed at 9 P.M.	10	11	12	1 A.M.	2	3	4	5	6	7
Early A.M. awakening	x	x	x	x	x	x	x	x			
Anxious patient with "fragmenta- tion" and trouble falling asleep				x	x	x			x	x	x
White night (no sleep)											

An inversion of the sleep rhythm, which means that the patient sleeps during the day and is awake at night, is observed in "sleeping sickness" (encephalitis lethargica).

Eating

Disturbance in the intake of food constitutes another frequent pattern in general behavior. Nourishment may be

refused for a variety of reasons, such as the false belief that it has been poisoned, or that it contains excreta. Spoon feeding or feeding by a tube passed into the stomach (gavage) may be necessary. Regurgitation and vomiting even after tube feeding may so seriously jeopardize a person's life that an infusion of fluids through a vein becomes imperative.

Elimination

Eliminative functions may be altered. There may be diarrhea, constipation, incontinence of urine or feces, or a voluntary retention of excreta.

Personal Hygiene

Disregard of personal hygiene is a common behavior disorder. Hair, nails, mouth, and clothing are neglected.

Mood Changes

Outbursts of irritability, aggressiveness toward others (homicidal attempts) or toward oneself (suicidal drives), seclusiveness, impulsiveness, and erotic behavior are other abnormalities frequently observed.

Motor Functions

The energy output in the form of motor functions (activity) of a normal person varies with the individual, his immediate surroundings, and his need of adjustment to that environment. The individual who is so active that his activity becomes purposeless and disorganized, and is accompanied by a rush and push of ideas, is hyperactive. He is in a condition of psychomotor excitement. If, on the other hand, there is a paucity of ideas and immobility, he is hypoactive and in a condition of psychomotor retardation.

Posture and Gait: These may indicate a physical disability or they may reveal attitude and mood. A stooped posture and a slow, shuffling walk reflect a depressed state of mind.

Automatic Obedience: Under the influence of excessive suggestibility a person may demonstrate automatic obedience, reacting to outside influences almost mechanically and very often without conscious awareness. The automatic repetition of another's movements (*echopraxia*), the repetition of words heard (*echolalia*), and waxy flexibility, where the individual maintains a fixed posture without trembling or apparent fatigue for an extended period of time (*cataplexy* or *flexibilitas cerea*) are types of automatic obedience. It is the waxlike resistance that the examiner feels when he attempts to move a limb of the cataplectic person which gives the condition its name.

Negativism: The antithesis of automatic obedience is negativism. There may be positive resistance by the patient to any attempt to make him move or comply with a request. He may retain one position for days or weeks and any endeavor to get him to alter that position meets with marked resistance. Negativism may be manifested, also, by a refusal to eat or dress, by the retention of urine and feces, and by a general lack of co-operation.

Stereotypy: The monotonous repetition of an action or speech until it becomes a habit, such as wringing of the hands, is known as stereotypy.

Perseveration: This condition is usually confined to individuals with an organic disease of the brain and consists of a persistent repetition of movements or speech despite all efforts to produce a new movement or speech.

Miscellaneous: Other motor disorders are gesturing, picking at various parts of the body or clothing, semiautomatic tics, and certain peculiar mannerisms.

CHARACTERISTICS OF TALK

Quantity and Rate: The amount or quantity of talk, as well as its rate, may be decreased or increased in association with mood changes; for example, the sad individual talks little and does so slowly. The voice may be low or loud, whispered or hoarse, hesitant or explosively rapid. Or it may be slurred (as in general paralysis due to syphilis of the brain), the speaker finding it difficult to repeat such phrases as "methodist episcopal" or "royal riding artillery brigade" or "hippopotamus."

Disordered Rhythm: Stuttering and other disorders of rhythm occur most often in persons (with an increase of the defect) in anxiety-producing situations. That is, individuals who have a tendency to stutter show an increase in this when they are made tense or anxious.

Word-Salad: Vagueness and evasiveness are frequently seen in illnesses where thinking is disturbed (schizophrenia). New words (neologisms) are sometimes coined and used so frequently as to cloud intelligibility. The result is called a word-salad.

Blocking of Speech: A sudden involuntary stoppage in the stream of talk, not produced by an external stimulus and often inexplicable, is a blocking of speech.

Circumstantiality: This means going into a great deal of needless detail before the goal is reached.

Flight of Ideas: This signifies increased distractibility and

an easy shifting of thought from one topic to another so often that the goal-idea is seldom reached. Punning and rhyming may be a phase of unusual happiness, sometimes associated with overtalkativeness and with flight of ideas.

EMOTION

Emotion is difficult to define but it may be thought of as representing the individual's inner feeling at a given moment. It is associated with actual bodily changes which ultimately are consciously appreciated and form part of the emotion. A mood is a prolonged state of emotion.

The predominant or leading mood, or emotion, requires study from the standpoints of intensity or depth, persistence or lability, appropriateness or inappropriateness to the moment, and whether it is in harmony with what the patient is thinking about.

Objectively, the emotional state is indicated by general behavior, facial expression, or some other bodily reaction such as tears, sweating, trembling, and gesturing. The manifestations may or may not agree with the person's subjective mood experience. The commonest emotions are elation (great happiness), depression (sadness), fear, and anxiety. Anxiety is apprehension arising from within; fear is related to an external object. Thus: "I am afraid (fear) of the dog, but I feel anxious for no reason that I know of."

Apathy is the absence of affect (mood) and is often indicated by a patient's statement that he is devoid of feeling. Actually, there cannot be a complete absence of emotion.

Euphoria is a generalized feeling of well-being. Exaltation is happiness associated with a feeling of grandeur. Sadness, gloominess, irritability, anger, bewilderment, and suspiciousness are other expressions of mood.

The term "emotional deterioration" usually means a progressive inability to show an adequate emotional response.

CONTENT OF THOUGHT

Distorted ways of thinking and disorders of thought associations are observed in situations of emotional stress as well as in psychiatric illnesses. Daydreaming and fantasy are at times substituted for reality, leading to dereistic (autistic) thinking wherein the individual ignores any contradiction that may exist with factual reality and satisfies his strivings in fantasy thoughts.

Concentration may be interfered with by preoccupation with worry or by insufficient attention.

A number of unusual experiences or thoughts may be a part either of normal personality functioning or of mental disorder. For example, a person may be in bed about to fall asleep (a sleeping-waking or hypnagogic state) when he awakens suddenly because he heard the doorbell. He may get out of bed and find no one at the door. If he asks other members of the household about the sound, he would be told that the bell did not ring. Such false sensations are fairly frequent experiences. Seeing an oasis in the desert (mirage) where none actually exists is another example of a distorted sensory experience.

False Sensory Impressions

Hallucinations: False sensory impressions occurring without external stimuli are known as hallucinations. Those occurring in the sleeping-waking state are referred to as hypnagogic hallucinations. However, there are other types which are best classified under the five special senses, namely, hearing, seeing, smelling, tasting, and touching.

Auditory hallucinations are the most common type. Voices are heard though no one has spoken. The individual may plug his ears with cotton or stick his fingers in his ears to

keep the voices out. At other times he assumes a listening attitude, breaking it only to answer the voices.

Visual hallucinations range from simple flashes of light to the most elaborate scenes. The alcoholic sometimes sees animals, including "pink elephants." The animals and the people that he sees are very small (microptic) and brightly colored, or a drab dark-gray.

Olfactory hallucinations consist of various sensations of odors, usually unpleasant, as of poisonous gases. Patients with a structural disease of the brain, causing irritation of a certain part of the temporal lobe, frequently have the hallucination of odor ("uncinate fits").

Gustatory hallucinations are those involving taste and are related to olfactory hallucinations since taste and smell often go together.

Tactile hallucinations are false sensory impressions of touch. They are vivid in delirious states due to excessive alcoholic intake. A person may complain of small bugs or ants crawling over his skin. Feelings of electricity may also be experienced in various parts of the body.

Illusions: Illusions are differentiated from hallucinations in that they do have some external basis in fact. A shadow on the wall may be misinterpreted as a man in the room. Thus, an illusion is an actual perception that has been pathologically changed, that is, misinterpreted.

False Beliefs

Delusions: Beliefs not in accord with the facts, which cannot be corrected by reasoning and are out of harmony with the person's education and cultural background, are known as delusions. It is useless to argue directly with the person who entertains a delusion.

Among the many types of delusions we find:

Delusions of grandeur, where the person overestimates his wealth, ability, or beauty.

Persecutory delusions, in which the person believes he is being tortured or harmed by others.

Delusions of reference, where the individual is convinced people talk about, and cast aspersions on, him.

The person with delusions of alien control (passivity feelings), who believes that he is under the control or guidance or influence of an outside force.

Religious delusions, involving strange and mystical experiences such as receiving messages from heaven.

Nihilistic delusions, in which there is a more or less complete denial of reality and existence; the individual may claim that he has no head or eyes, that nothing exists.

Delusions of self-depreciation, giving rise to beliefs in one's unworthiness and sinfulness.

Somatic delusions, where the person is absolutely convinced that he has a cancer, syphilis, or some other disease, despite all medical evidence to the contrary.

Feelings of Familiarity and Unfamiliarity: A feeling of having been in the same place or of having seen something previously (*déjà vu* phenomenon) may be repeatedly experienced by epileptics. The environment may appear strange and unreal (feelings of unreality) in that objects do not appear natural nor as they appeared formerly. In depersonalization feelings there is a sense of change in oneself. The body feels altered, unreal, strange.

Obsessions: Obsessions are insistent thoughts that are recognized as being absurd yet which persist in spite of the person's efforts to rid himself of them.

Compulsions: Compulsions are conscious actions that are carried out in response to an inner irresistible need. The compulsion arises against the subject's wishes and if not performed

causes anxiety. An example is repeated handwashing by a person who knows that it is unreasonable or foolish. Such a compulsion may persist even after the skin cracks and bleeds. Kleptomania is a compulsion to steal.

Phobias: Phobias are more or less insistent illogical fears of special objects or situations. Thus, one may have a fear of closed spaces (claustrophobia), of sharp objects, of dirt, and so on.

ALTERATIONS IN MENTAL AWARENESS (CONSCIOUSNESS) AND DISORIENTATION

Awareness of one's surroundings may be disturbed in the degree of appreciation (in states of more or less consciousness) and in the orientation to environment.

Consciousness signifies an awareness or grasp of the environment and of one's relation to it. Sleep is a normal type of disturbance of consciousness. Other conditions, such as brain tumors and delirious states, may cause a diminished awareness of one's surroundings.

Coma is a profound degree of stupor in which all consciousness is lost and no voluntary activity occurs.

The appreciation of time, place, person, and self may be disordered, resulting in disorientation. A disoriented person may ask questions concerning the date, name of the place he is in, names of those about him, and even his own name. The patient in a delirium is usually disoriented for both time and place; he is fearful and often experiences hallucinations.

DISTURBANCES OF INTELLECTUAL FUNCTIONING

Intellectual functioning is dependent on a number of factors. Memory is one of these factors, including the ability to retain information and recall it as required and to utilize knowledge with judgment and common sense.

Intelligence

Intelligence may be defined as the general capacity of the individual to utilize knowledge and experience when adjusting himself to new situations. Such factors as emotional disturbances and difficulty in perception and expression determine to some extent how well intelligence functions at a given period. Intelligence will be discussed again in Chapter Five.

Memory

Memory may be increased, decreased, or disturbed. In a genius we see prodigious memory with regard to his particular field. Suspicious individuals may retain minute details with regard to some sensitive problem. Decreased memory is seen as a characteristic of aging persons, usually first for the recent then for the more remote experiences.

Amnesia is a loss of memory for a certain period of time or for a given event. If the event is recalled falsely, there is paramnesia. The person who adds false details to a real event indulges in retrospective falsification. The practice by individuals who have a serious impairment of memory to fill in gaps by fabrication is known as confabulation. Other memory disorders will be discussed in connection with specific mental illnesses.

From the foregoing partial index of the innumerable manifestations of abnormal behavior, and after a study of the chapters that follow, the impression must be strong that most patients with a mental illness pass through what is known as a prepsychotic period. During this time the patient is not actually mentally ill but poises on the brink of either a minor or major personality disorder. The knowledge as to the imminence of the toppling over, whether the catastrophe has actually taken place, or the possibility of averting it will be gleaned to some extent by the mental examination.

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The Mental Examination

IN ORDER to evaluate the mental condition of the person whose behavior is such that he requires medical aid, the psychiatrist obtains as complete information as possible regarding the patient's hereditary background, life development, and present difficulty. This information is obtained, when possible, from the patient himself and from a close relative or friend, and no matter what their stories reveal the psychiatrist treats the material in a purely objective and scientific manner. At no time does he introduce his own emotional reactions into the examination. He listens sympathetically to all that he hears so that later he may analyze the statements and synthesize the results in a constructive fashion. When the purpose of the examination has been explained to the patient and he has been shown that it is really for his own benefit, he will usually co-operate. If not, that fact is significant and is noted by the psychiatrist. When the patient co-operates and works with the doctor, this is referred to as a rapport between physician and patient.

Since no two persons are ever disturbed in an identical way or degree, the mental examination cannot be a routine procedure. Only general rules are applicable. The examination must be inclusive; that is, it must be so conducted as to uncover as many of the dynamic factors in the illness as possible and the inherited tendencies that have hampered or aided the individual in his adjustment to life's demands.

Obviously, not every detail of every developmental phase need be investigated in each case. But all emotional reactions

to major physical and environmental changes are important and should be thoroughly investigated. Generally, the examination proceeds as in other fields of medicine: by the indirect and direct methods. There is but one exception to this rule. In court work the psychiatrist is often called upon to express an opinion. Opportunity to examine the patient is denied to him, and relatives will not talk freely. The history of the patient as testified to in court is given to the doctor in the form of a hypothetical question and he must base his opinions on these facts, assuming them to be true.

INDIRECT EXAMINATION

The indirect examination includes the present illness, personal history, family history, and general personality make-up of the subject. The information obtained in this way provides the background against which the psychiatrist sees highlighted dynamic factors that play a role in the way the individual reacts. It is desired to find out *why* certain events (many of which would have been unnoticed by the mentally healthy individual) have been of the utmost significance in precipitating the patient's present illness.

In many cases the illness presents an accentuation or distortion of previous personality traits. For this reason, when the patient is accompanied by a close relative or friend that person is interviewed—preferably before the patient is examined and not in the presence of the patient. If this precaution is not taken, especially if the patient is a child, it will inevitably increase the examiner's difficulties. At the outset, the name, sex, age, nationality, and occupation of the patient are recorded.

PRESENT ILLNESS

Many psychiatrists ask first about the patient's chief complaints and then about his personal history. However, a number of patients will insist upon explaining their present troubles

and refuse to divulge anything about their past. This has led to the practice of some psychiatrists to obtain the present illness first. Whichever procedure is followed, the goal is the same: to obtain a factual and complete picture of the complaints, for the relief of which the patient either has come or has been brought to the psychiatrist, and a sufficiently detailed personal history to facilitate a working diagnosis and helpful treatment.

It is primarily essential to ascertain when and how the patient began to experience the symptoms of which he complains and the mode of their development. The exact time or mode of onset may be difficult to determine because of the slow, insidious development of certain mental diseases. In these situations an effort is made to get a picture of the background, circumstances, and precipitating events surrounding the period during which the first pathologic symptoms were manifested. As part of the analysis of the setting in which the illness arises special inquiry is made into factors that are known to play causative roles. Among these may be mentioned physical illnesses with their associated exhausting and toxic effects. Some, like encephalitis, may cause actual destructive changes in the central nervous system; others, like pneumonia and influenza, are apt to be followed by depressed states. The diagnosis of a venereal disease may likewise result in marked discouragement or anxiety concerning its possible effects of fear of a discovery of the condition by friends or relatives. Thus, not only the disease but the patient's attitude toward it are most significant. Similarly the individual's particular way of experiencing general biologic changes, such as puberty, pregnancy, menopause, and senility, also furnishes valuable clues.

Changes in the environment or personal situation may be sufficient to precipitate an emotional disorder. Living in close proximity to annoying or domineering in-laws, marital maladjustments, financial difficulties, dissatisfaction with one's occupation, fear of pregnancy, an unhappy love affair, the death

of close relatives or friends, witnessing or being involved in a particularly distressing or horrible event, loss of all personal belongings in a fire or bombing raid—these are trying situations of sufficient seriousness to lead to an emotional upheaval.

The time relationship of each event to the symptomatology must be clearly understood. Where the material is complex, important relationships of events and personality reactions may be missed unless a life chart is constructed. This chart lists the age and year, somatic development, personality reactions, and environmental changes in a chronologically related manner in four parallel columns. Thus, by glancing horizontally across the page at any given period in the person's life one may easily observe various interrelations. Previous personality disorders may be related to the present illness and if there were any they should be described immediately after the present illness. For example, a life chart might read like this:

LIFE CHART

Year	Age	Somatic Development	Personality Reaction	Environment
1909, May 9	Birth	Forceps delivery	Breathing hard to get started	Started to public school
1910	1 year	Measles	Obedient and friendly	
1911	2 years			
1912	3 years			
1913	4 years			
1914	5 years			
1915	6 years			
1916	7 years	Encephalitis	Convulsions	
1917	8 years			
1918	9 years			
1919	10 years			
1920	11 years			
1921	12 years			
1922	13 years	Onset menses	Behavior problem	
1923	14 years			
1924	15 years			
Etc.			No preparation; frightened Seclusion; hallucinations	Living with grandmother

· PERSONAL HISTORY

Under personal history may also be grouped questions as to (1) birth and early development; (2) school record; (3) occupational adjustment; (4) sexual history; (5) general health; (6) interests and habits, including hobbies; and (7) use of alcohol, coffee, drugs, etc.

Were the patient's gestation and birth normal? Did he present feeding or behavior problems during infancy? Or temper tantrums with breath holding and head banging? Were there nail biting, stuttering, persistent enuresis, recurrent nightmares, or sleepwalking? Did the patient have tics? What was the patient's general health? Was he a "nervous child"? Did he ever have convulsions? Did he have any of the usual childhood illnesses? Any complications? Was he ever injured or operated upon? If so, what was the attitude of the parents toward the occurrence? Was it such as to foster hypochondriacal reactions later? Children who are pampered and spoiled in the hospital may develop, upon returning home where they are no longer the center of attraction, behavior disorders that are difficult to remove, and among permanently disabled children "crippled personalities" are somewhat easily formed. Was the child made to feel dependent and infantile or inadequate during his illness? Was he denied privileges granted to other members of the family?

What about the personalities of the patient's family—his parents, brothers and sisters? How did they get along with one another? A knowledge of these facts will provide a valuable insight into the patient's early environmental setting.

During adolescence, what was the reaction to menstruation, nocturnal emissions, masturbation, sex advances made by others? What illnesses did the patient have? Did he ever express fears or a feeling of insecurity, or exhibit any peculiarities of conduct?

What about his education? Did he graduate from grammar school? from high school? from college? What kind of student was he? Was he gregarious and friendly with his classmates?

Has he ever worked? Did he apply himself diligently? How many positions has he held? How long did he remain in each? Was he discharged or did he quit of his own free will?

How does he spend his leisure? Has he any hobbies or special interests? Has he many friends? Is he a good mixer?

What about his sex life? How does he satisfy the sexual urge? Does he associate with girls or prefer the company of boys?

Has he had any recent experience leading to frustration of hope and desire? Has anything happened to injure his pride? Has some social experience led to disillusionment?

What about his general health? Was he sickly and weak all his life? What was his reaction to illness? Is there a history of venereal disease? Is he known to have arteriosclerosis, an endocrine disorder, or other organic lesion? What about poisons and toxins? Is he an alcoholic? A drug addict?

FAMILY HISTORY

A knowledge of the family history aids the doctor to understand inherited biologic factors. Body build, fundamental intellectual endowment, and a tendency to develop some particular disease—all these play significant roles in personality development. In addition, the family emotional setting and cultural background ingrain standards, attitudes, and certain types of behavior. For example, in Spanish and Italian families that have migrated to this country relatively recently there is often a continuance of an unusually protective and watchful attitude toward young women of the family. Among those of Hebrew descent, the value of intellectual accomplishments over manual types of work may be stressed to an extreme degree. Swedes become Americanized quite readily.

The various members on both sides of the family are consid-

ered from the standpoints of body build, physical and mental health, personality characteristics, and psychiatric disorders. The racial, social, and economic background of the family as a group merits study. The relationships of the patient to the different members of the family are of the utmost importance. Some families favor the oldest son, others the youngest child, and so on.

PERSONALITY STUDY

Attitudes are inquired into minutely in order to ascertain how modifiable they may be and also because the personality investigation is actually a part of the patient's treatment in that it provides an opportunity for the psychiatrist to point out unhealthy tendencies and how they may be changed. Very often the patient is asked to describe his own temperament or personality before he became ill and how this has altered. His answers are usually recorded in his own words. The questioning may then follow the methodical scheme proposed by Dr. Oskar Diethelm, Psychiatrist-in-Chief of the New York Hospital (Payne Whitney Psychiatric Clinic). The main points mentioned should be considered in relation to the person being studied, but it should be borne in mind that the subdivisions overlap and are not mutually exclusive. In this way the study allows of varied approaches to the same personality trait and does not create rigid, artificial categories.

Intellectual Resources

The potentialities of the patient for acquiring new skills, his adaptability to new problems and situations, his attitude toward learning, his preferences for manual or mental activity, and his previous ability to remember and retain are ascertained. Some people have a better memory for objects; others best retain personal experiences. The imagination may be rich, dealing with both reality and fantasy, or there may be a mini-

num of the imaginative faculty so that the person is guided largely by reality circumstances.

Ideas may be clear-cut or hazy; the speed of thinking can be fast or slow. Some people think analytically; others synthetically; still others organically, inclined to regard an object or problem as a whole. There are concrete and abstract thinkers. Many individuals are keen observers; others are daydreamers. Those with marked perceptual ability turn more to the outer world; those with conceptual ability to the inner world. Many persons are unable to take an impartial view and become biased easily; others are fair and just.

Emotional Tendencies and Temperament

Every person has a fundamental mood, which may be cheerful or gloomy, optimistic or pessimistic, placid or turbulent. In addition to the pure moods of sadness and happiness, people react with anxiety, worry, irritability, discouragement, and fear—according to the individual make-up and the provocative situation. The reactive mood may be immediate or delayed, superficial or deep. Some people readily display their emotions; others are self-restrained; and some are gifted with the ability to stir the emotions of others.

The mode of emotional reaction is indicated by temperament. Does the person move and talk slowly or quickly? Is he restless or indolent? Is he orderly or careless? With how much interest and vivacity does he approach the task in hand? Many persons are quick to make decisions and enjoy situations requiring decision; others are afraid to decide anything. Most of our everyday decisions are emotionally determined, and the ability to make decisions and the enjoyment of being called upon to do so are a part of temperament. We have only to think of religion and politics and our views or decisions concerning them to realize that very few decisions are purely intellectual.

Changes in mood and activity may accompany the menstrual cycle and these are usually characteristic for each woman.

Volitional and Action Tendencies, Interests and Strivings

In the course of daily life we perform many actions automatically without a full awareness of what we are doing. In a similar manner our emotional expressions may be influenced by underlying strivings of which we are not fully conscious. Depending upon the strength of his more fundamental or subconscious desires, the individual may or may not utilize his full ability or capacity to complete a given project. Where contradictory strivings or feelings exist side by side, the conflict may make it difficult or impossible for the individual to decide upon and block a course of action.

The usual energy output distinguishes the individual as one who is naturally active and "on the go" from the one who is quiet by nature. The activity may be sustained or variable, fluctuations being accompanied by mood variations. Some individuals tire easily and require frequent rest periods and vacations and if not aware of this fact may neglect needed rest and overdo to their own detriment.

In reacting to interference, patients may be active or passive, stubborn or conciliatory, flexible or rigidly adherent to whatever decisions they have made.

Are the interests of the patient persistent, or do his enthusiasms cool readily? How are his interests related to underlying strivings, ambitions, and vocations?

Standards

The psychiatrist explores the ideals and higher needs of a person and whether he feels he has achieved his ethical goal. Our attitude to ourselves and to others may be tolerant or intolerant, conscientious or indifferent or petty. As a rule, we are either honest or deceitful-on-occasion, exaggerating, dram-

atizing, or being hypocritical. We may be thrifty or profligate, contented or dissatisfied.

The patient's aesthetic needs should be investigated, for deprivation may have been a factor in his personality disturbance. It is important, also, to learn something of the patient's attitude toward religion and of his philosophy of life.

Attitude toward One's Own Body and the Instinctive Desires

Attitudes toward bodily health and functions vary considerably. Many persons show little interest in their bodies, even to the point of neglect; others are constantly concerned about them and compensate for their shortcomings in various ways. The physical fitness of each person fluctuates widely and is related to freedom from disease, nutrition, and rest. The state of our general health also varies. In many women it is related to menses, and in both sexes it is affected by climacteric changes. The need for sleep and the type of sleep vary greatly, according to the time and depth of sleep. The frequency and type of dreams are governed to some extent by the presence of tension, anxiety, and emotional conflicts. Since fatigue affects people differently, both physically and psychobiologically, the patient's need for rest and physical exercise must be ascertained.

Dr. Diethelm states:

It is important to determine the degree to which learned behavior can be and is utilized in controlling instinctive desires such as sexual urges, the reaction to hunger, and various cravings. The amount and intensity of these desires are subject to modification by various situations. How these strivings manifest themselves, what increases or decreases them, and the individual's moral and ethical attitudes toward them are especially significant. Factual sexual development and the person's reaction to specific life incidents and phases give valuable clues concerning the personality organization. The attitude toward marriage and family formation further reveals significant motivating forces.

Sensitivity to pain and physical discomfort varies even though the actual threshold for the perception of pain may show little individual difference. In addition, the desire to cover up one's reactions may lead to false estimates of pain sensitivity. Such control over the emotions is extremely difficult for certain people.

Attitude toward Material Needs

The attitude toward material needs, power, and wealth varies considerably. What money and social position mean to the individual is significant. To some they signify security; to others, luxuries or power. Some people hoard money for its own sake. Wealth may mean financial resources, or the ownership of jewels, furs, or real estate, depending upon the orientation. How one lives in relation to the material assets available indicates to a certain extent one's philosophy of wealth.

Attitude toward Oneself and Ability to Deal with Oneself

Everyone has a certain interest in himself, expressing it either by self-analysis (comparing oneself with what one would like to be) or by a self-contented attitude. To judge a person's capacity for self-denial depends upon a knowledge of the factors behind specific desires and cravings. According to the personal make-up and situation, the individual will choose immediate gratification, sublimation, or suppression in dealing with his desires.

Not everyone achieves independence or self-reliance. In many who appear to be self-reliant there is a fundamental insecurity. An aggressive, conceited, or pompous attitude may be the superficial cover for a lack of self-confidence. Some people avoid responsibility, others are actually unable to carry it, and many people enjoy it.

As a guide to individualized treatment, the psychiatrist

seeks to estimate the patient's amount of energy and endurance, to what extent he needs certain help, and to what extent he can be pushed. Also, he needs to know the patient's ability to deal with finances and with social difficulties. He distinguishes pride from hauteur, and is careful to determine whether he is dealing with genuine modesty or with vanity. Conceit may reveal itself as a need for personal attention, or in bragging and talking about one's assets at any opportunity.

The concept of freedom varies greatly, from marked individualism and a need to be original to a desire for guidance and absorption as part of a group. The need for independence may refer to ethical as well as financial or social factors.

Social Needs and Adjustment to the Group

The self-sufficient person often feels isolated and bored in a group, while the socially dependent person belongs in one, readily becoming an integral part of it. Persons who are concerned about the impression they make on others often feel ill at ease and self-conscious, and this in turn interferes with spontaneity. Some individuals are naturally sociable—make friends easily and retain them; others are shy, bashful, hard to approach, and do not hold onto friends. Many are frank and open and confide in others; while others prefer to be alone and are reserved, aloof, or even snobbish. A personal trait like self-assertiveness may lead to aggressive and arrogant behavior in a group. Similarly, submissiveness is not always shown as compliance but may appear as a passive form of resistance and stubbornness.

Sympathy, thoughtfulness, sensitivity to criticism, suspiciousness, jealousy, and maliciousness are significant traits in interpersonal relationships. The attitude toward authority, whether it be respectful or resentful and antagonistic, is significant.

Indications of social needs are elicited by questions as to

whether the patient feels inferior or superior, whether he prefers to lead or follow, and whether or not he is envious of others.

PERSONALITY SYNTHESIS

Throughout the indirect and even during the direct examination about to be described the psychiatrist evaluates the personality features both in their relation to one another and their setting in the integrated whole. He does this in order that his final synthesis may harmonize the various action tendencies and desires. It is not unusual for an extreme emotional feeling or striving to be accompanied by its opposite. Where such contradictory strivings exist to a degree that disturbs the individual, the origins of these opposite feelings may be traced back to specific events and their operations clarified. This procedure makes for a better understanding by the individual, and leads to greater stability, uniformity, and maturity of the personality.

DIRECT EXAMINATION

The aim of the direct examination is to obtain a cross section of the personality, as differentiated from the developmental history or long section. Specific information is sought concerning the presence or absence of disorders or defects in the various aspects of personality functioning. Leading or suggestive questions are avoided.

APPEARANCE AND Demeanor

The general appearance, attitude, and demeanor of the patient are observed throughout the examination. The way the patient dresses, walks, and talks, his facial expression, mannerisms, tics, and the amount of spontaneous activity are noted. A suspicious or evasive attitude may indicate delusions; a sad facial expression, slow gait, and drooping shoulders signify de-

pression; and an overactive, cheerful, forced gaiety suggests an elated state.

CHARACTERISTICS OF TALK

The speed and quantity of talk vary widely, being increased in anxious, irritable, fearful, and elated states. The patient who is depressed, confused, or perplexed has a paucity of ideas and retardation of speech. Feeble-minded people may be hesitant in their answers. If the answers are incoherent, irrelevant, and proceed illogically, a serious thinking disorder is to be thought of. Easy shifting from one topic to another (distractibility) may be seen in association with flight of ideas where each succeeding topic is only superficially connected with the previous one.

EMOTIONAL STATE

In testing moods, the psychiatrist inquires: "Well, how do you feel today?" and notes the patient's reaction as he answers. Or he may ask: "You don't seem very happy. Do you always feel this way?" "Are there times when you feel happier?" "How do you feel toward life?" "How are your spirits?"

The relationship between mood and content of thought is especially noteworthy. If the patient laughs when talking about a depressing subject—for instance, the death of a parent—this means a dissociation between emotion and thought content and may indicate a serious mental disorder.

SPECIAL PREOCCUPATIONS AND EXPERIENCES

Here the psychiatrist attempts to get at the trend of the patient's thoughts. When eliciting delusions or hallucinations he does not inquire: "Are people trying to harm you?" Instead he asks: "How do you get along with members of your family?" "How do you get along with people in general?" and other questions of a similar nature. In a recent investigation

the following line of interrogation was pursued with an excellent response:

How do you sleep at night?

I sleep very little.

Why?

There are noises that keep me awake.

What are these noises?

People are calling me names, threatening to kill me, threatening to poison me. I have to stuff the cracks in my doors and windows. They introduce poison gas through these.

Why do they wish to kill you?

They think I know too much.

Yes, go on.

The entire story followed.

The answers to questions as to delusions and hallucinations may reveal evidences of passivity feelings (control by an external agency) as illustrated by the following case:

A woman complained of a man who wished to kill her with serum. He would inject her with serum. He would inject this with a needle that gave her a tremor and a constantly stiff neck. She never saw him do it, but said she could always see the mark. She didn't know his name.

How do these needles affect you?

They make my thoughts clear to him; he can read them and know just what I am thinking.

What makes you believe that this is so?

I am always in a daze. He hypnotizes me. He directs all my actions. He wants to kill me.

Do you ever try to resist doing these things?

He makes me do them against my will. He even has sexual relations with me in my sleep. I can't do anything about it because he makes me do what he wishes.

What else does he do to you?

He gets people to say things about me over the radio.
I've heard my name mentioned.

Paranoid patients often state that they hear their names mentioned over the radio. Sometimes they say that songs are broadcast for their benefit and that their names are mentioned in the songs.

If a patient has ideas of reference, he believes that people on the street look at him in a peculiar way. When he passes people talking to one another he is sure they are talking about him.

Some patients, when asked if they have any special complaints such as aches or pains, express hypochondriacal ideas or the answers may reveal a delusional content.

OBSESSIONS, COMPULSIONS, AND PHOBIAS

Obsessions may be elicited by direct questions such as: "Do you have any persistent thoughts you can't get rid of; are they absurd; do they persist against your desires?" "Are you aware of ideas, words, or tunes repeating themselves almost endlessly in your mind; can you control them?"

It may likewise be proper under certain conditions to elicit compulsions by direct questions such as: "Do you feel compelled to check and recheck your actions such as locking the door, turning the gas or light off?" "Is it necessary to do things over and over without apparent reason in a ritualistic way (as repeated handwashing); what happens if you do not give in to these urges; are these acts reasonable or do they seem foolish and meaningless; do you become tense, anxious, or fearful if you do not carry them out?"

Phobias are fears and the patient may be asked: "Do you have any fear of crowds, closed spaces, subways, heights, bridges?" "Do you have any fear of painted objects, broken glass, or of having contaminated yourself?"

However, there are occasions when the asking of direct ques-

tions is not desirable. In examining for induction into military service one may meet with a malingerer. This is true, also, in the examination of individuals accused of crime. To ask direct questions of these people is to assist them in their habit of malingering. If one were to ask such a person "Do you have any persistent thoughts that you can't get rid of?" he would eagerly answer in the affirmative. We suggest asking indirect questions and then gradually enlarging on the answers obtained. For example, first elicit delusions by asking: "How do you get along with members of your family?" "How do you get along with people in general?" "Have you any friends?" Or if the person appears depressed say: "You don't seem very happy. What is the trouble?" Or if he appears unusually elated say: "You certainly seem happy. What makes you feel so good?"

To elicit obsessions, compulsions, and phobias, follow this line of questioning: "Is there anything else that bothers you?" "Have you ever tried to get rid of these ideas?" "Do you find that you cannot rid yourself of these ideas?" "Why?" "These things must have made you very nervous. In what way have they made you nervous?"

Further questions will suggest themselves as the result of the answers to the questions herein suggested.

When positive answers are obtained, the physician inquires further concerning what increases or decreases the symptoms. In what emotional setting do they occur: when tense, anxious, or depressed? Do the symptoms fluctuate or are they definite and unchangeable?

ORIENTATION

The orientation of the patient is investigated by such helpful questions as: "What is your name?" "Do you know what day of the week this is?" "What month is it?" "What year?" "What place is this?" "Do you know who I am?"

MEMORY

An appreciation of the patient's memory is gained through the process of taking the patient's history as to family, school, and background. General information that is dependent on memory is tested by questions like the following: "Who is the president of the United States?" "Who was the president before him?" "Name the capital of the United States." "What is the capital of this state?"

RETENTION AND RECALL

When inquiring into retentiveness and recollection, the psychiatrist may begin in this way: "I am going to give you three things to remember. I shall ask you to repeat them later. The three items are: Mrs. Jones, 425 Bridge Street, third floor." After that he talks to the patient for four or five minutes. Then he asks him to recall the three facts. Repetition of digits also tests retention. The subject is asked to repeat numbers in the order in which he hears them. The numbers are spoken distinctly at the rate of one each second, as 1-4-9-5-2-8-6. Subsequently the subject may be given digits to repeat backward.

The patient is asked, also, to solve simple sums in addition, subtraction, multiplication, and division.

Example: You have 50 cents. If you go into a store and spend 5 cents for bread and 3 cents for a newspaper, how much change will you get?

Following this, the patient is asked to use three words in a sentence, such as man, gun, dog, or boy, water, bucket.

Finally, he is given a story to read, after which he is asked to repeat the gist of it, including as many details as he can recall:

Example: A cowboy from Arizona went to San Francisco with his dog, which he left with a friend

while he purchased a new suit of clothes. Dressed finely, he went to the dog, whistled to him, called him by name, and patted 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 avail. So the cowboy went away and donned his old garments, whereupon the dog immediately showed his wild joy on seeing his master as he ought to be.

RECOGNITION

As a test of recognition, the patient is given a sheet of paper on which are written three disconnected sentences. He is allowed to study each sentence for one second, after which the paper is taken away from him and he is given another sheet on which there are listed a dozen or so disconnected sentences, including those previously presented. Five seconds are allowed for his designation of the sentences originally seen.

He is next given a card on which there appears a nonsense word (for instance, *axyct*) and is given one second in which to study it. He is then shown a list of ten nonsense words and is given ten seconds in which to recognize the original nonsense word. This is done three times with three different nonsense words.

JUDGMENT

Judgment is tested by reading certain statements and asking the patient what is foolish about them, or why the statement is foolish.

Example: One day a man called at the post office and asked if there was a letter waiting for him. "What is your name?" asked the postmaster. "Why," said the man, "you will find my name on the envelope." (Terman-Merrill, Year XII, Form L.)

INSIGHT

The patient is asked if he has any plans for the future and is encouraged to discuss them. If the examination reveals an abnormal thought pattern it is advisable to ask: "Do you think there is something the matter with you?" If the patient answers in the negative, the psychiatrist may continue: "Well, if there is nothing the matter with you, what do you think prompted your mother (friend or relative) to bring you to my office? You must have given these matters that trouble you a great deal of thought. How do you explain your difficulties?"

The patient's responses are carefully noted, particularly the degree of insight they reveal.

PHYSICAL FINDINGS

The psychiatric patient receives a complete physical examination which includes neurologic and various laboratory tests.

The somatic status is determined by a complete examination of the various bodily systems and an evaluation of the general body build of the individual. The findings may be intimately connected with the behavior disorder, as in a delirium accompanying pneumonia, or they may be merely incidental to the mental illness.

Various psychiatrists place more or less importance on the matter of body build. The short, stocky, thick-necked individual (pyknic type) is most often seen among persons disposed to mood disorders. In contrast to this type is the asthenic person who is tall and thin with long extremities. The asthenic and dysplastic (disproportionate) types are most commonly found among schizophrenic patients. Special attention is paid to evidences of endocrine disorders such as marked variations in weight, abnormal hair growth and distribution, disproportionate growth (as in acromegaly due to involvement of the

pituitary gland where there is an overgrowth of the jaw and hands), unusually small or large genitalia, symptoms of diabetes, hyper- or hypothyroidism.

Other items observed as part of the general appearance are the state of nutrition (overweight or underweight); respiratory difficulties, if any; color of the skin—whether it is pale (suggesting anemia), yellowish (suggesting jaundice), cyanosed or bluish (suggesting insufficient aeration of the blood which may be due to many causes including heart or lung disease); and whether or not there is edema (swelling) of the tissues.

Following this, the various organs (heart, lungs, liver, spleen, kidneys, etc.) are examined for structural changes or dysfunction.

The neurologic examination includes tests to discover evidence of structural change or abnormal functioning of the nervous system. Specific tests for the cranial nerves and for general motor and sensory functioning are well described in all neurologic textbooks. In addition, the patient is tested for his skill in writing, speaking, and reading.

If at all possible a complete blood count is done on every patient, including an estimation of the hemoglobin, red and white blood cell content, and a differential analysis in which the percentage of the various types of white blood cells is determined. The sedimentation rate is ascertained as an indication of the presence or absence of infection. The chemical constituents of the blood are also determined, including the blood sugar level (especially when diabetes or a functional alteration in sugar metabolism is suspected—usually in individuals with marked anxiety), cholesterol (especially when thyroid dysfunction is suspected), urea (when kidney disease is thought to be present), and the bromide content of the blood if the patient has been taking bromides and is delirious.

The urine and feces are examined.

If the medical examination indicates that the patient may be suffering from epilepsy or organic brain involvement, a record of the brain waves is made (an electroencephalogram) as an aid to diagnosis.

DIAGNOSIS

From the facts elicited by the various examinations the psychiatrist arrives at a formulation or working diagnosis. It is unwise to attempt to force the patient into a standardized statistical category, for such categories are purely empirical. Patients often show mixtures of symptoms including those of more than one reaction type. Furthermore, these illnesses are no more mutually exclusive than are physical diseases. In some cases a relatively minor personality disorder may progress to a major psychosis.

In general, a distinction is made between major and minor personality disorders. This is in line with the attitude that patients with psychoses or major disorders require hospitalization because of their potential danger to others or themselves. Consequently, psychotic individuals are usually considered committable by legal action.

The minor disorders include the psychoneuroses and the more constitutional disturbances such as feeble-mindedness and psychopathic reactions. Persons suffering from these disorders usually are capable of socially acceptable conduct without endangering themselves or others. The decision to undertake treatment rests with the patient, and society does not force such a move. However, a psychoneurotic person may be much more troublesome to the community and certainly more incapacitated than a person suffering from certain types of major disorders such as a mild depression.

The major mental disorders or psychoses as a rule involve all aspects of personality functioning to the extent that the individual's behavior represents a threat either to himself,

others, or both. Thus, society may insist on hospitalization and treatment even against the patient's desire for the protection and benefit of all concerned. These disturbances may be grouped as: mood or affective disorders with depression or excitement; disorders involving delusions, hallucinations, and a "twisted" development of the thinking functions as seen in schizophrenia, paranoia, and paranoid states; more or less reversible disturbances of the functions of the brain resulting in confusion (delirious states); and disorders associated with actual structural damage to the central nervous system, as in the chronic organic-reaction types.

These minor and major personality disorders will be discussed in the chapters that follow.

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Psychometric Tests

CERTAIN tests have been devised to measure intelligence. Strictly speaking what is actually being estimated is that which our intellectual abilities enable us to do with various test situations. The concept of the nature of intelligence includes the ability to think and act in a purposeful and rational manner so that the individual may deal effectively with his environment. Thus, the ability to associate facts and recall them later (learning), reasoning, and memory are some of the abilities measured as part of intellectual functioning.

Perhaps the best-known and most widely used intelligence test is the 1937 Terman and Merrill revision of the Stanford-Binet test. The test as originally worked out by Binet and Simon was applied particularly to the discovery of feeble-minded children and was based upon the study of large numbers of French schoolchildren. It aimed to differentiate between inherent intelligence and the mere accumulation of facts. It was shown to have a high correlation with actual scholastic achievement. Terman and Merrill revised the original test and adjusted it to the cultural and educational patterns of the United States. They restandardized the test, also, so that the measurement of intellectual abilities had greater reliability and they provided an additional form to be used in retesting. Thus, we now have the L and M forms which can be used interchangeably and which provide a safeguard against coaching. The test is not well suited to the determination of superior intelligence. No attempt will be made here to describe

either the original or the revised Stanford-Binet test in detail. For this the reader is referred to *Measuring Intelligence* by Lewis M. Terman and Maud A. Merrill. However, some idea of the approach, the type of questions utilized, and what an intelligence quotient means will be given.

The revised Stanford-Binet test (1937) consists of 124 items to be tested, arranged by years beginning at a mental age of two and going up to fourteen. Above this there are tests at the average adult level and three levels of superior adult intellectual functioning. Below a mental age of five the tests are located at half-year intervals. For each testing item that is answered correctly credit is given in terms of months which are then all added to give the mental age in years and months.

The instructions for administering the tests are very specific and the various answers are listed, indicating the proper responses that receive full credit and those that are not acceptable.

As an illustration of the tests of the scale, we are selecting the items at the twelve-year-old level. The first item is vocabulary and the subject is asked to give the meaning of various words ranging from a simple description of an orange to the meaning of words like "sudorific," "retroactive," and "par-terre." The number of correct responses determines whether or not credit is given at this particular level. If the individual correctly defines fourteen or more words out of a total of forty-five, then he receives full credit at this age level. To receive full credit at the average adult level it is necessary to be able to define twenty or more words correctly. The standards for credit are naturally higher at the superior levels.

The second item has to do with the recognition of verbal absurdities. A foolish statement is read, then the subject is asked to tell why it is foolish. *Example:* Bill Jones's feet are so big that he has to pull his trousers on over his head.

For the third test the person is shown a picture of a messenger boy who is seeking help from an approaching auto-

mobile because his bicycle has broken down. The subject is asked to tell what idea the picture conveys.

Next is the ability to repeat five digits in reverse order. *Example:* 4 2 7 0 9 should be repeated 9 0 7 2 4. The subject is given three chances with different series of five digits and if he does one out of three correctly he receives full credit.

The definition of abstract words like "courage" and "charity" is the next item.

The sixth and last item is the completion of sentences where one word is missing. *Example:* One cannot always be a hero ——— one can always be a man.

A normal child can answer practically all the questions for his age. The intelligence quotient is then calculated as

$$\frac{\text{Mental age (determined by the test)}}{\text{Chronological age}}$$

expressed as a percentage. Thus, a child whose mental age is shown by the test to be five and a half and whose actual age is ten years and two months would have an I.Q. of $66/122$ months, or an approximate I.Q. of 56. Ordinarily this would place him in the moron group. This assumes, of course, that the test was adequately administered and that the subject cooperated by being attentive. If the individual tested is over fifteen years of age, then 15 is the figure used for the chronological age. In Terman and Merrill's *Measuring Intelligence*, we find the following classification of intelligence quotients:

I.Q.	Classification
Above 140	"Near" genius or genius
120-140	Very superior intelligence
110-120	Superior intelligence
90-110	Normal, average intelligence
80-90	Dullness, rarely classifiable as feeble-mindedness
70-80	Borderline deficiency, sometimes classifiable as dullness, often as feeble-mindedness
Below 70	Definite feeble-mindedness

Large-scale testing of normal adults was carried out in 1917 by the psychologists of the United States Army. However, although the Stanford revision of the Binet test was extended to include adult levels, it could not be given to large numbers of individuals because it had to be administered individually. As a result the Army Alpha and Beta tests were devised. Group tests, they can be administered to hundreds of persons at one time. The Alpha test was formulated for those who could read and write English fairly well. The Beta test was designed for those who were relatively illiterate.

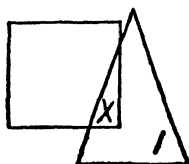
The information obtained by these tests proved very useful in World War I in placing individuals properly. Similar tests have been useful in World War II. Men receiving high scores have almost invariably done well in officers' training schools. However, a man's value to the service is not estimated solely on the basis of his intelligence. Other personality factors such as reliability and emotional stability are included in the appraisal.

ALPHA EXAMINATION

The Army Alpha examination consists of eight tests, each of a different type and each having a time limit. The entire examination requires approximately fifty minutes for administration in compliance with directions. The score may be as high as 212 points; 45-74 is average.

Ability to Follow Directions or Commands: A picture of a triangle is partially superimposed on a square. Then the subject is told: "When I say 'go' make a cross in the space that is in the triangle and in the square; also make a figure 1 in the space that is in the triangle and not in the square—Go!"

Example:



Arithmetical Problems: Five minutes are allowed for ten problems in addition, subtraction, multiplication, and division, of increasing complexity.

Example: If you walk 4 miles an hour for 3 hours, how far will you walk?

Practical Judgment: One and one-half minutes are given in which to answer sixteen questions of the multiple-choice type. An x is to be placed in the correct box.

Example: We use stoves because
☐ they look well
☐ they keep us warm
☐ they are black

Synonyms and Antonyms: The subject is asked to recognize two words as synonyms or antonyms. He underlines his answers.

Example: good bad = same opposite
 little small = same opposite

Disarranged Sentences: The subject is allowed two minutes in which to arrange twenty-four disarranged sentences. He then underlines true or false after each (having, of course, to rearrange the sentence in his mind before he can mark it true or false).

Examples: Making is bread valuable = true false
 Days there in week a eight are = true false

Series of Numbers: The first six numbers in a series with a specific mathematical sequence are given and the subject is asked to add the next two numbers in the sequence. Three minutes are allowed for twenty series of numbers.

Examples: 2, 4, 6, 8, 10, 12, —, — (Subject should fill in 14 and 16)
 1, 4, 9, 16, 25, 36, —, — (Subject should fill in 49 and 64)

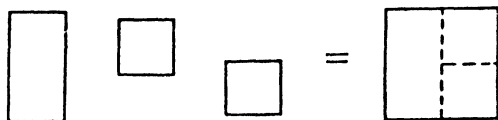
Digit-Symbol Test: Each digit is assigned a symbol. *Example:* 1 is assigned a horizontal dash; 4 an L. These symbols are then filled in under a series of numbers.

Number-checking Test: Two columns of numbers are given, starting with three digits and going up to eleven. Wherever the numbers in one column are identical with those in the other, a cross is to be made.

Pictorial Completion: The subject is asked to complete a partially drawn picture.

Geometrical Construction: The subject shows how to construct the required geometrical forms by drawing dotted lines in a printed square.

Example:



BELLEVUE-WECHSLER INTELLIGENCE TEST

The need for a properly standardized individual adult intelligence test which would be interesting to adults was met in a test known as the Bellevue-Wechsler test devised by Dr. David Wechsler. This test offers a purely statistical estimate of mental deficiency. As Dr. Wechsler himself has stated: "A mental defective is an individual who, when tested with a well-standardized intelligence examination, attains a score or rating which places him among the lowest 2 to 3 per cent of his age group with respect to the abilities measured, and with respect to such other abilities as may be deemed requisite for effective social adjustment. . . . A mental defective is not a person who suffers from a specific disease, but one whose gen-

eral intellectual inadequacy allocates him to a social group whose level of functioning is such as to make it impossible for him to cope with his environment."

Wechsler criticized Terman for selecting arbitrary numbers like an I.Q. 70-80 for the moron, and asked why not 75? He pointed out also that the items in the Stanford-Binet examination were not of especial interest to the adult; in fact, when attention wanders (as it often does) a true score cannot be obtained. Terman arbitrarily stated that an I.Q. below 70 definitely indicates feeble-mindedness. Wechsler feels that a definite number cannot be set up as the dividing line between feeble-mindedness and normality. Estimates of the probable incidence of mental deficiency in this country indicate that approximately 3 per cent of the total population are mentally defective. Thus, Wechsler claims that a person who gets a score that indicates he is among the lowest 2-3 per cent of scores done on hundreds of others in the same age group is feeble-minded. The Bellevue-Wechsler test consists of ten parts.

General Information: The questions range in difficulty from "Who is the president of the United States?" to "What are the Apocrypha?" There is no time limit.

General Comprehension: Questions such as "Why does land in the city cost more than land in the country?" are asked, with no limit of time in which to answer.

Arithmetical Reasoning: Arithmetical problems of increasing complexity are given, with a time limit for each question.

Ability to Repeat Digits: A series of digits is given and the subject is expected to repeat the numbers forward or backward, without a time limit.

Detection of Similarities: The subject is asked to detect similarities between two objects or concepts, without a time limit.

Picture Completion: Fifteen seconds are allowed the subject in which to complete each picture of a series.

Picture Sequence: The subject is allowed one to two minutes to arrange a series of pictures in sequence so that they will tell a story. Whether the time is one or two minutes depends upon which series of pictures is submitted. A bonus in credits is given for speed.

Object Assembly: Three different items are required to be assembled in a given time. The pieces are handed to the individual who puts them together so as to form the object. The time consumed determines the credit received.

Block Design: The subject is asked to duplicate a printed design of various colors with blocks painted differently on several sides. There is a maximum time limit with extra credit for speed.

Digit Symbols: This item is similar to Item Four of the Army Beta Examination. An alternate is a vocabulary test.

Rating

When the Bellevue-Wechsler examination has been completed, the subject may be rated on the full scale which includes all the tests. However, by scoring the performance tests separately (the last five items just listed) and the verbal tests (the first five items—including the vocabulary test if given as an alternate) the examiner gets a better idea of the individual's specific abilities.

VOCATIONAL-INTEREST TESTS

In addition to intelligence tests, there are psychometric examinations that have been designed to measure vocational interests. An excellent review of these tests is to be found in *Industrial Psychology* by Morris S. Viteles. Tests to discover special aptitudes (higher mathematics, manual dexterity, etc.) and personality features such as extroversion and introversion are described.

In all tests it is necessary for the examiner to establish a satisfactory rapport with the person examined. It is imperative, also, that no distraction occur during the testing period. Questions must be asked exactly in the way prescribed for each test if the results are to be valid.

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Intellectual Deficiency *(Feeble-mindedness)*

ACCORDING to the American Association on Mental Deficiency, the term feeble-minded "is used generally to include 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."

It follows from this that feeble-mindedness is a variable condition, depending on the circumstances and environment at a given time. City life is usually considered to be more complicated and to demand greater social responsibility than life in a suburban community or on a farm. Consequently, many individuals with below borderline intelligence may be economically and socially self-sufficient in a rural district. Binet epitomized this concept when he was asked for his opinion of a certain farm boy who had come to Paris to seek his fortune. "In Paris," Binet said, "he is feeble-minded; at home he is normal."

The intelligence test is simply one of the means employed in determining feeble-mindedness. It should be considered as part of the total picture of mental defectiveness. Just as one manifestation, even though extraordinary, does not mean a psychosis but must be considered in relation to the total clinical picture in arriving at a diagnosis of psychosis, so the

intelligence test must be part of the clinical picture in the diagnosis of feeble-mindedness. The mental age, the I.Q., derived by psychometric examination, plus the social and economic adequacy of the person should receive consideration. The basic chronological mental age as used in the Terman-Merrill revision of the Stanford-Binet test is fifteen. The mean I.Q. is slightly above 100. The Army Alpha test revealed in World War I a mental age of thirteen in 47.3 per cent of the persons examined; many were below twelve years. Yet they certainly were not all feeble-minded. This indicates the danger of making a diagnosis from the results of only one test.

In the group below normal we find two distinct types, namely, those who are congenitally feeble-minded and those who are secondarily deteriorated. In the latter group it is not unusual to find persons who are of a high level of intelligence, as indicated by educational accomplishments and work abilities, but whose intelligence was reduced because of a mental illness, trauma to the brain, or an infectious or degenerative disease involving the central nervous system.

The etiologic factors in the group with congenital intellectual deficiency are varied. Strictly speaking, only those individuals with defective inheritance or genes (factors involved in the hereditary transmission of characteristics from parents to child) should be included, but since defective inheritance is difficult to determine, deficiencies occurring anywhere up to five or six years of age are included in the congenital group. Congenital syphilis, an endocrine or metabolic disorder or an infectious disease in the mother may affect the nervous system of the developing fetus and so cause feeble-mindedness. Attempted abortion, trauma during birth, and brain hemorrhage at the time of delivery are other contributory factors. After the child is born, any disorder or disease affecting the central nervous system, up to approximately six years of

age, may give rise to an intellectual deficiency that cannot always be differentiated from the true group of inherently determined deficiencies.

According to Dr. Louis I. Dublin, statistician of the Metropolitan Life Insurance Company, estimates of the number of feeble-minded persons in the United States range from $\frac{1}{2}$ per cent to 2 per cent of the population. Only a relatively small proportion of these are in institutions for the care of mental defectives. At the end of 1937, there were 96,315 persons on the books of such institutions, of whom 84,000 were confined in the institutions and 12,315 on parole or otherwise absent. While the great majority of these cases are admitted during childhood, a significant proportion are already adults and, furthermore, because of the long period in which these persons are kept in custody, the proportion of adults in the current population is quite high.

During World War I, the estimated proportion of rejects because of mental deficiency was 12.06 per 1,000. In World War II, an analysis of a nation-wide sample of 19,923 Selective Service registrants examined by local boards showed the following:

Disease or Defect	Number of Defects Found	Rate of Defects per 1000 Examined
Borderline intellect (moron)	7	.4
Mental deficiency (imbecile and idiot)	11	.6
History of institutional training for mental deficiency	3	.1
Mental defect with emotional instability; sexual or other mental disorder	9	.4
Illiterate or ignorant, mental defect undetermined	34	1.7
Mental deficiencies, unspecified	138	6.9

Among 115,000 men in the New York area examined under Selective Service by local boards and induction stations up to the middle of 1941, insanity and imbecility were cause for rejection of 1,120, or 1 per cent of the total. From the published data available, it is not possible to segregate the mental defectives in this total, but undoubtedly they constituted a fairly large proportion.

It is probable, according to Dr. David A. Rapaport, that approximately twenty out of each thousand registrants in the nation as a whole will be mental deficient and that five of these will be idiots who may readily be recognized at the very first sentence uttered. Thus, the examining psychiatrist's real problem is to detect the remaining feeble-minded individuals (approximately fifteen per one thousand registrants). This has required that (1) registrants whose education and professional standing are sufficiently high shall be excluded from suspicion; (2) physical signs of degeneracy especially of skull, eye, nose, and palate shall be carefully examined; (3) after obvious cases have been eliminated, suspected cases selected on the basis of apparent clumsiness, lack of bodily equilibrium, blank, stupid facial expression, reading-writing difficulties, and obvious peculiarities of drawing shall be given special examination by means of simple psychological test questions; and (4) borderline cases shall be further tested by a clinical psychologist.

From the standpoint of intellectual capacity there are five grades of deficiency, or feeble-mindedness: idiot, imbecile, moron, borderline, and dull-normal.

IDIOT

The mental age of the idiot is up to three years and his I.Q. ranges between 0 and 25, using the Stanford-Binet test. The lower-grade idiot cannot dress himself, cannot make himself understood, cannot be taught cleanliness, and re-

quires constant attention. The idiot who is somewhat higher in grade may be taught some of the fundamentals of cleanliness, even to go to the toilet. As a rule, the idiot does not walk or talk until late in life and then only with a limited vocabulary, and some idiots never walk or talk at all but sit contentedly in one place, swaying back and forth or from side to side, or they may just sit motionless and soundless. A few are noisy. Convulsions are common.

Unable to recognize physical danger and incapable of doing even simple things for themselves, most idiots lead a merely vegetative existence. Lesions in the central nervous system are most commonly found in this group.

IMBECILE

The mental age of the imbecile ranges from three to seven and his I.Q. ranges from 25 to 50. He can be taught to bathe and dress himself, and he may even learn to protect himself against danger if he is of the higher grade. Many of these individuals can carry out simple tasks. They begin to talk and walk later than normal children.

MORON

A moron is one whose intellectual capacity falls within the seven-to-twelve-year mental age limit, with an I.Q. of 50 to 70. Morons as a rule are capable of simple tasks, but lack ordinary judgment and discriminative ability. They have difficulty in generalizing from particulars, and are usually quite suggestible and easily led. They have fewer physical stigmata (such as paralyses and bodily deformities) than do imbeciles and idiots. Many of them are capable of performing simple tasks and are adequately adjusted to the less strenuous social levels.

When making a diagnosis of mental defect, it is always

important to consider the individual's facilities for study, his economic status, and his health. His developmental and social history are also important. If when he went to school he was unable to benefit by classroom instruction (assuming that there was no condition present to discourage him), if as he grew older he associated with younger children and engaged in their games, if he was susceptible to suggestion in a marked degree, and if his I.Q. is between 50 and 70, then he is a moron. The psychometric examination is valuable in revealing the degree of his feeble-mindedness.

The low-grade moron finds it difficult to adjust himself to life and requires assistance. That is, unless conditions are favorable he will "fall by the wayside." The high-grade moron can succeed in many occupations that require little mental effort. Many morons get along very well, for example, as porters, janitors, factory or road workers. They are law-abiding citizens unless consorting with those who are criminally inclined. Then the moron may readily become a convert to or the tool of the more intelligent criminal. For example:

J.G. was one of five children whose father was an alcoholic. He attended public school (ungraded class) until the age of fifteen. At that time he obtained a job as a helper on the docks during the day and spent his evenings in a poolroom. One night another poolroom habitué, G.G., approached him, saying: "Jim, how would you like to make a couple of dollars tonight?"

"Sure," said Jim. "How?"

"Well," went on G.G., "you know that candy store down on T Street? The old man who owns it keeps a bag of money on the shelf under the counter. All you have to do is climb through the transom, get the money and bring it out of the store. Then you, Tom, and I will divide—Tom and I will be watching outside."

"No," said Jim, "I won't do it!"

Said G.G. to Tom: "See, I told you he was yellow!"
"Who's yellow?" Jim immediately wanted to know.
"I'll show you I'm as game as either one of you."

The three boys went to the store. Jim climbed through the transom, got the bagful of coins and climbed out again. When he arrived on the sidewalk, he could not find the boys. Jim didn't know what to do with the bag of pennies so he hid it under a stairway. The next morning when he went to retrieve it he was caught by a policeman.

Jim's psychometric examination indicated a mental age of nine and one-half.

This case illustrates the suggestibility of morons and how easily they may be led into a career of delinquency or crime when under the influence of criminals. In view of the fact that the mental defective rarely, if ever, gives a thought to the consequences of his acts and seldom has the capacity for self-restraint, his drift toward crime is not surprising. Once on the road, he can rarely be reformed. Many sex crimes are the acts of morons or of people with even less intelligence.

BORDERLINE

In the borderline group we find people with an I.Q. ranging from 70 to 80 and whose success or failure in adjustment depends to a great extent on the complexity of their environment. Proper supervision and training may make the difference between a potentially feeble-minded person and a dull-normal individual.

DULL-NORMAL

The dull-normal people have an I.Q. ranging from 80 to 90. They can get along independently if their particular inadequacies are minimized, but they show disabilities in certain limited fields such as mathematics, abstract thinking, forming concepts, and so on. In order to make a continu-

ously satisfactory adjustment to life they must try exceedingly hard. Sometimes they refuse to continue their efforts at a maximum, which causes them to become behavior problems at school, at work, or at home. They may even get into difficulty with the law.

Inevitably, many persons in the dull-normal group are accepted for service in the armed forces of a country actually at war, and with proper handling they perform many useful functions. A recent survey of the whole question of military service for mental defectives in the British Army revealed that some jobs are better suited to dull men; that even though the mental defective be willing and even if given individual and lengthy training in squads for backward soldiers, he cannot acquire the fundamental knowledge that a trained trooper must have. It is now known that 5 per cent of all men taken into the service are unable to learn basic training, while another 5 per cent learn it only with difficulty, and that even if put in special squads they are eventually discharged from the forces. The fact that these defectives seem to their comrades to be merely slow and inefficient is bad for morale, serving at times to encourage malingering and to instigate discontent. In addition, the defective often has numerous disorders such as flat feet and psychoneurotic disturbances. He may develop an anxiety state or a depression or an hysterical fugue, and in active service he may actually cause loss of life among his comrades due to carelessness. He is bothered by such formalities as medical examinations and interrogations, and the uprooting from his familiar surroundings gives him a strong sense of insecurity. Moreover, units soon identify these men who are put on "fatigues" or are transferred to another unit. In consequence, the British Army is testing the intelligence of all its new personnel and is beginning "job analyses" to determine the number of dullards who can be used for various jobs by the several corps.

The Army first introduced "B" sections, attached to normal companies of the Pioneer Corps, where the men were defective or dullards, and not to be trained in the use of weapons. The NCO's and officers were tolerant and understanding. Today these companies (now called "Q" sections) are a great success, and men within a mental age as low as six or seven can be retained. The latest development is the establishment of whole companies of "Q" men; and this will help to develop esprit de corps and a better morale.

MISCELLANEOUS DEFECTIVE CONDITIONS

There are certain individuals who may be classed as backward or mentally retarded. The intellectual defect is usually traceable to certain physical factors such as maldevelopment of the brain, an endocrine disorder, or syphilis. Some of the more important special types will be discussed.

Microcephaly

Microcephaly is considered to be definite when the circumference of the skull is three or more inches less than the average size for the particular age, body size, and sex. It is usually less than seventeen inches in circumference. The brain itself is unusually small and presents deformities. The head tends to be cone-shaped with a receding forehead and flattening of the back of the head. Many microcephalics are like idiots or imbeciles, being unable to perform any except the simplest tasks. A small number attain an I.Q. as high as 60, and they learn to read and write simple words or sentences. Convulsions occur in approximately 50 per cent of all cases.

Macrocephaly

Individuals with large heads (macrocephalics) are not always mentally deficient though they are usually feeble-minded

when the condition is secondary to hydrocephaly (enlargement of the brain spaces caused by an abnormally large accumulation of cerebrospinal fluid within them).

Hydrocephaly

Most congenital hydrocephalics die in infancy. The skull is increased in all directions with large frontal and lateral bulges. The face appears small for the size of the cranium and the superficial scalp veins are enlarged and full. The eyes are pushed downward and appear to look down. The condition is associated with an excessive accumulation of cerebrospinal fluid which results in extensive damage to the brain tissue. The mental state may vary from that of idiot to moron, being proportional to the amount of brain damage. Most of these people are cheerful and pleasant.

Paralysis or other physical disability may appear, depending upon the part of the brain that is injured.

Cretinism

A congenital deficiency of thyroid secretion leads to a condition known as cretinism. Usually the infant by the sixth month shows signs of not developing normally either physically or mentally. He appears apathetic and dull with little spontaneity of action. The body is stunted, the skin is thick and dry, the head is large with a pug nose, the lips are thick, and the tongue protrudes. The degree of mental retardation depends upon therapy. Thyroid medication (starting with small doses—0.06 gm. three times a day—and increasing until a good physiologic response is obtained) often works wonders. However, interruption of the medication will have a dire result.

Mongolism

Mongolian idiocy is so called because of the individual's superficial resemblance to those of the Mongolian race. The head is small, round and flat in the back. The eyes are obliquely placed, slitlike, and close to each other. Across the surface of the tongue there are deep fissures. The hands are short and stumpy, the little fingers disproportionately small. Because of poor muscular tone, various joints can be bent or extended to an unusual degree. The cause of Mongolism is unknown, but it has been observed that the Mongolian idiot is usually born of a mother close to the menopause.

Mentally, these people scarcely ever reach beyond the age of seven. They are usually quiet, obedient, and of an even temperament. With proper education and supervision in special institutions they may be taught to attend to their own simple needs.

Congenital Syphilis

Among the signs of congenital syphilis are Hutchinson's peg-shaped teeth (in the permanent set, not in the milk teeth), saddle-shaped nose, scarring around the mouth, and prominent forehead bones. Certain defectives present these signs. In the congenital syphilitic who is defective it is noted that the child's development is slow, little progress is made as he grows older, and there is a progressive intellectual deterioration involving memory and judgment. Personal habits are sloppy and hygiene is neglected. Treatment with arsenicals is helpful and malaria or artificial fever therapy is of definite value in the juvenile paretic.

Sensory-Deprivation States

In these cases the mental deficiency is secondary to the loss of vision or of hearing. Deaf-mutes are easily mistaken for

mental defectives unless the nature of the handicap is recognized. Many well-known individuals like Helen Keller have been able to rise above their handicaps and attain a high intellectual level.

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Psychopathic Personality

THE concept of psychopathic personality includes so many conditions that at times this label is applied to a person for want of a more appropriate designation. This loose usage has resulted in a loss of value for the term. Essentially, it should be reserved for individuals who have shown consistent maladjustment since childhood. Dr. Karl A. Menninger is of the opinion that "transilient personality" would be a more accurate descriptive name, meaning "passing as by a leap from one thing to another; marked by breaches of continuity or abrupt transitions or variations."

The individual with a psychopathic personality is unable to manage his emotions, instinctive strivings, or impulses, and presents such a poor synthesis of his personality that instead of being a smoothly functioning, integrated organism he is a disharmonious assemblage of personality features. This is in contrast to the truly psychotic individual who shows a secondary disorganization of a previously well-synthesized personality due to a deteriorating disease process. In other words, the psychopath was just never put together properly or was defective to begin with. Consequently, he occupies a position somewhere between mental health and mental disease. He expresses his psychic conflicts by asocial and antagonistic behavior as differentiated from the psychoneurotic or the psychotic individual in whom the symptoms symbolically represent the repressed emotional conflicts. The psychopathic person is relatively unconcerned with moral, ethical, or aesthetic consider-

ations and tends to act in accordance with his own selfish interests and impulses. He regards himself first, last, and all the time.

Attempts to group the various types of psychopathic reactions have been made on the basis of the outstanding features. Thus, one person is said to be an asocial type, another to have pathologic emotionality, and a third to be a sexual psychopath. However, from the therapeutic standpoint it is best to evaluate the past performances of each individual and to study all of the individual's personality assets and disabilities rather than to "type" him according to a predominant manifestation.

Psychopathic traits that have been present since early life stamp the individual as "odd" or "queer," to say the least. In many of these persons the peculiarities of conduct are the direct result of maldevelopment or early dysfunction of the endocrine glands; or the change in behavior pattern may occur suddenly, with the awakening of some particular endocrine activity. It is not our intention to engage in a detailed discussion of the endocrinopathies but to stress deviations in behavior that may be traced to functional disturbances in these glands. The endocrinopathic states that may bear a relationship to psychopathic personality are:

Hyperactivity or premature development of the testes or ovaries (pubertas praecox) which results in increased sexual desire and in sexual precocity. Hypofunction of the testes or ovaries is accompanied by a slow development of the sex organs and an absence or decrease of sexual desire, delayed menstruation, and, in late dysfunction, restlessness, depression, and loss of initiative.

Hypertthyroidism (increased secretion of the thyroid gland) which causes fatigue, weakness, palpitation, irritability, difficulty in concentration, emotional instability, confusion, and in some cases mild manic manifestations. Hypothyroidism

(decrease of thyroid secretion, sometimes leading to myxedema) is characterized by certain physical changes and by slow, thick speech, apathy, general slowness of mental processes, indifference (occasionally irritability), loss of appetite, depression, and dulling of the intellect. Cretinism (absence of thyroid secretion) results in dwarfism and the other characteristics described in the preceding chapter.

Hyperpituitarism (increased pituitary function, leading in certain cases to acromegaly) may cause pronounced physical changes, including enlargement of the hands and feet, projection of the lower jaw, enlargement and widening of the nose, thickening of the tongue, and separation of the teeth. The person may become a giant seven or eight feet tall. The psychiatric manifestations are increased sexual desire in the early stage and loss of desire in the later stage, increasing inability to concentrate, and emotional instability. Hypopituitarism (diminished pituitary secretion) results in obesity and the persistence or acquirement of adolescent characteristics.

Throughout life the psychopathic personality is unable to profit by experience because of a defect in judgment. One of us has had an opportunity to observe many thousands of these individuals who have come into conflict with the law. Time and again they have committed a similar type of crime, and how often they have vowed: "You'll never see me in here (the Tombs) again!" But back they have come.

Self-satisfied and inaccessible, they promise to heed your advice but are unable to keep their promises. What they tell you may be the truth, but they will usually embellish their statements until the kernel of truth is hard to find. Many are deceitful and liars, and as a rule they feel little love for their parents and have no respect for their authority.

Psychopathic personality does not imply intellectual deficiency. Many psychopathic individuals are lawyers, authors, artists, and public officials. Those with outstanding ability

may attain great fame—Richard Wagner and Voltaire, for example.

Individuals belonging to the psychopathic group are given to emotional outbursts of excitement or to episodes of pronounced depression. The emotional explosion may occur without adequate cause or if it has a cause the outburst is out of all proportion to the cause. They are resentful of advice and so sensitive to criticism that they may go into a rage when censored, caring not what language they use, whom they may insult or injure, or what the consequences may be.

After studying many psychopathic individuals we are convinced that all of them are emotionally unstable, inadequate in great measure, given to fantastic exaggerations, and potentially delinquent or criminal. No matter how brilliant the psychopath may be or what his position in society, he will not consider it beneath him to commit a "shady" act if by so doing he can gain a greatly desired objective. This act need not be a crime, but it may be. It may even be murder.

Arthur Warren Waite was a dentist who was convicted of murdering his father-in-law and was electrocuted for the crime. He had also murdered his mother-in-law.

Waite, in a statement to one of us while he was in the Tombs awaiting trial, acknowledged that when he was in high school and later in dental college he had rifled lockers, stolen models of teeth made by other students, and had been untruthful. After graduation, he aspired to a position as dentist with a concern in South Africa. While taking a required preparatory course at a certain college, he became chummy with one of the instructors and bragged that he had passed through his influence.

After entering upon his duties in South Africa, he stole all the gold, silver, and platinum he could lay his hands on and was promiscuous sexually. When his existence became precarious because of imminent discovery of his thefts, he decided to commit the murders that he

later carried out. He had not yet met his victims but he knew of them by reputation. They lived in his home town and were wealthy people of high reputation. When he decided upon his plan, he resigned from his position in South Africa and sailed for New York, where he enrolled in a college and took courses in bacteriology and toxicology in preparation for the murders.

Just before completing these courses, he arranged to have flattering notices appear in certain Michigan newspapers stating that he would soon arrive to open an office in his home town. When he arrived "the stage was set." Many invitations to social affairs greeted him, and although they came from families with daughters of marriageable age and other well-known people, he declined them without exception. That is, until the one arrived for which he was waiting. In a short time he had married the daughter of the family. Then he put his diabolical scheme into operation. In his own words:

"The old lady [his mother-in-law] was a cinch, but what a time I had with the old man. I gave the old lady some arsenic and she passed out quietly. It was a cold, dreary day and I asked the old man if he would like to take a ride. I had a sweater on under my shirt, but I told the old man it wasn't cold. I wet his shoes and dampened the seat of the automobile. I left the car windows open. That night he had a sore throat and I treated it by painting it with diphtheria germs, but I'll be darned if they would take. Then I took the lights out of the sockets of the chandelier in his room and put a box at the entrance so that he would trip over it in the dark. He did, skinning his shinbone, and I rubbed in tetanus, but, no good! Next I fed him typhoid bacilli, pneumococci, and every germ I could think of, but it was no use. So I decided to give him arsenic. That worked. In the evening he knocked at my door begging me to help him. 'Please come,' he said, 'I'm so sick!'

"I told him to lie down on a couch and I went to my medicine cabinet for a bottle of chloroform. Then I removed a small pillow from my bed and poured the chloroform on it, suddenly covered his face with the

pillow and held it there until he was dead. Yes, I certainly had a hell of a time with that old guy!"

Waite recounted these events while eating lunch in his cell and went on to explain that he was doubtful as to whether he ever could have carried out the last of the three murders he had planned. He was very fond of music, and his wife played the piano so beautifully he could not have killed her. .

Dr. Arthur Warren Waite was cruel, untruthful, arrogant, and without honor, shame, or remorse. He was not psychotic; he was definitely a psychopathic personality.

Such types of deviated personality are a problem in wartime. The difficulty has been aptly described by Dr. Menninger as follows:

These cases disturb morale in many ways: when dismissed and returned to civilian life, they continue to disturb morale, and most European countries tend to detain them under military control because of the latter fact. Military experience with psychopaths has been very bad for several reasons: (1) they give a false impression of superficial brilliance, and are later very disappointing; (2) they are essentially disloyal, if not actively mutinous; (3) they are a constant source of annoyance and trouble to officers, trying to evade assignments, provoking anger, stirring up trouble, etc.; their equipment is never in good order, they get into a lot of difficulty—petty thefts, and so on—they are easy tools of propagandists. A few military psychiatrists feel that if they are predominantly cheerful some types may be useful in war under skillful leadership as shock troops and raid troops.

Psychopaths are so provocative that they excite revenge attitudes on the part of draft boards, officers, other soldiers, and the public generally with the result that there is a tendency to mistreat them, and thus give them occasion to justify their aggressiveness. There is a tendency against rejecting or dismissing certain of them from the Army for the same reason, yet it is generally agreed that they are a heavy liability.

Further analyzing the psychopathic inferior, Dr. Menninger says:

If one looks over the symptoms presented by these people, he gets certain very definite impressions, namely: (1) the patient of this type puts up a front or façade for the benefit of the person he desires to impress or exploit; usually he is hyperagreeable, sometimes the reverse; (2) he irritates, disappoints and distresses the doctor (and everyone else); (3) he does this by dissembling, lying, play-acting, pretending, and so on, to cover up all sorts of aggressive self-exploiting behavior—in short, fraudulency and insincerity; (4) he breaks the rules as if he had a presumed impunity from the consequences which affect other people; (5) he maintains no consistent fealty. All this can be interpreted to mean that these individuals are nearly overwhelmed by their hate and aggressive impulses and control them only by a continuous pretence which fools even themselves. They seem to live only for the moment, and that moment is filled with a grand show of intention contrary to the patient's deeper intentions. Their need for signs of approval to prove that their aggressiveness remains unrecognized or unresponded to is so great that they dare to take chances and run risks that the normal person would not. They feel that they have everything to gain and nothing to lose, *right now*; the future is a vague uncertainty.

One of the greatest problems confronting the psychiatrist today is the psychopathic personality. He is not only a war-time problem. He will probably be an even greater one in the postwar period. Perhaps a new approach through education and medical tutoring can be devised that will recognize the budding psychopathic personality sufficiently early to direct him along remedial channels. We hope so. But the menace to public morality and welfare that psychopathic youth will present during the postwar period should be faced now by every educator and every person in public office, with a view to finding a solution before tomorrow's "gangster" has descended upon us.

In 1920 one of the authors, then connected with the City Prison (Tombs), Manhattan, concluded a survey and reported that, in his opinion, 25 per cent of all prisoners in that institution were psychopathic personalities. Shortly thereafter, in a

discussion of a paper on the subject presented at the Society of Medical Jurisprudence, New York, estimates went as high as 33 per cent.

PATHOLOGIC LIARS AND SWINDLERS

The pathologic liar and certain swindlers also belong in the classification of psychopathic personality.

The pathologic liar is boastful, self-confident, highly imaginative, and usually a convincing conversationalist. He derives much satisfaction from uttering falsehoods and "tall tales," believing that by his elaboration he impresses others with the truth of his assertions. He usually moves in respectable society, establishes social contacts readily, and frequently pretends (successfully) to be of royal descent and wealthy. As Bleuler says: "Always in the sense of their high flowing tendencies, vanity in any direction, irritability, ambitions, and sexuality, they think themselves so well into fancied positions and roles that, forgetting the unreality of these structures, they allow their actions to be determined by them."

One of the cases best illustrating the condition known as *pseudologia fantastica* is that of the impostor "Lord Beaverbrook."

"Lord Beaverbrook" was a very successful swindler of women. He was neither tall, dark, and handsome nor the Hollywood type. Yet he certainly captivated the ladies and was frequently mentioned in the newspapers as "the man with a thousand loves." Many of the women he had swindled remained credulous and faithful even after his arrest, visiting him in the Tombs prison when they could and depositing money with the Commissary so that he might have better food than was served the ordinary prisoner.

"Lord Beaverbrook's" true name was Robert Whitman and he was charged with grand larceny in the first degree. Specifically, he was arraigned for having stolen thousands of dollars' worth of jewelry from Rose B.

As Rose B. alighted from a Fifth Avenue bus one afternoon she was greeted by a distinguished-looking man who exclaimed: "Hello, Nora! How are you?" Rose B. stared at him in surprise and answered: "You're mistaken, sir."

"Ah, but I cannot be. You *are* Nora Bayes!" [a very popular actress]. Rose B. was flattered. The stranger apologized profusely for his mistake and introduced himself as Robert Whitman, a member of the New York bar. A warm friendship ensued, in the course of which Rose B. confided to Whitman that she was worried about her jewelry which was not insured. Whitman volunteered to take care of the matter for her, whereupon he and the jewelry disappeared.

Several months later, while attending an exhibition of paintings at the Shoreham Hotel in Washington, D.C., a wealthy widow was introduced to a Mr. Ward, an Englishman with a perfect British accent. He told the widow that Ward was not his correct name and that he was in Washington on a secret mission for the British government. He became very attentive, sending flowers and beautiful jewelry to her. Then he proposed and was accepted. When the widow remarked about the initial B on the jewelry, Mr. Ward explained that he was "Lord Beaverbrook."

During this period he gave a party at the Mayflower Hotel, during which he announced that the widow was to be the future "Lady Beaverbrook." It so happened that among those present in the dining room was Hon. Charles Evans Hughes, Governor of the state of New York. When entering the room, "Lord Beaverbrook" glanced in Mr. Hughes's direction and bowed. Hughes rose and returned the bow. This greatly impressed the widow.

A day or two later, "Lord Beaverbrook" and his future "Lady" went house hunting. But when she found a home she liked for \$25,000, he refused to consider it. "Lady Beaverbrook" must have a home costing \$100,000 at least. She would be entertaining royalty. Her reply was that if it must be so expensive, wouldn't he let her

share the cost? Reluctantly, he accepted \$10,000 in cash and \$25,000 in bonds for this purpose. The next day they were married and while on an automobile drive, after the wedding breakfast, he noticed that the safety catch on one of the bracelets he had given her was loose. He stopped the car at a jeweler's, asked her to give him the bracelet, told her to wait, got out, and never came back.

Soon after this, "Lady Beaverbrook" was startled to read an item about a noted lawyer, Robert Whitman, who had disappeared from New York along with Rose B.'s jewelry. She telephoned the police who persuaded Rose B. to come to Washington, where she identified the jewelry that had been presented to "Lady Beaverbrook" as that which Whitman had stolen from her. Sometime later Mrs. B.'s son-in-law saw a man in Atlantic City who looked familiar. The man proved to be Robert Whitman, alias Mr. Ward, alias Lord Beaverbrook. Whitman was brought back to New York where he was tried, convicted, and sentenced to serve a term in Sing Sing prison.

Robert Whitman was a convincing talker, a good actor, clever, deceitful, ingratiating, and ingenious, a psychopathic personality who was also a pathologic liar, and a swindler who acted out his fantasies realistically.

PATHOLOGIC SEXUALITY

Normally, sexual development passes through various stages. At first the child is narcissistic or completely interested in his own body. Gratification is obtained by the oral stimulation associated with feeding. Subsequently, the infant shows a pleasurable interest in defecation and anal functioning. As he approaches adolescence there is a widening of sexual interest, which at first is limited to the same sex and later expands to include the opposite sex. Ordinarily this leads to a mature heterosexual adjustment.

In contrast to this, the sexual variant can be understood

best in the light of an arrested sexual development which implies a fixation at one of the lower levels. This may then become elaborated to the point where the particular arrested phase becomes the focal point of most of the person's sexual interests. Thus, a homosexually oriented person may be considered as one who became fixated at that particular level in his sexual development. The factors that cause this are varied but certainly include endocrine dysfunction, experiences in early childhood, and constitutionally conditioned development.

Homosexuality

In this form of perversion, the individual is attracted to members of his or her sex, and sexual desire for members of the other sex is either diminished or absent. The *urning* is a person who obtains as much sexual gratification from perverted practices as does the normal person from normal sexual relationships. A discussion of sexual perversion would be incomplete without mentioning Krafft-Ebing, the doctor who was among the first to describe psychopathologic manifestations of sexual life. This author states: "The *urning* loves and edifies the male object of his affection just as the normal man idealizes the woman he loves. He is capable of the greatest sacrifice for him, and experiences the pangs of unhappy, often unrequited, love; he suffers from the disloyalty of the beloved object, and is subject to jealousy, etc."

The overt type of male homosexual has been variously termed by the everyday citizen as "fairy" or "fag." The overt type solicits men, is not selective, and can spread venereal disease in much the same manner as does the female prostitute. The remaining homosexuals are usually law-abiding citizens who are gainfully employed and who limit their homosexual activity to a partner willing to participate in the particular pervert relationship. The male homosexual delights in

telling "off-color" stories, is prone to exaggerate, and, like the female prostitute, may indulge in petty thievery. He may assume a female name, use perfume, lipstick, and rouge; he likes small handkerchiefs and gets quite a thrill from wearing female attire. In general, the male homosexual acts like a woman, thinks like a woman, and often walks like one, but actually cares very little for women. Physically he is apt to be beardless, with delicate features and a high-pitched voice. Not infrequently he is addicted to narcotics.

The female homosexual is less frequently overt than the male; usually she selects a partner and is content with the arrangement. To the average person she is known as a "Lesbian" or "lady lover." She usually wears tailor-made clothes and low-heeled shoes, wears her hair cropped, and affects a masculine walk. She engages in the sports of men but is not physically attracted to men. The female homosexual bestows love and affection on the passive female member, is extremely jealous, and gains sexual gratification by caressing and squeezing her partner and by stimulation of the external genitalia. Both male and female homosexuals indulge in these practices, the male frequently being a passive participant in the act of sodomy.

Sadism

The sadist experiences sexual gratification by inflicting punishment and pain on others, deriving great pleasure from observing the suffering of his victim. One of our cases was a man who happened to come upon a night watchman drinking tea. He poured some potassium cyanide into the tea and commanded the watchman to drink the mixture. When the watchman refused, the sadist dipped the muzzle of his gun into the tea and forced it into the victim's mouth. He not only delightedly watched the man die in agony, but he

derived great pleasure from describing the crime after his arrest.

Lawyers often plead that sadism per se is insanity. This is, of course, no more correct than would be such a plea for ordinary homosexuality. The sadist knows what is right and what is wrong and that if apprehended in a crime he must suffer the penalty.

Masochism

The masochist is the opposite of the sadist in that he obtains his gratification by having punishment inflicted on himself. Frequently the masochist is also a sadist.

Fetishism

The fetishist is an individual who obtains sexual pleasure and excitement by touching or viewing some bit of female apparel or an article belonging to a woman such as a bit of her hair or a glove. He may not desire the woman but can achieve gratification simply by fondling the fetish.

Miscellaneous Practices

There are numerous other ways of abnormal sexual stimulation and gratification, but suffice it to say that they are usually just one manifestation of a psychopathic personality. The so-called Peeping Tom gains sexual pleasure by observing others in the nude or having sexual relations. Exhibitionism may be considered its counterpart. These persons delight in exposing their sexual organs in the presence of others. Pedophilists desire relations with children of the opposite sex. Other perversions are cannibalism, intercourse with animals or the dead, the drinking of urine or inhaling its odor, and the handling or swallowing of feces.

ALCOHOLISM

Many individuals partake of alcoholic beverages to excess despite the knowledge of its harmful effects. This is because alcoholism as such is usually a symptom of an underlying personality disorder from which the person is trying to escape. He drinks to the point of harming himself or others in his family. Self-control and the will to desist from partaking of alcohol to excess appears to be gone. The alcoholic is almost invariably a person who has found it difficult to face problems. The sad and moody individual may drink in an effort to cheer himself. The tense, anxious person seeks relief and social ease and spontaneity in alcohol. In still others the release of inhibitions by drinking may reveal homosexual desires of which the person is not ordinarily aware. Many, but definitely not all, chronic alcoholics are psychopathic personalities. In his youth the alcoholic may have had superior advantages so that he did not have to face reality. Later, when confronted with reality and having no training as to how to meet it, he tries to evade it. If he cannot, he believes that life is not treating him well. Parents can teach a child that he is a superior individual or allow him to think so, but if the child grows up with that idea, life does not permit him to keep it long. That is a rude awakening and the individual may turn to alcohol which puts into life more than actually exists in it. He forgets his failure to accomplish as much as the superior person should and the boredom that results from lack of accomplishment. That is to say, when an individual cannot get the satisfactions all of us must have in some degree he turns to the instrument that will furnish them: to alcohol or to overeating (gourmandizing) or to drugs.

The substitute costs a great deal more than it can give, but as he must have it the individual pays the price. There are certain gratifications that all of us must have. If we do

not get them, the scales that balance our personality adjustment cease to function as they should. The alcoholic, being the type that he is, regains his balance through the temporary phantom state that alcohol induces. The schizophrenic individual gets his gratification through a permanent fantasy state. The manic individual may get it through a more or less permanent state of elation, overactivity, and an extremely high regard for himself.

The chronic alcoholic is one of the most frequent and difficult problems met with in private practice, but he responds better to treatment, as a rule, than does the periodic drinker. These individuals show a gradual moral and intellectual deterioration, but orientation is unimpaired. Paranoid reactions are often seen, especially in those persons who have underlying homosexual conflicts.

In acute alcoholic intoxication normal inhibitions are released and the individual may become reckless, facetious, and euphoric, after which he becomes unsteady due to interference with co-ordination. Stupor may follow continued drinking.

Pathologic alcoholic intoxication is seen in persons who are particularly susceptible to alcohol and occurs after the ingestion of even a small amount of liquor. The drinker quickly becomes destructive, excited, and combative. A further description of the effects of alcoholism, including delirium tremens, alcoholic hallucinosis, and Korsakoff's psychosis will be found in Chapters Thirteen and Fourteen.

ADDICTION TO DRUGS

The excessive use of narcotic drugs may lead to addiction. This is differentiated from habituation by the fact that the addicted individual has a strong craving for the drug, an increased tolerance to its use, and experiences withdrawal symptoms when the drug is suddenly stopped.

Narcotic addicts come from all walks of life. They may be professional people, in business, rich or poor. Addiction may develop as a result of the indiscriminate use of the drug during periods of physical illness or it may come about as does alcoholism. There may be an underlying personality disorder or defect which the individual seeks to overcome in this way. An actual psychosis may develop secondary to addiction but this is relatively infrequent. Should there be a psychosis it is characterized by delusions of persecution, marital infidelity, jealousy, impairment of memory, episodes of depression, ideas of self-destruction, and inability to concentrate.

In all cases, the habitual use of opiates brings about personality changes of an undesirable nature. Moral and ethical standards are blunted and there is a diminishing sense of responsibility. Most opiate addicts either lie or distort the truth and when in need of the drug will agree to almost any crime. As one addict, a prominent actor, said: "Doctor, if I were in need of the drug and I knew there was some in the next room, and if my own father tried to prevent me from getting it, I would knock him down to obtain it." The life of the addict appears to be primarily concerned with obtaining sufficient opiates, a problem that is greatly intensified in wartime. Addicts associate with others of their kind and will often share their stock of the drug with their less fortunate members.

Addicts are resentful of the fact that society considers them outcasts and evildoers and are subject to periods of depression during which they may commit suicide.

Most addicts suffer from bronchitis. At first the drug acts as a sedative and decreases the bronchial secretion. Later it irritates the bronchial mucous membrane. In addition to loss of appetite and constipation, this irritation leads to a toxic condition that may be so intensified by the irregular mode of living as to predispose the addict to tuberculosis. The

respiratory rate is decreased in all addicts. When the drug acts as a poison respiration may be slowed down to four inhalations a minute. The average addict presents pin-point pupils only when he has taken a dose much too great for his needs. This does not imply poisoning, although if a sufficiently large dose is taken to cause poisoning the pupils will be pin point.

Morphine

Among morphine addicts we find those who have been introduced to it by a doctor's prescription—for the relief of pain caused by some diseases like cancer—druggists, nurses, physicians who have easy access to the drug, and psychopathic personalities or mentally ill individuals.

The habitual morphine user is a rather petty person. Although he tries to give the impression that he does not care what the world thinks of him, he does. He may use morphine for the relief of pain or because of the contentment and feeling of optimism he derives from it. Some writers and artists believe that it enhances the quality of their work. However, with adaptation of the body to the drug (tolerance) larger doses are required to produce these effects, so that an ever-increasing quantity must be taken. The average addict may take anywhere from ten to twenty grains a day.

Morphine addicts may present evidence of endocrine abnormality. Men usually experience temporary sterility with fragmentation of the spermatozoa, and while actively addicted they are not much inclined toward sexual intercourse. The female addict may undergo a cessation of menstruation, or the menses may be extremely irregular. Prostitutes, while addicted, may carry on their profession but with a diminished desire for sexual relationships.

Interference with gastrointestinal activity brings about a diminution in gastric and intestinal secretions, accompanied by loss of appetite, weight, and strength. Biliary disturbances

are common; constipation is the rule. The toxic manifestations include headache, dizziness, jaundice, and chills.

When in need of morphine, the addict becomes surly, apprehensive, and depressed. He may cry and whimper, or become menacing. If unable to obtain the drug, he develops withdrawal symptoms, namely, chills, frequent yawning and sneezing, lachrymation and coryza, darting pains and twitching of the muscles of the lower extremities, violent abdominal pains and cramps, repeated vomiting and diarrhea, which may be bloody. His pupils are widely dilated, the pulse rate varies from slow to rapid and thready, his mouth and throat are dry. If not carefully watched he may commit suicide.

It is their fear or dread of withdrawal symptoms that prevents many addicts from undertaking treatment for their addiction. The symptoms of withdrawal depend upon the amount and duration of the addiction, and the capacity of the individual to withstand pain depends upon the physical condition of the addict and his personality pattern. The war has made it impossible for the underworld addict to obtain pure "stuff." As a result we do not at present see the same withdrawal symptoms that were previously seen with better-grade drugs.

Psychosis Due to Morphine Addiction: Large quantities of morphine taken daily for many years will result in mental deterioration and in some instances in a definite psychosis. The outstanding features of the psychosis are delusions of persecution and infidelity, intense jealousy, impairment of memory, disturbance in the power to concentrate, and episodes of depression with ideas of self-destruction.

Heroin

Heroin, a derivative of morphine and more powerful, is the drug favored by the underworld addict. The effect upon

the personality is more pronounced than is that of morphine: deterioration quickly becomes evident. The heroin user is more apt to commit an overt criminal act than is the morphine addict.

E.F. was thirty-two years old and an actor by profession; married but childless. He had been addicted to morphine for five years, and to heroin for seven. When examined, his basic personality revealed marked instability. During the last few years of his morphine addiction he had been unable to find work, had lost interest, and had become depressed. He was supported by his wife who worked. To save money he switched from morphine to heroin, which is cheaper, and became even more discouraged and depressed. Treatments for addiction were always followed by a return to the drug. In time, he became surly and seclusive, refusing to visit his friends. He accused his wife of going out with other men and of being in love with a man in the office where she worked. He could not sleep. If his wife tried to reason with him he became resentful. His jealousy increased and he began to follow her in order to see whom she met. On several occasions he became combative. He developed the delusion that he was being watched and followed by the police. It finally became necessary to commit him to a private sanitarium where he was again taken off the drug. After three months he was discharged as a "recovery." Several months later he was again addicted to heroin.

Cocaine

Cocaine addiction is usually acquired by association with others who use the drug. The cocaine is taken by hypodermic injection or snuffing. Before addiction has become firmly established the action of cocaine produces a marked exhilaration; thinking seems to be more facile and the person speaks rapidly, clearly, and often wittily. After addiction, there is marked motor restlessness ("the leaps"), depression, loss of moral values, and mental confusion. The addict is often surly,

irritable, and restless. Appetite diminishes, weight is lost, and the patient becomes emaciated and anemic, progressively losing strength. The pulse rate is accelerated, the pupils are dilated, there is twitching of certain muscle groups (particularly of the hands and legs), there are tremors of the fingers and tongue, and there may be slurring of speech. If too much of the drug is taken, convulsive seizures occur. Those who sniff the drug experience drying of the nasal mucous membrane which is sometimes followed by ulceration and perforation of the nasal septum.

The withdrawal of cocaine is not accompanied by the manifestations noted after withdrawal of morphine. This does not indicate that cocaine is not habit forming. It seems to be the idea of many physicians that, in order for a drug to be considered habit forming, there must exist withdrawal symptoms similar to those encountered in opiate addiction. This is emphatically not so. Cocaine addiction is at present rather uncommon. Marijuana has displaced the drug with many previous cocaine addicts. Cocaine addiction is essentially an underworld addiction.

Cocaine Psychosis: A true psychosis may develop in the cocaine addict which is characterized by delusions of persecution (often directed against members of the family) and visual hallucinations. The complaint of "bugs creeping under the skin" is common.

G.H., thirty-three years old, white, single, and without occupation, began using cocaine while consorting with evil associates. One day, while riding in the subway, he took off first his shoes and socks, then his coat and shirt, hunting the bugs that were crawling under his skin. He was oblivious to everything else. The conductor compelled him to dress and ejected him at the next stop. By the time he reached the sidewalk he was certain that he was being followed. Everyone he passed had an evil

expression. He walked faster to escape his pursuers, but when he ran, they ran. Coming to a house that seemed to offer asylum, he leaped up the stairs and burst into a room occupied by a woman. Upon seeing her, he sank to his knees and begged her to protect him against the people who wished to kill him. Her screams aroused the neighbors who called a policeman. G.H. was arrested and committed to a state hospital for treatment.

Combined Morphine and Cocaine Addiction

Taken singly, either morphine or cocaine may eventually lead to psychotic manifestations; combined, the following symptoms occur: There is a striking disintegration of personality, and emotional deterioration is rapid and marked; there is a tendency to practices of perversion, and the addict becomes careless about his person and habits, is irritable, and usually has frequent episodes of excitement. If addiction continues and a psychosis develops there are delusions of persecution and infidelity, frequent hallucinations—visual, tactile, and auditory—marked fatigue, and a minimal or total lack of capacity for work.

I.J., a married salesman thirty-four years old, had always been an unstable person and had worked for men engaged in questionable enterprises. After ten years of a combined heroin and cocaine addiction, he had to be committed to a state hospital.

Two years before his commitment he became surly, intensely jealous, and frequently accused his wife of infidelity. He tired easily and became slovenly. Auditory and tactile hallucinations were pronounced. He was certain that somebody was "out to get him" and that he was constantly being followed. He became so confused and unable to concentrate that he could not keep a goal in mind. He underwent a course of treatment without avail; his symptoms were worse afterward. He now had dizzy spells and almost constant headache. His delusions of persecution were intensified. His insight and judg-

ment became hopelessly impaired. There was no alternative but to have him committed to a hospital.

MARIJUANA INTOXICATION

The use of *cannabis indica* (marijuana) has increased alarmingly in the past fourteen years. Young people are more prone to use the drug than are adults, and it is smoked generally in the United States as a cigarette known as a reefer or muggle. In many countries it is used in the form of a confection or is consumed as a brew. The basic personality pattern governs the psychotic manifestations. The following features are common to all psychoses attributable to marijuana habituation: Auditory and visual hallucinations, delusions of persecution, ideas of reference, flights of ideas, and sexual conflicts.

In the acute state of marijuana intoxication, the symptoms vary with the fundamental personality of the individual. Some people are flighty, talkative, and inclined to sing and carry on as though under the influence of alcohol. They may be agitated and profane. If sexually excited by the drug, there are visual hallucinations of a sexual character and sexual assaults may be committed. Insomnia may be present but is not the rule. Other marijuana smokers become apprehensive, agitated and/or depressed. They experience a ringing in the ears and dizziness, have the feeling of walking on air, and their appreciation of time relationships disappears. Suicide may be attempted.

The potency of the drug depends upon the type of marijuana, whether the drug is smoked before or after eating, indoors or outdoors. It is most potent when smoked on an empty stomach indoors, and when it is of the variety grown in a warm climate, particularly in the equatorial zone.

D.A. was twenty-four years old, married, and a native of Puerto Rico. He came to the United States when he

was ten years old and continued in school until he was fourteen (seventh grade). At this time he was convicted of disorderly conduct and was sent to a Catholic protectorate where he remained for twenty-two months. After leaving, he worked as a chauffeur, then in a laundry, next in a bakery. Each time he quit work he could give no reason for his action. In 1935, he was arrested, charged with breaking four windows in a restaurant, and was sentenced to the workhouse for four months. Following his release he continued to smoke reefers. He was physically weak, and presented abnormal mental manifestations such as poor concentration, inability to follow simple orders, delusions of persecution, and auditory hallucinations. The latter were characterized by hearing himself called a "fairy." He had been smoking marijuana for five years, about five reefers a day for which he paid ten cents apiece.

When members of D.A.'s family were questioned, they stated that he was very restless, frequently raised a commotion at home (he lived with his mother after having been married for three years), and at times was disconnected in speech. "He was out of his head," his mother said. When sent to the store he would forget what he went to buy; or he would forget where he put his purchases when he came home. He would leave his car in the park. He would get out of bed and walk about the house in his drawers, regardless of who might be present. He thought the neighbors were watching him and talking about him whenever he walked in the street.

In September, 1936, he was asked to assist another man in a burglary. On the day in question he smoked ten marijuana cigarettes, and after soaking several other reefers in water, he drank the water. He joined in the burglary, but both men were detected. The other man escaped, but D.A. was so bewildered that he simply walked downstairs into the arms of the policeman.

When mentally examined he presented delusions of persecution, auditory hallucinations, and his emotional response was inadequate. He was disconnected in speech, and the auditory hallucinations were distinctly of a sexual nature. He was committed to a state hospital.

BARBITURATE HABITUATION

The barbiturates may prove dangerous if taken consistently and for a relatively long period of time. Their slow elimination and cumulative effects lead to toxic manifestations, such as dizziness, disturbed vision, nystagmus, tremors, marked interference with concentration, emotional instability, thickness of speech, lessening of sexual desire, lessened activity of reflexes, hallucinations (chiefly visual), confusion, depression, diminished appetite and weight, ataxia, lowered blood pressure, and cardiac irregularity. Tolerance is seldom acquired. The occasional taking of barbiturates to induce sleep need not lead to a craving for the drug or to habit formation. It is the individual who takes the drug several times a day in order to forget domestic or economic difficulties who becomes habituated. We shall have more to say about the barbiturates in Chapter Thirteen.

SIMULATION

"Feigning insanity" and "malingering" are terms used synonymously with simulation. Most commonly the condition is seen in the individual who hopes to escape from some intolerable situation or expects to profit financially by his supposed illness. The soldier may malingering or simulate to escape duty and to obtain a comfortable hospital bed. On the eve of departure for an active war front, efforts at simulation are multiplied.

The simulator of mental disease usually begins by presenting a disheveled appearance. He will not shave, will not bathe, and may not dress. Any number of simulators will refuse food; others will cease to talk. Years ago when Frederick Duquesne was a prisoner in the Tombs he feigned insanity. He would lie in bed all day and when questioned he would

moan as though in pain and point to his thighs. One day the doctor waited outside his cell during feeding time. Duquesne could not see the doctor, but the doctor had a good view of him. As soon as the runner arrived with bread, Duquesne jumped off his cot and said: "Give me two pieces!" When the doctor confronted him with his action Duquesne limped back to his cot, began to moan once more, and pointed to his thigh.

Some simulators will defecate or urinate on the floor or in their clothes, or smear feces on the wall. When they use the floor, they select a spot where the excreta will be plainly visible to the passers-by. Some may even eat feces.

Other simulators believe that they can impress the observer by maniacal activities, so they shout, sing, and curse, or they may attack another person. In his every action the simulator seems to say: "Look at me! Watch me! Can't you see that I am crazy?"

Simulation is usually detected by the inconsistencies in behavior and the clumsy exaggerations of the pretender. Often he presents a morbid picture that does not follow the usual pattern of a mental illness. For example, the malingerer who is noisy and maniacal all day may sleep soundly all night, in contrast to the truly psychotic individual, or he may follow a hint purposely made within his hearing which gives him away.

DISSIMULATION

Even more frequent than simulation is dissimulation. Depressed patients may try to appear cheerful and happy so that they will not be closely watched or so that they may be discharged from the hospital. They do not feel that their symptoms are part of an illness and may succeed in suppressing them in order to carry out a suicidal intention.

REACTIVE PSYCHOSIS

Where depression prevails an actual psychosis may develop. This imposition of a psychosis upon a previous psychopathic personality is often called a reactive psychosis. In a sense, all mental illnesses are reactive. In some we see the features, in others they are not so apparent. Here we refer particularly to the psychoses that arise frequently in criminal cases and which are not unusual among men in the armed forces during wartime. Certain individuals "simply go to pieces" when in a cell awaiting trial, presenting definite evidence of mental disturbance, even in some cases to the extent of being unable to consult with counsel who wishes to prepare the defense. Factors entering into the development of "prison psychoses" are the shock of arrest, deprivation of liberty, uncertainty as to outcome, and worry over family matters. Habitual offenders fear life imprisonment; those who are charged with homicide fear conviction and the death sentence.

In the reactive state of depression, the individual manifests a feeling of helplessness and hopelessness, nihilistic ideas, guilt ideas, and difficulty in concentration. Speech is not productive and the individual takes little interest in his surroundings, cares nothing for food, shows a decrease in motor activity, sleeps poorly, and may attempt suicide.

In the reactive state of excitement, there may be delusions of persecution or of a grandiose nature or of a religious nature. Hallucinations, ideas of reference and of influence, anxiety states, and emotional manifestations are common.

Many individuals presenting a reactive psychosis are designated as simulators, and actually in almost every case there is some simulation. To differentiate between malingering and truly psychotic manifestations requires prolonged observation and repeated psychiatric examination. In a small percentage of cases, however, the reactive psychosis is so genu-

ine as to persist long after the danger that instigated it has passed, becoming, indeed, an irreversible mental illness.

Ganser Syndrome

A symptom complex frequently encountered in a reactive psychosis, as well as in hysteria, is known as the Ganser syndrome. This is characterized by absurd acts and senseless answers, as $3 \times 2 = 4$; $3 - 1 = 1$; or the person may hold a knife by the blade or a book upside down. In other words, it is the "nonsense syndrome." In rare instances the Ganser syndrome is premonitory of the development of a schizophrenic or manic-depressive psychosis.

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Psychoneuroses

ABOUT one third of the patients seen in the general practice of medicine have psychoneurotic problems. When such a person arrives at the physician's office it is soon apparent that he has a variety of mental and physical complaints that are not associated with any structural changes in the body adequate to explain them. Originally, it was felt that the primary cause of these conditions was a weakness or some actual organic change in the nervous system. But this has never been substantiated and now it is realized that most of the functional alterations are inextricably bound up with repressed emotional conflicts resulting from the individual's experiences.

(The patient's history often reveals that in childhood he showed evidences of maladjustment in the form of feeding problems, night terrors, fears, sleepwalking, moodiness, inhibitions in play, persistent bedwetting, stuttering, andclusiveness. During adolescence and early adult life, feelings of insecurity, indecisiveness, anticipation of the future with worry and anxiety, and marked suggestibility were among the more common personality traits.)

Characteristically, emotionally traumatic life experiences—financial worry, poor work adjustment, religious conflicts and a persistent, frustrating sexual difficulty—act as the precipitating factors in the predisposed individual. (There is often a conflict between the demands of society and his personal strivings, with the symptoms emerging as the unhealthy se-

tion. The attitude of other persons in the environment may lead to an exaggeration of the symptoms because of the neurotic person's extreme suggestibility.) Similar reactions, it is true, may occur in well-adjusted, mature adults but they are called forth only by a major threat of disaster and are temporary in nature and of less intensity than the reactions experienced by the neurotic person.

Among the clinical symptoms of the psychoneurotic patient, we find physical disturbances, mental disorder, prolonged concern over normal bodily functions, severe anxiety states, obsessions, compulsions, and phobias. There may be changes also in sensation, sometimes resulting in complete anesthesia of some part of the body, or alterations in motor functions such as weakness or paralysis of the extremities. However, the psychoneurotic individual has an appreciation of what is real and does not distort reality or confuse it with fantasy. Delusions and hallucinations are rare.

ANXIETY STATES

Anxiety states are characterized by the fact that apprehension and attacks of anxiety constitute the major complaints of the patient. Anxiety is closely related to fear but differs from it in that there is no external source of threat of which the patient is conscious. The anxious individual has an uneasy feeling that something disastrous is *about* to happen, a feeling that arises from within. He may feel fairly well between attacks, except for some restlessness and/or tension.

Associated with anxiety are definite physiologic changes that manifest themselves in such a way as to be referred to almost all the bodily systems. During the acute attack the patient appears to be terrifically frightened and he may believe he is about to die. His heart beats rapidly, perspiration is excessive, the pupils are dilated, the muscles are tensed, and breathing is labored. After the attack, the patient may com-

plain of headache, dizziness, loss of appetite, indigestion, nausea, abdominal pain, diarrhea, fatigue, insomnia, or any of the symptoms that occur during an attack but in a less severe form.

Patients may complain, also, of depression, lack of ability to concentrate, irritability, and phobias or fears. Among the usual phobias we see fear of insanity or impending death, of closed spaces (claustrophobia) or of open places (agoraphobia). If the patient is exposed to environmental situations of which he is fearful, there is a marked increase in the somatic symptoms of anxiety.

Anxiety may accompany physical diseases such as heart failure, hyperthyroidism, and diabetes, in addition to being part of the picture of an actual psychosis. In the depressed individual it may lead to marked agitation, but as the depression lifts the anxiety state tends to clear up.

The absence of discoverable physical causes for the patient's symptoms is not a criterion for diagnosing them as a psychoneurosis. The diagnosis rests on positive facts that indicate a personality disorder as a reaction to specific difficult life situations. A study of the past personal history will reveal previous difficulties in adjustment and the presence of neurotic manifestations.

Freud originally felt that these states were due to sexual maladjustments related to sexual frustration. He felt that essentially there was an excess of sexual excitation over sexual satisfaction, and that this surplus of excitation was diffused and gave rise to the symptoms. Later he expanded this view to include other sources of anxiety. It is now felt that the following factors play a role in the genesis of anxiety states: a constitutional predisposition by virtue of inheritance and early environment, an emotionally unstable personality (exemplified by individuals who tend to be worrisome and who anticipate events with anxiety), and dissatisfaction in

business, social life, and marriage. Psychoneuroses are more common in women. Women repress the sexual urge much more than men do and such repression may find expression in neurotic manifestations.

P.G., a thirty-two-year-old male clerk, complained of palpitation and feared he had heart trouble. He consulted his local physician, who assured him, after an examination, that his heart was normal. A few weeks later while arguing with his business associates, he suddenly became dizzy and thought he was dying. During the next three months he experienced similar attacks every two weeks or so, usually associated with arguments at work or at home. The attacks increased in severity and headaches "like a tight band around the skull" began to occur frequently. He became irritable, tense, restless, and tired easily. His appetite diminished, he lost weight, and his sleep was disrupted by terrifying dreams. His wife remarked that recently he had sustained several cuts in salary.

As a child, P.G. was dependent on his mother. His father died when he was young so that at the age of fourteen he had to go to work. He married at the age of thirty, after a courtship of six years. Sexual intercourse was unsatisfactory, his use of contraceptives conflicting with his religious beliefs.

P.G.'s father had used alcohol to excess, often not coming home at night. P.G. was afraid of him because of his severity and his frequent threats of punishment. The mother was an anxious, worrisome type, oversolicitous concerning her son's welfare; two younger brothers had died in infancy.

Careful physical and laboratory examinations did not show any evidence of organic disease to account for the symptoms. The blood sugar was elevated above normal, to 110 per cent (as is often the case with severe anxiety).

While under the psychiatrist's care, P.G. discussed his symptoms and was reassured, with definite facts obtained by various physical examinations, about his health. He discussed his sexual difficulties, his home and business

problems, and began to see the relationship between these situations and his anxiety attacks. Gradually the tension and anxiety symptoms diminished and he was able to return to work, adjusting himself satisfactorily. He now tries to solve his problems directly with some help from his wife.

The case of P.G. illustrates how a combination of life situations may add up until an anxiety state is the result. The predisposition to anxiety was probably inherited from his neurotic mother and reinforced by an unhealthy childhood environment. Inadequacy feelings in business, the decrease in income, and a poor sexual adjustment, complicated by religious conflicts, acted as the exciting factors.

Σ HYSTERIA

The hysterical syndrome embraces a combination of disturbances in physical functioning and mental symptoms. There is no organic basis for the loss of function, which usually corresponds to what the patient thinks it should be and not to the actual anatomical distribution of the various nerves. The individual is seldom actually concerned about the disability and will talk about it placidly (*la belle indifférence*).

In the physical sphere, there may be paralysis of the extremities despite intact reflexes. Sometimes an arm or leg is kept in a certain position (because of the patient's belief that it is paralyzed) so long that contractures (deformities due to muscle shortening and adhesions) result. Tics, tremors, aphonia (voicelessness), and blindness may be of hysterical origin.

In the sensory sphere, anesthesia (loss of sensation), (paresthesia (distorted sensation such as numbness or a tingling feeling), and hyperesthesia (increased sensitivity)) may occur. These alterations usually follow a nonanatomic dis-

tribution and are often more sharply defined than in the case of a sensory loss of real neurologic origin. (Convulsions, vasomotor changes, *clavus hystericus* (agonizing headache likened to pain that would be caused by driving a nail in the skull), *globus hystericus* (sensation of a ball in the throat), anorexia (loss of appetite), and psychogenic vomiting are other common symptoms.

Psychologically, there is marked emotional lability with exaggerated and rapidly changing moods. The moods, however, are not obviously inappropriate to the thought content as in some of the psychoses. The emotions have a dramatic and histrionic quality and the patient may have episodic mental states characterized by periods of amnesia, sleepwalking, trances, and fugues. In a fugue, he may wander off somewhere and even though awake while doing so will not remember how he arrived in his new and strange surroundings.

Sometimes symptoms are induced just by the method of examination, or by inadvertent remarks of the physician. This is because of the extreme suggestibility of the psychoneurotic patient. In other cases symptoms may be prolonged on an hysterical basis. For example, in the last war cases of phosgene gas poisoning continued to show an aphonia long after all evidence of local irritation of the larynx had disappeared.

Mechanism of Symptom Formation

(In everyday life we may divert some of our thoughts from one situation and think of something else while still partly engrossed with the first situation. Thus, a student may think about a recent baseball game while continuing to listen to a lecture on history or some other subject. This dividing up of one's field of consciousness is spoken of as *dissociation* and represents a cutting off of part of the personality functions. Dissociations are seen in an even more pronounced way when

a discussion arises involving a subject like religion, war, or politics.) Logical or reasonable individuals may become stubborn, unreasonable, and rigid when some emotionally charged subject is discussed so that the particular subject may be said to exist in a logic-tight compartment dissociated from the rest of the personality.

(In hysteria we see a similar mechanism in operation, but the dissociation is complete and not subject to voluntary control.) This gives rise to the "double personalities" of the Doctor Jekyll and Mr. Hyde type, and to amnesias and fugues and various physical symptoms. From a dynamic point of view we might postulate that wishes or desires that are not acceptable to the individual are dissociated and then repressed. However, the psychic energy associated with the repressed desires finally obtains expression in a disguised form which constitutes the symptom. In other words, the energy is converted into a symptom that has a symbolic meaning for the patient, although he may not be aware of it as such. An example of this is the case of the young girl, cited earlier, who slapped her mother's face during a heated argument. She was ashamed and upset by her action but was too proud to apologize, so she developed an hysterical paralysis of the offending arm. Her guilt feelings were converted into a symptom that was symbolically significant in that it represented expiation for her sin.) Another illustrative case is that of L.R.

L.R. was a married stenographer thirty years old who developed "confused spells" for which she was admitted to the hospital. These started shortly after an operation in which her uterus and Fallopian tubes were removed. Her convalescence was uneventful until she learned the extent of the operation. Then she became irritable and mildly depressed. A few days later she entered a period during which she seemed bewildered, did not recognize her husband or family, and said she was not married.

This amnesic attack lasted a few hours, after which she recognized her relatives. The spells recurred every two or three days until she became worried about them, being unable to work as long as they continued.

In reviewing L.R.'s story we learned that at the age of sixteen she lost her voice in the middle of a debate, but recovered it after two days. The following year, when falsely accused of cheating during an examination, she became completely blind. Sight was restored (after a few days) only when she was cleared of the charge by the school authorities.

As a child she was "nervous and excitable." At the age of three her parents separated after a great deal of marital friction. In school she was an excellent student but fainted easily if she became excited or was surprised. She attended business school and went to work as a stenographer after graduation. She was proficient and well liked by her employers. At the age of twenty-five she was married, after a year's courtship, and continued to go to work. Her sexual adjustment was not entirely satisfactory. She often felt frustrated.

While under psychiatric care, L.R. continued to have amnesic periods, during one of which she remarked that she was pregnant, which was not the case. By means of strong suggestive therapy she was immediately brought out of the amnesic states. Gradually she was able to discuss her lifelong habit of going into a reverie or day-dream when situations were not satisfactory or when she felt frustrated. She was able, also, to recognize the emotional value of the amnesic attack (during which she was able to realize her overwhelming desire for a baby); it was her way of running away from reality.

Constructive ways of dealing with her strong maternal instincts were suggested and by adopting them she finally became completely free of her spells. She is still subject to depressive moods when confronted by difficult problems.

This patient presented a lifelong pattern of hysterical reactions. Her parents' separation made her early home life in-

secure so that she showed emotional instability even as a child. In stressful situations she reacted with hysterical aphonia and later with blindness of an hysterical nature. Finally, when her desire for a family was frustrated by operation, her personality became dissociated and she experienced amnesic periods during which she could live out her desire oblivious to reality.

Psychoneuroses occurring in the armed forces during a war are usually of the anxiety or hysterical type. The psychological mechanisms that operate to produce the symptoms are generally the same as those seen in psychoneuroses in the civilian population. In addition, there are immediate situational factors that play a role; for instance, separation from a familiar environment and exposure to new and dangerous surroundings. The war neuroses will be discussed at length in Chapter Eight. 

OBSSESSIVE-COMPULSIVE DISORDERS (PSYCHASTHENIA)

Obsessive-compulsive disorders are characterized primarily by thoughts and actions that recur despite the person's efforts to rid himself of them. The persistent thoughts or obsessions are often recognized as illogical, absurd, and the product of his own mind, yet the individual feels compelled to carry them out in a repetitive manner because if he does not he will be even more troubled by anxiety and tension symptoms. Thus, a person must dress in a ritualistic way or he finds it necessary to touch objects in a particular way or a certain number of times. Normally, we may be aware of tunes or phrases going "round and round" in our minds, tunes that on the surface appear to have little emotional significance, and we are able to remove them by conscious effort without replacement by tension or anxiety feelings. This, however, is not true of the obsessive-compulsive psychoneurotic person.

This psychoneurosis occurs with special frequency in persons who by nature are fussy, perfectionistic, penurious, and meticulous in an exaggerated form. They may be troubled, for instance, by the removal of an ashtray from its usual position. They may demand extreme punctuality of themselves and others. They harp often on the "principle of the thing" and have a strong urge to see that justice triumphs.

The symptoms fulfill the personality needs in a number of ways. The constantly recurring thoughts or actions which apparently have little significance may be the person's way of keeping truly disturbing thoughts out of his mind. In another sense, they represent a symbolic expression of desires that are unacceptable to the conscience, or they may be a subconsciously self-imposed punishment for having entertained or indulged in thoughts or acts about which the person feels guilty. The emotional energy associated with the guilt-provoking incident is displaced into the obsession or compulsion, thus relieving the mind of a distinctly unpleasant memory.

A.V., a twenty-eight-year-old woman, began to be increasingly fussy, meticulous, and neat within a year of her marriage. This resulted in housecleaning every day and all day, so much so that during her husband's vacation he, too, had to do housework. Gradually this need to be excessively clean extended to her toilet habits. After each trip to the bathroom she would spend a great deal of time washing her hands and she had to have someone inspect her underclothing to see if she had soiled it. She developed a marked fear of contamination from germs.

A.V. was a member of a closely knit family and had been much pampered. Her mother was especially meticulous about household and personal cleanliness, emphasizing this as a desirable asset. In school, A.V. showed average ability but had to leave high school to take a business course, after which she worked as a stenographer. She was courted for four years and was married at twenty-five.

Sexual relations with her husband were very infrequent because of her feelings of disgust and her lack of satisfaction.

A.V. is a very critical and rigid young woman, harboring resentment and grudges behind a smiling exterior. Meticulousness, fussiness about detail, and stubbornness are among her outstanding personality traits. A sister has a compulsion to be excessively neat about the house and spends hours looking at herself in a mirror to see if she is dressed in absolutely proper fashion.

While under psychiatric treatment, A.V. was able to recognize her resentment of her husband and her inability to express it because of her dependence upon him. Her compulsive activities were gradually curtailed, though the curtailment at first was accompanied by increased anxiety, rapid heart beat, and sleeplessness. With further insight she was able to accept these restrictions, and she finally improved sufficiently to resume her duties as a housewife. Her unwillingness to carry through with intensive therapy will probably result in a recurrence of her neurosis.

HYPOCHONDRIASIS

Hypochondriasis is a condition in which the individual shows marked overconcern with bodily functions and a conviction that he has some disease, which is physically not justifiable. This symptom is seen in other mental disorders (depressions or schizophrenia) but in the neurotic individual the body complaints are not grotesque or bizarre (unless he is feeble-minded) and are often associated with anxiety. Self-pity and a tendency to dramatize the symptoms are typical.

In the etiology of hypochondriasis, we recognize certain personality traits such as the tendency to be overaware of bodily sensations and functions. The person may be quite sensitive to physical pain so that in situations of stress he reverts to an invalidlike reaction, involving withdrawal from the troublesome problem. Difficult life situations provide the occasion for a blossoming of the hypochondriacal reaction.

The particular pattern may have been determined by the oversolicitous, fussy, anxious mother who instilled the over-concern during the patient's childhood.

E.E. is a widow fifty-eight years old, who for three years complained of vague pains in the abdomen, mostly in the stomach region. The pains occurred at varying times, had no relation to meals, and were not relieved by milk or soda (findings often associated with peptic ulcer). When excited the pain became worse. At first she thought she had gall-bladder disease. Numerous gall-bladder function tests were performed, including an X-ray examination, and when told the findings were negative, she insisted that the examination be repeated three times. Then she accepted the doctor's report. Following this, she decided that she had cancer of the stomach. Examinations were again carried out several times, always with a negative result. The patient continued to insist she had a gastric cancer. She consulted eight doctors and spent more than \$1,500 for laboratory examinations in two years.

By inquiry into the patient's history, it was learned that at the age of eighteen she was afraid she had a cancer of the breast after a slight injury. At twenty-two she married a widower with two children and had a child by him during the first year of her marriage. She used her reluctance to have another child as an excuse for avoiding coitus which was "disgusting" to her.

When E.E. was forty-one her husband died of cancer of the throat. She complained soon afterward of a lump in her throat, worried about it, and consulted several doctors, one of whom diagnosed the condition as a case of infected tonsils and removed them. Shortly after the operation she developed an abscess in the right side of the neck which convinced her that she had a cancer of the throat. The abscess healed and a year later she abandoned this idea.

When the patient's abdominal complaints began, she was arguing with her stepchildren concerning financial arrangements. An importing business that belonged to her was being managed by them, but she had a good income and no financial worry. After months of arguing, she con-

sented to allow the business to be incorporated. Her income began to shrink rapidly. She became resentful, but was unable to express her feeling because she was afraid that if she did the children would desert the business and set up a competitive one of their own.

One of the patient's brothers is an anxious, worrisome man who drinks moderately large quantities of alcoholic beverages after working hours, especially when he feels tense. Another brother died of pneumonia after an alcoholic bout.

Various medications and treatments were tried in an effort to reduce the patient's tension, with partial success. However, when she began to express her true feelings about her stepchildren and to voice her financial worry she began to improve. The psychiatrist worked out a daily routine with her and showed her how to curtail her budget without sacrificing too much of her enjoyment of life. Today, she has forgotten her "cancer."

TRAUMATIC NEUROSES

Accidents or experiences involving trauma may cause emotional disturbances which shortly after the accident or experience give rise to prolonged symptoms of a neurotic type. Fundamentally, these symptoms do not differ from those seen in minor personality disorders without traumatic antecedent. It is not the actual physical injury that causes the illness. It is the mental state that results from the traumatic situation that plays the important role.

In general, the symptoms are similar to those seen in an hysterical or anxiety state, or a combination of the two. Frequently there is pain in some part of the body, particularly in the back and head (headache), sensory loss, or paralysis. When compensation is involved it may be difficult to determine how large a part conscious desire plays in prolonging the illness. In many cases, the duration is shortened by a cash settlement of a lump sum early in the course of the illness or by an irrevocable refusal of any indemnity. Con-

tinued payments of small sums at intervals for the time the individual is incapacitated tends to prolong the period of disability. With regard to the question of malingering, there is danger in labeling all cases of traumatic neuroses as malingerers. To do so may cause grave injustice and tend to label all litigants in cases of head injury as ordinary simulators.

In a recent discussion of this subject, Dr. Lewis Stevenson, an eminent neurologist, said:

Individuals who complain most loudly usually have least wrong with them. When a man has an obvious injury he does not need to complain. Most physicians and others interested are anxious to see that he is adequately and justly dealt with. . . . It is recognized, of course, that a man may have a serious organic injury to some part of his body from which he suffers some permanent disability and yet maintains that he has, in addition, a paralysis of one leg or some other defect which is easily shown to be hysterical in origin. The real disability may not be regarded as total, whereas the real one plus the added hysteria may cause it to be so regarded. . . .

In a consideration of the functional nervous disturbances following an accident, the doctor must first of all determine that the individual was actually hurt and did, indeed, suffer a cerebral trauma as indicated by certain criteria. A surprisingly large number of compensation cases claiming disability from a "post-concussion neurosis" have received no cerebral trauma whatever and no psychic trauma, and their nervousness should not be attributed in any way to the accident. This subject is in such a state of chaos at present that the best way, in the author's opinion, to deal with it would be to allow no compensation whatever in such cases. Less injustice would be done than at present, and few injured persons would be inadequately compensated. Many lawyers and some doctors would, of course, object but "compensation neurosis" would disappear and more funds would be made available for the management of men and women who *have* been injured.

We find it difficult to agree with Stevenson when he says it would be best to allow no compensation in these cases. To say that "compensation neurosis" would disappear is simply to

hope for the impossible and to disregard all that we know about personality study.

CARE OF THE PSYCHONEUROTIC PATIENT

The treatment of a psychoneurotic individual is aimed at finding the psychodynamic factors that led to the symptoms. When these are determined they are analyzed with the patient so that he obtains an understanding of how they incapacitate him and interfere with his social and work adjustments. Following this, emphasis is placed on the need for correcting or modifying unhealthy attitudes and relationships and the development of new goals and interests that offer personal satisfactions.

Although the approach is an objective one, the doctor must be sufficiently interested to adopt a sympathetic listening attitude. The opportunity to have an understanding person listen to the various complaints often provides partial relief for the patient. The term "neurotic" is frequently used in a derogatory sense to imply that symptoms are being imagined, and is best avoided. It is poor therapy and it is also untrue to suggest that the patient is consciously using an illness to avoid problems or to doubt the existence of the symptoms. A headache caused by disagreeable, tension-producing experiences may be just as painful as one accompanying a brain tumor. To deny its existence because there are no objective signs of structural damage to account for it is tantamount to branding the individual a liar. One commonly hears expressions like "Mr. X. is a pain in the neck" or "Making out my income-tax report gives me a headache." These statements may be literally true but they are greatly condensed as to the actual state of affairs. The person really means that meeting certain individuals or performing a given task is a tension-producing situation which in turn is experienced as a headache or a pain in the tensed muscles of the neck. The physi-

cian should try to clarify and elucidate the exact nature of the symptoms and to show how various emotional states and situations influence them. It is just as important to know what relieves the different complaints as to understand what makes them worse.

A complete physical examination is important in all cases. In addition, laboratory tests, X-ray investigations, electrocardiograms, and other procedures should be performed when these may shed additional light on the disturbed physiologic processes. Reassurance promotes a feeling of security and is therefore important, but it should not be automatic and meaningless. It must always be based on facts obtained by the medical tests and examinations. Thus, the patient with palpitation of the heart and marked anxiety feelings can be reassured that she does not have heart disease only after a proper cardiac examination, including X-ray films and an electrocardiogram, has been carried out.

Although during the early stage of treatment the individual requires protection from undue responsibilities, the ultimate goal is one of self-reliance with only temporary dependence on others to any unusual degree. Through encouragement and some help the patient can gradually be induced to face reality problems directly and to try to work them out in a constructive, healthful manner. This kind of attitude toward everyday situations slowly inculcates a healthful approach to major problems.

Hospital treatment may be required for the person who has become desperate or depressed due to the persistence of unbearable symptoms. On occasion an acute panic or the elaboration of phobias and compulsions may become so intense and all inclusive that the individual cannot manage his living outside of a psychiatric institution. It may be necessary, also, to hospitalize patients who have made life miserable for their relatives by utilizing their symptoms in a tyrannical manner

in order that the entire life of the household will revolve about them. Yet in all these cases there is a real danger in the patient's becoming "hospitalized" and prolonging his invalid reaction because of the desire for the personal attention and comfort of the hospital. The goal is to enable the person to make his adjustments in his own environment. A too prolonged period of hospitalization—past the point where the patient can continue with office treatment—may defeat this end.

In psychotherapeutic interviews the discussion is gradually enlarged to include personality functioning as well as descriptive accounts of the symptoms. The patient is shown the chronological relationship between emotionally disturbing events and the onset of exacerbation of the complaints. Harping on the symptoms is to be discouraged. In its place, the necessity for presenting new material should be emphasized. A detailed personality analysis is basic in treatment. Where considerable repression is present and it is difficult to obtain significant material, the physician may resort to the analysis of dreams and the free-association technique of psychoanalysis.

Suggestibility, a common trait in psychoneurotics, may act as a two-edged sword unless care is taken to avoid mentioning new symptoms. A case in point was recently cited by Dr. Stevenson:

A Greek cook was admitted to the Neurological Service of Bellevue Hospital (service of Dr. Foster Kennedy) some time in 1920. He had an hysterical paralysis of his left arm. The history showed that he had overturned a pot of hot fat and burned his left forearm. While it was being dressed (the cook told us) the surgeon suggested that the nerves in the arm had been damaged. The wound healed very well and there should have been no further disability. However, the surgeon's suggestion aided the man in the development of the hysterical weakness of the arm due to the supposed nerve injury. It was shown beyond any doubt that there was no nerve injury. The man had an hysterical anesthesia over most of the arm. An attempt was made to treat the neurosis by suggestion and by other means, and some success

was obvious since the level of the anesthesia was soon lowered. The treatment was vigorously continued until one day almost all of the sensory loss had been restored. Then, suddenly, the man became angry and left the hospital against advice. We lost sight of him until several years later when I met him by accident on the street. He exhibited a typical hysterical paralysis of the *whole left side* of his body.

The proper use of suggestion is to present ideas in such a casual way that the patient acquires greater self-confidence and a feeling of security. Sometimes it is advisable to try persuasion, which means giving the patient logical reasons why he should accept a specific idea.

In the process of re-education a reorganization of the person's way of living, including change of occupation, may be indicated so that his functions and responsibilities will be more in accord with his abilities. A concept of balanced living and greater flexibility to the demands upon oneself, and the importance of accepting a certain amount of discomfort in everyday life, must be repeatedly stressed.

Attention to nutritional needs, eliminative functions, and personal hygiene is essential. Physical fatigue may result in exaggerated symptoms and is to be avoided by the use of rest periods. However, the tired feeling and lack of energy of the neurotic person must be differentiated from true physical fatigue, which is the result of hard manual labor or strenuous exertion. The anxious patient experiences fatigue from emotional causes, so that he will often complain of being tired in the morning even after an adequate night's sleep. In these cases further physical activity is indicated for relieving the tension, and with it the feeling of weariness.

Recreation that involves the use of considerable energy often aids in relaxation, particularly when the competitive aspect is not an important part of the game or exercise. Occupational therapy is also an excellent aid, by giving the pa-

tient an interest from which he can derive satisfaction and diverting his attention from his own morbid preoccupations.

Chemical sedation is ordinarily used only during an acute episode or at night to induce sleep. There is real danger of habituation if sedatives are used for a long period of time. When prescribed, it is made clear to the patient that they are for temporary relief and not intended as a cure-all. Hydrotherapy (especially prolonged baths and wet sheet packs) is a valuable direct method of relaxation.

A routine, including planned occupation, opportunities for recreation and social activities, definite hours for meals, and regular rest periods, is a wise prescription for all neurotic patients.

CARE OF THE PATIENT WITH PHOBIAS

In the treatment of phobias, the physician tries to find out the phobia's meaning for the patient. It may be pointed out that the phobia itself is harmless and that the anxiety related to it is in reality generated elsewhere in the personality and attaches itself to the specific situation. In view of this, the patient is urged to disregard the phobic restrictions on his everyday life. This may lead to a desensitization, with an increase in self-reliance and a dissipation of the particular phobia when carried out together with analysis.

Anxious persons should cultivate hobbies, learn to relax through recreation, and have regular vocations. Intellectual diversions—reading interesting books, or writing—help in shifting away from egocentric tendencies toward a more nearly full appreciation of life.

MANAGEMENT OF HYSTERIA

Hysterical individuals seem to have the propensity for incurring the anger of those who care for them, because super-

ficially the symptoms resemble those of malingerers. However much he may seem to be a malingerer, the patient is not to be regarded as insincere or dishonest. No matter how apparent the relation of symptoms to cause may be to an unbiased observer, the fact is that the disabilities are the result of dissociation and the patient is not consciously aware of the motivations behind his illness. Little attention or talk should be directed toward the symptom itself. Instead, the patient's life situation should be analyzed, with emphasis on the circumstances prevailing at the beginning of symptoms.

In differentiating hysterical reactions from malingering, it is well to remember that the malingerer wishes to *appear* ill, whereas the hysterical person wishes really to *be* ill.

Suggestion is a valuable tool in getting the individual to widen his range of activity. Combined with encouragement, it may persuade the patient to minimize the physical manifestations and to begin to use the disabled part of his body. In patients with low intelligence, reliance has to be placed on suggestion since an extensive analysis is not feasible.

Socialization and an interest in group activities combat the egocentric tendency. In many cases recovery is retarded because the patient has not been isolated from annoying relatives and friends. A neutral environment—for instance, the hospital—is best.

It is necessary to study the patient's environmental background and emotional problems in great detail if an understanding of the hysterical reaction, and how best to manage it, is to be acquired.

Physical factors also require attention. Adequate rest and sleep and nourishing food are essential. For the first few nights a sedative (sodium bromide, 1 gm., or phenobarbital, 0.06 gm.) may be given. The usual routine of daily life should be resumed as soon as possible to avoid prolonging the neurotic reaction.

TREATMENT OF OBSESSIVE-COMPULSIVE DISORDERS

In the management of obsessive-compulsive disorders, the physician analyzes the symptoms and the settings in which they first appeared so that the precipitating factors may be understood and subsequently resolved. Since individuals suffering from these disorders are often obstinate, very perfectionistic, stingy, and demand much of themselves, it is necessary to get them to re-evaluate their assets and liabilities so that they can modify their self-demands and still be able to derive satisfactions.

Proper management calls for an active but gradual interference with rituals, compulsions, and obsessions. A plan of living has to be worked out with the patient, allotting a specified amount of time for the execution of certain tasks such as dressing, washing, toilet needs, and so on. Even if the task has not been satisfactorily completed, the patient should be urged to go on to the next activity.

Obsessive habits of thinking have to be broken by the patient's making a conscious effort to substitute other intellectual activities. Since such restrictions will tend to generate anxiety, the process must be gradual, with the substitution of therapeutic discussions and occupational and recreational therapy as outlets for anxiety.

Re-education of faulty habits of doing and thinking is most important. The perfectionistic and overconscientious attitude requires modification so that an adequate result or a partial success can be accepted without the patient's expending excessive amounts of time in striving for a completely satisfactory result.

The obsessive-compulsive individual often feels well while being analyzed: the discussion itself acts as a temporary outlet. With the cessation of the analysis, some of the obsessions may return for a while. Consequently, the patient has

to be taught to be more tolerant of himself and more willing to accept certain minor symptoms during the transition stage.

The fact that a patient goes into great detail when relating some event may be a manifestation of the illness itself and should, therefore, be curtailed. Indecisiveness is a bad habit, and patients who have the habit should be urged to reach decisions even at the expense of possibly being wrong. Recreation tends to be slighted in favor of working most of the time to attain high ambitions, and so its importance also needs special emphasis. The patient should be helped to evolve a less rigid philosophy of life: one that will allow for fun and enjoyment as well as work.

TREATMENT OF HYPOCHONDRIASIS

Hypochondriacal delusions are treated like any other delusions: with the realization that as the fundamental reaction improves there will be a dropping off of the bodily complaints. Especially in depressions, the hypochondriacal complaints tend to diminish in intensity and even to disappear as the mood lifts. With the neurotic individual, where there is a certain purpose or motivation for the invalid reactions (conscious or unconscious), the approach must be a more active one.

The neurotic hypochondriac strives for sympathy and attention. Therefore, a complete physical survey is a primary necessity. If a somatic illness is discovered, the patient should be told about it and proper therapy instituted. However, catering by prescribing physiotherapeutic measures that are not medically indicated is to be avoided because of the danger of fixing the patient's attention on his body. For the same reason, placebos like milk-sugar tablets (medication given just to satisfy the patient and which has no specific pharmacologic effect) should be avoided. The physician should offer the patient a formulation which is simple enough to be clearly appreciated and which points out the situational and emotional

factors that play causative roles. It should be explained to relatives that the complaints are not "imaginings" but are actually based on functional changes brought on by various emotions. This may help them to show a more sympathetic understanding of the patient's difficulties and to be more willing to effect any environmental changes that are suggested by the physician.

In the process of re-education, the patient is taught to divert his attention from bodily preoccupations and to minimize inner sensations. Occupational therapy is of particular value in that it provides new interests. Outlets for tensions and anxiety can be provided by athletic pursuits, dancing, and gymnastic activities. Should the symptoms increase to the point of anxiety, the patient will profit by reassurances concerning the state of his health.

A careful chronological study by the doctor usually will show a correlation between the development of symptoms and difficult life situations. This formulation helps to make the patient realize that his illness may be a psychologic reaction to stress. It will demonstrate, also, the unhealthy environmental situations that require alteration.

A well-balanced routine that will demand of the patient a fair amount of activity and leave little time for self-observation and self-pity is of the utmost importance. Certain patients do not especially wish to get well, and a review of the pleasures of good health often helps. The patient is always to be encouraged in his successes.

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CHAPTER VIII

War Psychoneuroses

THE problem of psychoneurotic reactions is of especial importance during wartime both to civilian and military personnel. With the present-day concept of total war, each individual is counted upon to contribute to the war effort.

While many of the symptoms observed in wartime psychoneuroses are similar to those seen in the psychoneuroses of ordinary civilian life, there are some significant differences. The actual precipitating event is an emotionally traumatic experience such as being bombed or witnessing a horrible sight. This calls forth a neurotic reaction in the individual who is predisposed by virtue of his inherited tendencies or early childhood experiences.

During World War I the neurotic symptoms were attributed to "microstructural" alterations in the nervous system. However, similar reactions were found to develop in men who had not been exposed to any explosion or similar trauma which could produce changes in the nerve cells. Subsequently, it was recognized that the trauma is psychologic in nature, and these illnesses are now often called the "traumatic neuroses."

In both World I and the present war it has been shown that there is little increase in the major personality disorders (psychoses) and that the neuroses constitute the bulk of the psychiatric disorders. An analysis of over a million casualties in the British Army revealed that the neuroses often made up 37 of each 1,000 casualties evacuated home. Even in the

American Expeditionary Force, where an attempt was made to eliminate potential neurotics, there were 9.5 per 1,000 hospital admissions for "functional nervous disease."

One of the unexpected features of the effect of the present war on the civilian population has been the lack of any striking increase in neurotic illnesses. Data from London and Bristol furnished by Dr. Aubrey Lewis "indicate that after an intensive air raid there is a slight rise in the total amount of neurotic illnesses in the affected area, occurring chiefly in those who have been neurotically ill before. Neurotic reactions may not show themselves for a week or ten days after the bombing." Anxiety and depression are the commonest forms of mental upset, with hysteria infrequently observed. Children are remarkably little affected by the fear of air raids. Some of them even indulge in games representing an air raid and may work off whatever anxiety they have in this way.

An interesting and surprising development during the present war has been an increase in psychosomatic disorders. It seems that the effort to suppress the emotional tensions growing out of the war situation is appearing in the form of somatic disturbances.

In World War I the condition described as "effort syndrome" was a serious problem. Sir Thomas Lewis, one of the foremost authorities on heart disease, thought that there were about 60,000 cases in the British army, of which two thirds received pensions from the government. The syndrome was characterized by breathlessness, pain, exhaustion, giddiness, and fainting, occurring for the most part during or after exertion. The individuals demonstrated no physical signs of structural change in the cardiovascular system. However, at times the diagnosis of effort syndrome was made when this picture was superimposed on a mild type of organic heart disease which of itself would give no symptoms.

In World War II, the number of actual cases is smaller in the British army than in the previous war, the reason being the government's insistence that strong reassurances be given by regimental medical officers when men first report sick with palpitations or symptoms indicating effort tolerance. *

In the present conflict, gastroduodenal disorders, often referred to as "stress dyspepsias," appear to be the most important and most frequent of the psychosomatic conditions. Gastric hypersecretion, nausea, vomiting, cramps, and diarrhea are commonly observed in both the British and American armies. The British consider "dyspepsia" as the largest single type of disease among the military ill, and it has been recently reported as the second major medical problem, the first being the psychiatric one—among our own military sick. There is general agreement that psychologic factors, especially prolonged emotional strains such as chronic anxiety, tension, and resentment, play a part, but the importance of these situations is weighed differently. Many physicians emphasize the fact that army diet and cooking are detrimental especially for those men who had ulcers or gastritis (stomach inflammation) in civil life. Experimental work recently performed by Mittelman, Wolff, and Scharf offers convincing evidence for the role of emotional factors in the production of gastritis and peptic ulcer. Dunn, who has summarized the literature on the subject, points out that a striking increase in the prevalence of digestive disorders among American troops may occur if the standards for the selection of candidates for the army are so lowered as to include many men with psychoneurotic personalities or with a previous history of peptic ulceration.

ETIOLOGY

The neuroses of wartime like the neuroses of peacetime have as their basis personality conflicts which in the predisposed individual result in a train of symptoms. "The imme-

diate determining factor," writes J. A. Hadfield, a British authority on the subject, "has a definite traumatic quality, either mechanical, as in the case of shell explosions, or emotionally directive, as in the case of unusual or terrifying experiences. A certain degree of initial disturbance of consciousness appears to be necessary or a very favoring circumstance for the development of the neurosis structure itself." Associated with this period of confusion, primitive instincts such as the need for self-preservation assert themselves. Instead of instinctive flight or concealment taking place, a manifestly impossible condition in most instances, there develops the manifestation of various forms of the neuroses that replace them. The symptoms tend to become elaborated, fixed, and stereotyped, according to each individual's experience.

The part played by hereditary or constitutional factors is emphasized by many physicians. Hadfield studied 326 cases of neurosis in British soldiers during 1941 and found "constitutional or acquired predisposition" in 82 per cent. To check on the truth of statements made by the soldiers, who may have had ulterior motives, letters were sent to an unselected group of forty parents, and in thirty out of thirty-seven replies the remarks made were confirmed. The letter itself was carefully worded so that it did not mention why the soldier was in the hospital but asked about childhood illnesses and "whether he was delicate and difficult to bring up."

A number of British psychiatrists (particularly Sargent and Slater), while agreeing on the importance of constitutional factors, describe acute war neuroses following the Flanders evacuation in which "men of reasonably sound personality" developed neurotic symptoms. They state:

Compared to an average population, these men would almost certainly show an excessive proportion of men who had suffered from nervous troubles in earlier life, and an excessive frequency of psy-

chiatric disorder in the nearer or blood relatives. Nevertheless, these acute cases had shown satisfactory adaptation to army life; and the previous history showed in most cases a man of normal intelligence, personality, and work record. The stress required to produce a breakdown of such personalities was of an altogether different order from any to which they could expect to be subjected in ordinary life. The stress in question was, of course, the period of fighting leading to the withdrawal to and evacuation from Dunkirk, and witness to its severity is borne by official records, newspaper accounts, and the stories told by the patients. It was an accumulation of strains, both physical and mental, of great intensity—bodily danger, continuous physical exertion, loss of sleep, insufficiency and irregularity of meals, intermittent but perpetually recurrent bombardment, and the sight of comrades and civilian refugees being killed around them. Another disturbing factor was the necessity of continual withdrawal from the enemy; the impossibility of striking back produced a sensation of frustration that contributed to the disastrous effect on the mind.

Yet despite all these stresses all the men did not exhibit neurotic symptoms and those who did showed variations in degree and duration. This tends to argue for the importance of constitutional factors even in the group of cases subjected to overwhelming stresses.

Following a survey of the literature, Emanuel Miller has stated: "Systematic statistical research on familial and personal predisposition in neurotic soldiers, undertaken without regard to clinical classifications, gave inconclusive results." Studies in small groups seemed to confirm the common belief in family and personal predisposition, but a comparison of findings obtained in an average regiment in the United States with those of a neuropsychiatric base hospital in France showed "that the preponderance of heredity for the mass of neuroses and psychoses is but a trifle more than for healthy individuals."

However one may feel about the relative importance of hereditary and early environmental factors it must be conceded that individuals vary in their capacity to withstand

stresses and to manage their inner conflicts. The conflict between the instinct of self-preservation and one's sense of duty, motivated by the need for social acceptance and maintenance of self-respect, is easily recognized. In addition, the individual may consider fearfulness as evidence of cowardice which he cannot acknowledge; hence he reinforces the tendency toward repression, with the production of neurotic symptoms. No matter how clearly the mechanism may appear to the physician, he must remember that for the most part the neurotic is not fully aware of its operation.

Another point to be considered is that even though the individual sustains a severe traumatic experience just prior to the illness it should not be regarded as necessarily causative. It may provide a peg on which to hang all the person's previous problems. As Hadfield states: "The trauma of being blown up may act as a welcome climax to a series of horrifying experiences upon which the patient can project his troubles, in the same way as the hysteric projects his internal distress onto a physical injury."

Other important circumstances that prepare the way for the neurotic illness are physical exhaustion which leads to a state of chronic fatigue, sleeplessness, lack of adequate nutrition, unusual responsibilities, and horrifying incidents.

SYMPTOMS

The approach of a neurotic illness may be preceded by manifestations of increasing tension and anxiety. Most commonly seen are increased smoking, greater indulgence in alcoholic beverages, irritability, fatigue, and emotional instability. In soldiers, hypersensitivity to noise, rapid pulse rate, and increased sweating, indicating a tense, anxious state, are often noted prior to the development of a full-fledged psychoneurosis.

The symptoms commonly observed in the American Ex-

peditionary Force were those of hysteria. In fact, the most striking difference between the war neuroses in this and the first World War as regards military personnel is the greater proportion of anxiety reactions in this war as compared to the incidence of conversion hysteria. Hysterical blindness, paralysis, and aphonia were particularly frequent in World War I. This may be related to the fact that air raids have brought the general population closer to the "front line of combat." In addition to the symptoms mentioned, in World War I convulsivelike seizures, tremors, peculiar bodily feelings, and decreased or absent sensation were observed, especially among privates. On the other hand, the majority of instances of anxiety neurosis were found among officer personnel, the clinical picture being one of intense anxiety, loss of sleep, terrifying dreams, rapid pulse, and excessive sweating.

The neurasthenics were another group that were observed. Here, the chief element was a marked subjective sensation of tiredness and an intense fatigue. The slightest effort called forth marked fatigue. Hypochondriasis was observed in a small group having the smallest incidence of any of the types of neuroses encountered. Obsessional states were not common.

With the aerial bombardment of civilians, it was to be expected that many psychiatric casualties would result, but these have been far less than was expected. In England a number of types have been described (Felix Brown). The reactions of acute emotional shock may occur in the person who has been in a bombed building, especially if the individual is worried or anxious about an injured wife or child. Tremor, dilated pupils, tachycardia, with fear and some anxiety about relatives and property, are the symptoms seen.

Some individuals show an acute, transient, hysterical reaction. They are in a limp, semistuporous state, usually with

a tremor; they are acutely frightened and may have hysterical amnesias or other transient tremors, weaknesses, disturbances of speech, vision, and so on.

Cases of acute war neurosis attendant upon the Dunkirk evacuation from Flanders have been described. These occurred following an accumulation of physical and mental strains. The clinical picture was surprisingly uniform. Signs of physical exhaustion were obvious. The expression and the whole body attitude were ones of tension and anxiety, or the listless apathy of depression. A coarse, irregular tremor of the hands was often seen in conjunction with an immobile face. The mental symptoms were typically those of anxiety: sleeplessness, disturbing dreams, sensitivity to the least noise, and a feeling of "inner unrest." Some individuals showed hysterical amnesias for the most terrifying part of their experiences. With adequate sleep, ensured by sedatives, with rest and food, all in a reassuring environment, the results were rapid improvement, usually within a few weeks. It was found desirable to relieve the acute hysterical symptoms, such as amnesias, at the earliest moment by persuasion under hypnosis, produced directly or with the aid of sodium amytal given intravenously in doses up to 0.5 gm. (7½ grains). The following case illustrates conversion hysteria in an English sailor.

The patient, nineteen years old, male, and single, complained of severe headache, nausea, vomiting, and difficulty in walking. While at sea in the latter part of 1939 he was subjected to repeated bombing attacks. He participated in the evacuation of Dunkirk during constant attacks by planes, artillery, and submarines. On one occasion submarines sank ships on either side of the one he was on. About this time he began to have severe headaches with loss of appetite and nausea. He realized that these symptoms were associated with war dangers and he frequently changed ships in an effort to get away from the scenes of

greatest war activity. Finally, at the beginning of 1941 he arrived in the United States as a member of a British ship's crew. He then began to experience great difficulty in walking and was unable to stand without support.

Early in life he exhibited personality difficulties in the form of seclusiveness, marked tantrums, and asocial behavior. He went as far as the seventh grade in school, and was always mischievous. At the age of fourteen he left home to work, but did not remain at any one job for longer than a few months because of his irritability and picking of fights with his superiors. He had a few heterosexual experiences with prostitutes and contracted gonorrhea, which was treated and cleared up completely.

His father is a chronic alcoholic and had "shell shock" in the last war. A paternal uncle became psychotic while fighting at the front and required hospitalization for many years.

The outstanding features on physical examination were a marked hypersensitivity to even light touch and violent tremors of his legs when he tried to stand or walk. His reflexes were all present, although somewhat hyperactive.

While being interviewed, he revealed that he kept thinking of the frightening war experiences he had had and that he was afraid he would have to go back.

After a week of treatment, the vomiting ceased and his walking improved. He continued to have dreams of being under fire and killing people. When the possibility of returning to England arose, he became worse, was more irritable, and had to be restrained forcibly from injuring himself. He spoke of his desire to go to Canada and remain there for the duration of the war.

The patient is still undergoing treatment. The paralysis of his legs represents a conversion symptom which accomplishes the purpose of keeping him from terrifying experiences. During the latter part of his treatment his desire has become more conscious and he has expressed his wish to avoid going back to the scene of the fighting. As in many illnesses, the disability tends to make for a solution of the conflicts and problems that face the individual.

These psychoneurotic reactions in wartime represent the result of a conflict between the individual's desire for self-preservation and the need to fulfill what is expected of him by society as part of his duty and self-respect. In this sense such psychoneurotic reactions are unconscious defensive mechanisms and provide an escape from an unbearable situation.

Definite psychoneuroses induced by air raids in patients who have previously shown no psychoneurotic traits are comparatively rare. The only cases seen have been examples of hysteria. A particularly horrible experience is needed to precipitate this reaction in a previously normal person. Exacerbation of existing neuroses—usually of the hysterical type—occurs easily, but on investigation the air raids are found to be only one of many factors operating in causing the aggravation of symptoms. It is most revealing to observe how a chronic neurotic may continue to complain about anxiety or obsessional symptoms arising from internal conflicts and consider external occurrences such as bombings as relatively trivial.

MANAGEMENT OF WAR NEUROSES

The problem of the management of war neuroses involves numerous considerations. The proper selection of men for the armed forces, the elimination of those who are nervously unfit, the assigning of persons with neurotic tendencies to special duty will help in decreasing the incidence of psychiatric casualties. The importance of rest periods, recreational facilities (such as those provided by the U.S.O., the Y.M.C.A., and other organizations), and careful attention to physical health cannot be overemphasized. Individuals showing prodromal signs of the neuroses should be given the opportunity to discuss their fears with the medical officer so that they may be reassured, or, if necessary, given a furlough or leave, or a different type of duty.

It is most helpful for the neurotic to know that palpitation, or a rapid heart beat, is not due to heart disease: that it is nothing more than the normal response to fear or a similar emotion. This realization and a simple explanation in everyday terms of the relationship between emotions and bodily functioning are most helpful in preventing an elaboration of the symptoms. It is not wise to suggest "forgetting" one's fear, or that it is in any way related to cowardice, for this results in repression of the emotional conflicts and the evolution of neurotic symptoms. The opportunity to talk to a sympathetic and understanding physician who can allay groundless fears prevents the gradual accumulation of emotional tensions which finally cause the individual's breakdown.

Early treatment of the neuroses is essential for the best results. Where continual physical exertion or inadequate nourishment have been precipitating factors, these should be attended to by provisions for adequate rest and quiet sleep and ample food. Acute physical problems—serious wounds, fractures, hemorrhages, etc.—require immediate attention to prevent vasomotor collapse or shock. Prolonged baths, wet packs, and sedatives may be used to secure sufficient relaxation for sleep.

Among civilians, hysterical and anxiety reactions may appear following an air raid or other similar stressful situation. Oftentimes, giving known neurotics definite duties as members of a community organization helps prevent the occurrence of hysterical and anxiety reactions by the process of sublimation. With acute hysterical symptoms an attempt should be made at once to influence or remove the symptoms by strong suggestion. The longer the interval between the onset of symptoms and the treatment, the more difficult will the treatment be.

The neurotic individual should be given the opportunity to talk about his frightening experience with someone who will

not look down upon him as a weakling. Where there is an admixture of anxiety symptoms such as palpitation and diarrhea the neurotic will benefit by an explanation that these are the usual physiologic manifestations of fear, that most people experience such temporary bodily reactions, and that he, the patient, will recover completely.

There is little justification for the use of strict, harsh, or painful methods (strong electric shocks to hysterically paralyzed extremities) in the treatment of the neuroses. Suggestion, with explanation, opportunities for psychocatharsis ("talking out" one's problems and conflicts), and reassurance are far more efficient procedures and result in greater insight and understanding for the patient.

Where there is acute panic or marked agitation, a period of continuous narcosis with nembutal or sodium amytal for forty-eight hours is helpful. (0.2 gm. of nembutal three times during the day, that is, at eight, twelve, and four o'clock, and 0.4 gm. at bedtime.)

With hospital cases the value of occupational and recreational therapy should not be underestimated. Patients should be persuaded to mix with one another, assist with the routine work of the ward, and even help with some of the heavier manual work that may have to be done.

Social service agencies may assist in arranging for rehabilitation or discharge to more congenial surroundings. Where patients have been bombed out of their homes, the social workers can help them to find new quarters or assist with arrangements for repair and salvage of property or even evacuation to a quieter, less-bombed community. Worry over responsibilities can delay recovery, and any aid that may be extended in dealing with these responsibilities will hasten the ultimate cure.

The patient whose memory of the terrifying experience is too horrible to allow of rest and relaxation may forget it by developing some hysterical symptom. To avoid this, a history

of the incident should be obtained from the patient before the amnesic mechanism is allowed to develop. Every effort must be made to have the patient fill in the gaps in his story. Since this procedure may temporarily distress him further, it must be done tactfully and with frequent reassurances. If the patient is too dazed or confused to render a comprehensible account, his history can be taken after he has slept. The importance of having the patient recall his traumatic experiences, and in so doing discharge his pent-up emotions, is recognized by almost all psychiatrists. It is important to stress that this should be done early, before the symptoms become fixed and therefore difficult to remove.

When the patient has told his story—the mechanism by which symptoms are explained—their unconscious nature is pointed out, and the patient is assured that the symptoms will disappear rapidly with his co-operation.

In the event of hysterical paralysis the patient may be shown that the limb is not powerless by eliciting the normal reflexes. This is then supplemented by suggestions that the use of the extremity will soon return. With hysterical aphonia, the patient is encouraged to phonate by coughing and then by uttering a single grunt. The suggestion is then made that the voice is being used and that the affected individual will be able to talk normally again.

For those persons who are amnesic for the events leading up to hospitalization, the use of intravenous sodium amytal in doses of 0.5 gm. (7½ grains) will prove efficacious. As a substitute, hypnosis may be used for a similar purpose, though sodium amytal is preferable.

Hypnotism

Hypnotism has been known since the time of Hippocrates but was not used therapeutically until the eighteenth century. More than one hundred and fifty years ago, Mesmer, a Vien-

nese physician, utilized what he called "animal magnetism" for the relief of various symptoms. His work in Paris led to the appointment in 1784 of an investigating commission of scientists. They promptly dismissed Mesmer's findings on the ground that the phenomena, even though real, were the result of imagination and consequently not truly scientific! This derogatory report led to the ostracizing of hypnotism as a medically acceptable technique for the next hundred years.

In the latter part of the nineteenth century, Charcot, the great French neurologist, discovered that it was possible to reproduce hysterical symptoms by the use of hypnosis and contended that the two phenomena were different aspects of the same condition. However, Bernheim and Liébeault recognized that suggestion was the all-important factor in hypnosis and proved that practically everyone could be hypnotized.

In practice, the patient submits to suggestions from the operator to the exclusion of all other extraneous stimuli. All methods have in common the induction of relaxation and the focusing of the patient's attention on the operator's suggestions. The need for co-operation and a willingness to submit to the procedure is explained and the subject is asked to lie down and get into a comfortable position. Vision is usually fixed on a coin held in front of the patient until he shows signs of fatigue and drowsiness in response to such suggestion and finally the lids are closed. The operator uses a quiet monotone suggesting the usual sensations that accompany sleep such as a tired, pleasantly heavy feeling of the extremities, and a slow, regular, deep type of breathing. The operator must be sure of purpose and dogmatic. The slightest hesitation makes the patient aware of any doubt the physician may have concerning his ability to hypnotize.

We may designate three stages in hypnosis: (1) somnolence, during which the subject feels sleepy and is fully aware of what is going on, but is suggestible to a degree; (2) catalepsy, dur-

ing which the subject may maintain a suggested posture or a position of the extremities, without apparent discomfort, for a long period of time; and (3) amnesic state, during which the subject is under deep hypnosis and will not recall what transpired during the hypnosis after he is awakened.

The usual procedure for awakening the patient is to suggest that on the count of three he will awaken, feel entirely relaxed and refreshed. Posthypnotic suggestions may also be given in which the patient will automatically carry out suggested acts after being awakened.

The frequency of hypnosis depends upon what the therapist wishes to accomplish. It may be induced several times a day or just a few times a week. In war neuroses it is used primarily to relieve monosymptomatic hysterical conditions and to aid in the recall of repressed memories.

In view of the mystery surrounding this procedure in the eyes of the layman, it must be emphasized that hypnotism is a well-known medical procedure fully approved by the profession for the treatment of certain types of symptoms and possesses little danger in the hands of the experienced psychiatrist. Although definitely contraindicated for paranoid patients, its usefulness as a method of treatment should not be overlooked.

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Psychosomatic Illnesses

THE majority of physicians who have not had psychiatric experience still tend to treat the disease rather than the individual who is ill. While it is recognized that emotions influence the function of the different organs, this factor is often slighted in the study and treatment of disease. In the psychosomatic approach both emotional and structural processes are evaluated in the study of bodily functions. When studying the disease process, the physician observes not only the specific organ involved but the reaction of the total, integrated personality.

The type of medical approach that refuses to utilize psychobiologic factors may lead to the ludicrous situation suggested by Crookshank in the following statement: "I often wonder that some hardboiled and orthodox clinician does not describe emotional weeping as a 'new disease,' calling it *paroxysmal lachrymation*, and suggesting treatment by belladonna [which dries up bodily secretions like saliva and tears], astringent local applications, avoidance of sexual excess, tea, tobacco and alcohol, and a salt-free diet with restriction of fluid intake; proceeding, in the event of failure, to early removal of the tear glands." Many physicians would dismiss this as being silly, yet certainly quite a few medical procedures seem to be at the same level of one-sided thinking.

In everyday life we see many psychosomatic relationships of a relatively temporary character. Thus, when ashamed or embarrassed, we blush. If frightened, we may perspire excessively and the heart will beat more rapidly. More severe reac-

tions are seen in situations of acute stress, such as the involuntary defecation of the soldier in the front-line trench or the vomiting of the sensitive individual who has witnessed a horrible accident. If the state of emotional tension, anxiety, or resentment becomes a chronic one, the physiologic reaction may persist until it results in a definite, irreversible structural change. It is well known that an hysterical paralysis of long duration will eventually result in the wasting of muscle tissue and the development of contractures with consequent loss of full function of one or more of the extremities. Similarly, the persistent elevation of the blood pressure related to a chronic anxiety state may do as much damage to the blood vessels as would a true hypertension associated with kidney disease. In the future we may find that just as specific bacteria give rise to a particular disease so may the different emotions affect various bodily systems. At present it seems more likely that the particular organ or system involved in psychosomatic disorders is related to a previous conditioning in the patient's past life. This may be either an actual pathologic involvement or a predisposition by virtue of his life experiences both physiologic and psychologic.

The emotional factor in disease is even more important in cases where the patient is apprehensive concerning his illness. An inadvertent remark made by a physician within the patient's hearing may lead to chronic invalidism or result in an exacerbation of symptoms. An elderly woman who was given a routine physical examination for life insurance was inadvertently told she had a heart murmur. This frightened her even though she had never experienced any symptoms of cardiac disease. In this anxious state she became aware of sensations which she had previously never considered as being important. In bed she would lie awake for hours listening to the pounding of her heart. As she became more anxious she observed that her heart skipped beats and that she tired easily. What the physi-

cian had not told her was that the murmur he had heard was of no significance and that she had probably had it since childhood.

A psychosomatic approach is particularly helpful in studying gastrointestinal disorders, disturbances in cardiovascular functioning, and respiratory difficulties like bronchial asthma. Individual cases of peptic ulcer, mucous colitis, hypertension, and bronchial asthma often have unrelieved or suppressed emotional conflicts as precipitating factors. These emotions may lead to alterations in functioning to the extent of interfering with ordinarily effective medical therapy.

Some examples of psychosomatic disorders will be presented.

PEPTIC ULCER

It has been known for many years that emotional disturbances such as anxiety, fear, and anger are accompanied or followed by abdominal pain or distress. The motility (peristalsis) as well as the amount and degree of acidity of the stomach's juices can be influenced by psychologic stimuli, and since hypermotility and hyperacidity are thought to play causative roles in peptic ulcer, the relationship between emotional stress and peptic ulcer becomes apparent.

P.S., a twenty-six-year-old salesman, complained of "dyspepsia" and occasional stomach pains for two years. These pains came on about an hour after meals and were relieved by milk and bicarbonate of soda. An X-ray examination at the end of the first year showed a duodenal ulcer. He was given a special diet and was able to return to work in a short time. He continued to be careful about eating, but at the end of the second year the ulcer was again seen by X-ray examination.

A detailed personality study was made. At the time his "dyspepsia" began his mother died without leaving a will, which led to repeated arguments between himself and his sister over the disposition of her belongings. While he was

undergoing treatment the first time, the issues with his sister were satisfactorily settled. The ulcer healed within two months. The recurrence took place when he broke off an engagement with a young lady and received a cut in salary. He began to have frequent arguments with his employer. The result was, in his words: "Whenever I got excited and argued with him, my stomach got all tightened up and I had a gnawing pain in my abdomen."

He received psychiatric treatment, during which time he was given an opportunity to express his resentments directly. However, during discussions the employer's point of view was repeatedly presented and he was persuaded to examine the pros and cons of the various types of situations that annoyed him. The need for physical recreation and socialization to act as a safety valve for his emotional reactions was emphasized. He was taught how to relax by the use of warm tubs, massage, and gymnastic exercises. In addition he was given the usual medical therapy and he rapidly improved. He is now able to work and only rarely does he argue with his employer. He continues with a modified gastric diet.

P.S. demonstrates how resentment and feelings of insecurity can play a part in precipitating a recurrence of an ulcer despite the continued use of a special gastric diet.

MUCOUS COLITIS

The colon, like the stomach, may become involved in dysfunction which is definitely aggravated by various emotional reactions. The patient complains of abdominal pain, constipation, or diarrhea with small stools. During the attacks of diarrhea the stools may contain strings of mucus or a small amount of blood. Fear, anxiety, and resentment are significant emotional factors in precipitating and prolonging the diarrhea, ultimately resulting in a somatic alteration in the colon. The individuals who develop this condition are overconscientious, sensitive to criticism, and readily form dependent attachments to others.

When S.T. was nineteen years old she married a widower with two children against her parents' advice. Shortly thereafter, she developed "intestinal grippe" which was characterized by mild fever, generalized abdominal cramps, and malaise. After a few weeks she recovered completely and had no further difficulty for two years, when her husband lost his position. This forced them to live with her parents who never had liked the husband. After a month she began to complain of gaseous distention, abdominal pains, and occasional diarrhea. She lost her appetite and lost weight. Numerous physicians were consulted and they prescribed diets and medication that helped her temporarily. She then developed frequent attacks of loose, watery stools containing mucus. Then she "collapsed due to physical exhaustion" (her words) and sought hospital treatment. An X-ray examination was negative except for indications of spasticity of the colon. Repeated stool examinations were negative except for mucus.

At first the patient was critical of all therapeutic efforts and said her abdominal pains were worse. After a while, better rapport was established with her physician and she began to see the chronological relationship between life situations that had disturbed her and the development of symptoms.

During the first month of hospital treatment she had attacks of diarrhea only when her husband visited her. Through discussions, in which constructive ways of managing her emotional reactions were pointed out, she started to feel more secure and was able to express herself with her husband.

When the husband acquired a better understanding of his wife's illness he became more sympathetic and affectionate. At present she is no longer troubled with diarrhea and makes a good adjustment, except for a tendency toward excessive concern about her physical health.

It is noteworthy that as an infant S.T. had had severe diarrhea and colic. The atmosphere at home was one of tension and depression because of financial stress and disagreements between

her parents on many minor issues. When S.T. left home to attend school she became more friendly and sociable. Scholastically, she led her class but gave up her college career for a none too desirable marriage which she later regretted.

Throughout her life, S.T. has shown an apparently constitutional vulnerability of her gastrointestinal tract, as demonstrated by the attacks of diarrhea in her first year of life and subsequent attacks of "intestinal grippe." The immediate situation that set off the pattern for her hospital illness was resentment against her husband when he lost his job and they had to return to the parents who had cautioned her against marrying him. The mucous colitis represented a reaction to a difficult life situation and was alleviated only when this was improved.

BRONCHIAL ASTHMA

Bronchial asthma is due in part to an allergic reaction to certain substances for which the individual has a specific sensitivity. This sensitivity may be tested by the subcutaneous injection of minute amounts of many suspected substances and observing which one provokes a local skin reaction. This is essentially the same method by which a diagnosis of hay fever is substantiated.

The allergist is like a detective and carefully analyzes the clinical history for possible clues to the offending substances. Thus, if attacks come on only at bedtime the cause may be the feathers in the pillow. Oftentimes scores of substances are tried without success in finding the specific cause. As a rule each person has his own special allergy whether it be feathers, cat hair, horse dander, or the like. Exposure to a sufficiently high concentration of the material to which he is sensitized will bring on an attack. However, the individual reaction to these specific allergens may vary; the individual may be sensitive to them at one time and not at another. In a rare case asthmatic attacks have been brought on by the mere sight of a model of

the allergen (clay model of a cat, the patient being sensitive to cat hair). Thus, it appears that the allergic disposition may be dependent, also, on the psychic attitude or state of mind of the individual, and it is this condition, combined with the specific substance, which produces the paroxysm of difficult breathing. It has been observed that states of suppressed, intense, and frustrating longings or desires are of major importance in causing symptoms which may not have occurred simply on the basis of an allergic disposition.

An interesting observation which tends to substantiate the importance of the emotional factor is that some patients with bronchial asthma may be free of attacks while they are experiencing a depressive illness. When the depression subsides the asthmatic attacks recur. Various theories have been presented in an effort to explain this phenomenon but they are inadequate.

A.K., a thirty-two-year-old married woman, complained of difficult breathing of a type resembling bronchial asthma. The attacks started in a mild way when her husband became interested in another woman—a year and a half before she entered the hospital. A.K. thought she could win him back by having a baby, so she dispensed with contraceptive measures and became pregnant, whereupon he broke off his relations with the other woman.

Two days after a baby son was born, A.K. developed marked difficulty in breathing. Her nurse was unsympathetic, telling her the attack was “just an hysterical reaction.” X-rays of the chest, bronchoscopy, and skin tests were negative. Sedatives were helpful in controlling the attacks so that she was able to return home and care for the baby. She continued to be well until the day she found a letter in her husband’s pocket addressed to his paramour, revealing his fondness for her. The severe attacks recurred. She was given ephedrine and adrenaline with slight transient relief. A diagnosis of bronchial asthma was made on the basis of numerous rhonchi throughout the lungs and prolongation of the expiratory phase of respiration. How-

ever, since it was felt that the emotional factors were of great importance, A.K. undertook psychiatric treatment.

During the first part of her stay in a psychiatric hospital only small doses of sedatives were given. She was resentful of her physician because of the smallness of the dosages, remarking: "I'll never get well if I'm treated this way. I'll *have* to have more ephedrine!"

When telling her personal history, A.K. pointed out that her mother had had an episode of hysterical blindness shortly after giving birth to her. She admitted that she had been a naughty child and that discipline had been inconsistent, depending upon her mother's mood. Her father was a physician who drank alcohol to excess and she recalled her distress on the first day at school when her classmates called her father a drunk. She refused to return to school for two years. When she went back, however, she did excellent work, graduating from high school at fifteen. She recalled various sexual escapades. She had been promiscuous, but had derived little satisfaction from her experiences. Marriage occurred after she and the man she later married had lived together for a year.

The patient's relationship to her husband was discussed and she expressed much resentment against him because of his interest in another woman. When urged to express herself freely, she included her mother in her resentment reactions. As she crystallized her resentments, she became less sarcastic and more co-operative, until her attacks of bronchial asthma virtually disappeared. Within a month she was able to return home and take up her duties. She was better able to accept her husband's infidelity when her own extramarital affairs were pointed out and that because of them she could understand the strong temptations to which he was subjected. The need for the husband's co-operation and curtailment of his interests in other women was discussed with him and he has been co-operating in this respect.

Among the various personality traits that were analyzed with A.K., the most outstanding were a tendency to bear grudges, stubbornness, jealousy, insecurity, and a wish to dom-

inate situations. Her resentment and desire for retaliation flared up when she found that his love affair was continuous. Should the unhealthy situation at home recur, A.K. will probably experience a return of the asthmatic attacks.

HYPERTENSION

Hypertension refers to an abnormal elevation of the blood pressure. The top normal levels usually accepted are 140-150 mm. of mercury pressure for systolic tension (pressure during the contraction of the heart) and 90 mm. during the diastolic or relaxation phase of the cardiac cycle. These elevations above the normal limits may be transient, in which case the personality plays the predominant role. In the true hypertensive patient the elevation is consistently high but still may be influenced by the emotions.

A study of the personality reactions of individuals with essential hypertension (without antecedent inflammatory disease of the kidney or urinary tract) reveals a lifelong emotional instability coupled with perfectionism and great ambition. Hostile, aggressive impulses and resentments that are not adequately expressed, even though they may be close to the surface, serve as a constant stimulus to the circulatory system. The hypertension is thought to be produced by an unusual number of vasoconstrictor impulses from the medulla (the hindbrain) which are relayed by the sympathetic nervous system. Experiments in physiology have shown that fear or rage in response to critical situations can cause a marked elevation of the blood pressure. If a complete extirpation of the sympathetic nervous system is performed the pressure does not rise in response to these same critical situations. Where a so-called chronic emergency response exists, vascular sclerosis may occur in constitutionally susceptible individuals and a persistent hypertension may be the result.

TREATMENT

With due recognition of the fact that allergic conditions, hypertension, and gastrointestinal disorders often occur as part of a familial predisposition, it appears that in many individuals these conditions need not develop unless there are emotionally traumatic life experiences present. Modification of undesirable personality patterns similar to the excessive suppression of hostility and resentment appears to be of benefit in treatment. In like manner the practice of the principles of mental hygiene may prevent the occurrence of serious psychosomatic disorders. Training in the proper balance of work and recreation, with a modification of the patient's unusually high goals that are so often out of accord with his actual ability, will help prophylactically.

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Affect (Mood) Disorders

THE affect disorders comprise those illnesses in which mood disturbance is the leading feature, *taking the form either of a depression or an elation or both*. The fact that many of these patients experience recurrent episodes of both elation and depression led Kraepelin in 1896 to formulate the concept of manic-depressive psychosis. In other words, the elations and depressions are opposite phases of one disease. Depressive illnesses may occur without elations, and vice versa, and the individual may experience a single attack or multiple attacks of either phase, or of both phases.

Since changes in mood are an integral part of normal personality functioning, it is often very difficult to discern the borderline between normal and pathologic mood reactions. A guide is found in the previous behavior of the patient. In other words, the present exaggeration of mood is compared to the mood that would be normal for the particular individual. Where the intensity and duration of the mood swings are out of proportion to the normal and at the same time disproportionate to the disturbing situation, then the person very likely is suffering from an affect (mood) disorder.

Manic-depressive disorders characteristically occur in attack form and for the most part are reversible. Recurrences are frequent, but during the intervals the person appears to function normally.

About 15 per cent of first admissions to psychiatric hospitals suffer from this psychosis, and it is more prevalent in women

than in men, roughly in the proportion of two to one. It is rare for depressions or elations to occur in children or adolescents, the disease being essentially an affliction of maturity, with its highest incidence in the third and fourth decades of life.

ETIOLOGY

Heredity is a strongly predisposing factor in the development of manic-depressive illnesses. In fact, Kraepelin pointed out, 60 to 70 per cent of all manic-depressives have a hereditary predisposition. Rüdin and his coworkers state that where one parent had a manic-depressive illness, approximately 32 per cent of the children show a similar disorder and another 30 per cent show other mental difficulties. The study of identical twins has shown, moreover, that in the great majority of cases both children tend to have the illness if it occurs at all. This hereditary factor, however, should not lead to a fatalistic attitude, for the disease is not directly inherited even though the tendency is present. In such individuals efforts should be made to strengthen the personality features so as to overcome the defective heredity.

Depressions are especially frequent in persons of Hebrew descent. The Irish may show paranoid admixtures in their depressions, which are relatively benign. The condition is most prevalent in the individual with a pyknic type of physique. In general, the pyknic type has a short, stout body build as differentiated from the tall, thin, asthenic type. The head is round, the neck is short and thick, the chest is broad, the trunk tends to be barrel-shaped, and the extremities are relatively short. The personality of the individual of the pyknic habitus is generally of the extroverted or outgoing type. That is, he is ordinarily cheerful, sociable, optimistic, and ambitious, but he becomes easily worried by trifles and anticipates events with some anxiety, or he may be overenthusiastic in response to environmental situations. He is also sympathetic and readily affected

by the troubles of others. The fact that the emotional manifestations, or moods, are usually of short duration led Kretschmer to call this personality, with its quick ups and downs of mood, the cyclothymic type.

A very clear description of the prepsychotic personality of these individuals is given by Dr. Leland E. Hinsie, Professor of Psychiatry, College of Physicians and Surgeons, Columbia University:

From the psychodynamic point of view, the individual is more or less constantly concerned with efforts to hide his inner self from his outer self (from his conscious ego) as well as from other people.

It is as though he were afraid to know of himself. As a sort of guarantee that he may never come to know his inner self, he accumulates a wealth of varied experiences and data from the environment. His intense activity represents a giving to the environment what he has amassed from it. By such a process only a trifle of inner, personal, emotional needs is gratified, the remainder being repressed or suppressed.

When the individual falls ill with a manic reaction, he often says that for the first time in his life he is free to express himself.

When he is depressed, however, he is subjugated to other people, or particularly to his own "inner self," both of whom serve to restrict the freedom of the unconscious.

The cycloid individual is one whose personality is based largely upon reaction-formations. He is unstable. When a psychosis supervenes he more or less promptly regresses to reactions that are characteristic of the period of infancy.

Life situations are important as precipitating factors. It is rare to see a mood disorder that has occurred automatically. Significant dynamic factors almost inevitably play a role. The mental problems act as a releasing force for emotional stresses arising from disturbed family relations, sickness or death in the family, financial or sexual difficulties. Experiences that may appear to be trivial to the objective observer may have great meaning for the person in whom they have revived conflicts or tendencies experienced in childhood.

We are all governed by the moral code of the community. Society expects us to do certain things and to refrain from doing others. Thus, restraint is practiced by us in our everyday existence. Most people repress certain desires. Psychologically, it has been thought that the conflict between these desires and the prohibition placed upon us by the community code, as expressed in social restraints, is one of the factors to be considered in seeking the explanation of manic-depressive psychosis. If a person is unable to accept the need for these curtailments, there is a storing up of tremendous emotional tension, restraint is finally broken, and mental symptoms are the end result. The eminent alienist, William A. White, in describing the psychopathology of the manic-depressive illness, states:

Manic-depressive psychosis is the type of extroversion reaction. That is, the patients instead of turning within themselves (introversion) try to escape their difficulties (conflict) by a "flight into reality." This flight into reality is the manic phase of the psychosis with its flight of ideas, distractibility and increased psychomotor activity during which the patient seems to be almost at the mercy of his environment, having his attention diverted by every passing stimulus. . . . In the depression the defenses have broken down and the patient is overwhelmed by a sense of his moral turpitude (self-accusatory delusions).

A physical disease that is particularly exhausting, such as influenza or pneumonia, or the stress of childbirth may act as a predisposing cause in the person with a constitutional tendency toward mood disorders.

DEPRESSION

SIMPLE DEPRESSION

The mood of depression is usually described as sad or melancholy. The patient is gloomy and cries readily. The facial expression is one of sorrow. Certain individuals seem to have difficulty in describing their emotions and may express their

feelings in terms of depersonalization (see Chapter Two), unreality, puzzlement, and perplexity.

The thought content is appropriate to the mood. The patient feels unworthy, has an overwhelming sense of inferiority, and is self-derogatory and self-depreciatory. If the depression is severe, hallucinations and delusions occur that support the ideas of self-blame and unworthiness. The patient may claim that he is poverty-stricken when in reality he is wealthy, or he may speak remorsefully of having "committed the unpardonable sin." There is a fairly constant preoccupation with the idea of "ending it all" by suicide, a force often strong enough to overcome all religious scruples and past promises. Many of these patients are content just to sit and deliberate on their difficulties. Every motion or decision requires great effort; fatigue and lack of initiative are marked. As a rule, the patient is more comfortable and less depressed in the evening than during the day. The cause of this diurnal variation is not understood.

Physiologically, there is loss of appetite and weight. A vitamin deficiency may occur because of insufficient food intake. The patient complains of poor sleep and actually shows an early morning awakening. The gastrointestinal tract is sluggish and constipation is the rule. In women, there may be irregularity or absence of menstruation, as well as decreased sexual desire. A diminished sexual urge is also observed in men. Reduction in muscle tonus probably accounts for the patient's stooped posture and the flabby appearance of the skin. The physical retardation may become so pronounced that the patient goes into a depressive stupor, during which he is inaccessible, non-co-operative, and mute. He lies almost motionless in bed. Tube feeding may be required. The face appears to have been ironed out and is almost expressionless. These patients have the delusion of being dead or of having been buried alive.

A.H., thirty years old and married, was delivered of a baby boy, her first child, without difficulty. For the next three days she felt "grand." Then she seemed to be in low spirits. There were no physical complications, however, and she left the hospital in two weeks. At home she slept poorly, complained of difficulty in concentration, and worried about caring for the baby properly. She appeared to be retarded, could not get her work done, and ate little because the food "didn't taste right." She said she could not talk easily; in fact, that it was a great effort for her to do anything. After three weeks of such behavior, she took an overdose of sodium amytal in a suicidal attempt. A physician was called who washed out her stomach and treated her with stimulants. When she came out of her stupor, she said living was no use and that she would only be making trouble for everyone.

A.H. was the younger of two girls and as a child received almost anything she wanted. In school she made excellent grades and was very popular in college, having frequent social engagements. Marriage occurred four years before her illness but was unsatisfactory because of financial and sexual difficulties. When well, she is energetic, friendly, and cheerful. Occasionally she is impulsive and easily reacts with mood swings to good and bad news.

A.H.'s father had a depressive illness that lasted almost a year. The mother was an outgoing, intelligent, efficient person. The sister was depressed for six months after the mother's death, eight years before the patient's illness.

The physical examination was negative. Laboratory studies were normal. Psychiatric examination showed the patient to be slowed up physically with retardation in the rate of speech. She said she was depressed. "Things have lost their meaning," she remarked. "I will never get well and will spend the rest of my life in a mental institution."

In the hospital she continued to be fearful and despondent. Her sleep was poor, averaging four hours a night with a tendency to early morning awakening. In the evening she always appeared to be somewhat better and was able to participate in games. At first she was self-depreciatory and showed little interest, but gradually she was able to

discuss her resentment against her husband because of his domineering attitude and lack of sympathy. She recalled and discussed events in childhood, and came to recognize her great need for "social importance."

During all the interviews she was encouraged to express her feelings and did so successfully. A budget was worked out so that she could live within her husband's income, and this helped her considerably. The problem of sexual adjustment was discussed with both the patient and her husband, and the latter recognized more clearly the need for his co-operation in all matters. After five months she was well enough to return home and look after her baby.

In situations where the precipitating factors in the illness continue to operate—with the potentiality for causing further misfortunes or disasters—anxiety may be a prominent feature in the depression. There is more of a tendency to include other members of the family in the delusional scheme. Instead of anticipating punishment and harm to themselves, these patients may indicate underlying resentments by expressing ideas of harm, torture, and suffering to their relatives. The retardation is replaced by restlessness, associated with apprehension concerning the future. The pulse is rapid, blood pressure is increased, and the blood undergoes changes associated with anxiety states (increase in blood sugar and leukocytes). There is difficulty in falling asleep, an interrupted type of sleep, and early morning awakening.

LATER-LIFE DEPRESSION

The later-life period covers roughly the years between forty and sixty. It is at this time that we undergo personality changes that make for less flexibility in adjustment. The degenerative physical changes of advancing years begin to be felt so that there is less physical stamina. The menopause occurs with its uncomfortable vasomotor symptoms of hot flushes and vascular instability. Men may need to prove their virility,

with resultant sexual indiscretions. Individuals in the later-life period become increasingly aware of physical defects so that hypochondriacal tendencies can be expected.

Agitated Depression

In the later-life group, a depressive reaction not uncommonly shows agitation as an outstanding feature. This type of depression resembles the anxious depressions already described. The motor restlessness, which is manifested by tremors, pacing the floor, and an almost constant picking at different parts of the body, is most expressive of the underlying fear and anxiety. Hypochondriacal complaints are frequent, and there may be a monotonous repetition of ideas with a harping on one's own inadequacies. Many of these patients are averse to treatment, show outspoken antagonism to it, and refuse to co-operate. Therapeutic efforts may be misinterpreted as tortures and punishment. The patient is quite concerned about the future and often feels that some disaster will soon envelop him and his family.

When these individuals are asked to describe their mood, they do so more in terms of anxiety and agitation than as a definite depression. This is borne out physiologically as well, for the functional alterations are those that primarily accompany anxiety—fast pulse rate, high blood pressure, decreased tolerance to the utilization of carbohydrates (as shown in the glucose tolerance test), difficulty in falling asleep, and a spastic type of constipation.

H.R., a forty-six-year-old married housewife, was brought to the hospital because she tried to kill herself with an overdose of sedatives. Three months prior to admission she complained of pain around the heart. She was examined by a physician who told her she must rest in bed for a few weeks. This upset her considerably. While in bed she became restless, said she would never be well again,

cried easily, and lost interest in her usual pursuits. Each day she became more tense and fidgety. She expressed the idea that she was going insane. Her sleep was poor and sedatives were prescribed, with only temporary benefit. A nurse was called in to help, but the patient became suspicious of her and demanded her discharge. Shortly after this the patient made her suicidal attempt.

At the age of twenty-eight she had had an illness, during which she cried easily, was depressed, lost a considerable amount of weight, and slept poorly. This depression came on after she was told she had a small fibroid tumor of the uterus but that operation was unnecessary. The illness lasted a little over six months; the patient recovered completely. An older sister had had a similar illness just one year before which lasted eight months.

H.R.'s personal history was not unusual. She was a high-school graduate, had worked as a stenographer for a few years, and had married at the age of twenty-one. The menstrual periods were always regular and continued to be so up to the present illness. She had had no difficulty at the time of her daughter's birth, which occurred when she had been married for two years.

H.R. was a worrisome, anxious individual. Always serious and practical she "kept her emotions within herself and never gave vent to them." In stressful situations she would become defiant and irritable. She was an excellent housekeeper and most of her interests centered about her home.

In the hospital she was agitated and depressed. Physical examination showed a slightly enlarged heart but no evidence of cardiac failure. Her sleep averaged three to four hours a night. She was tense and tremulous and had to be urged to eat. Co-operation was poor and she frequently made sarcastic remarks about the nurses who were "punishing her." She complained repeatedly about constipation and requested cathartics all the time. After a few months she became more sociable and friendly with the other patients. She asked many questions about her heart and was told that although it was enlarged there was no evidence of heart failure and that it was unlikely that there ever would

be, with reasonable care not to overdo. Barbitol given at night was effective in increasing her sleep to five to six hours a night. Her interests gradually returned and she enjoyed her work in occupational therapy. Seven months after her admission she was able to leave the hospital and has been well for the past five years.

Involucional Melancholia

Involucional melancholia is believed by some physicians to belong to the classification of manic-depressive psychosis. Others, because of the period of onset, the particular type and prepsychotic personality, and the endocrine imbalance that are characteristic of this period, consider the condition a disease entity.

The period of decline in physical and mental capacities is referred to as the climacteric or involucional period. The individual is now faced with the lack of endurance and flexibility characteristic of younger years. Just as the bones become more rigid and brittle so does the personality become more fixed and less plastic. Stressful situations are not easily accepted and lead to difficulties more readily. In women this phase is usually associated with the menopause and in both sexes with a decline in virility and decreased capacity for adaptation both to physiologic demands and environmental changes.

Many women dread the menopause because it is so frequently accompanied by disturbing symptoms. Vasomotor disturbances such as hot flushes and chills with blushing of the face and neck are especially frequent. A cold sweat may follow a sensation of heat throughout the entire body. Headaches, dizziness, palpitations, ringing in the ears, blurred vision, and nose bleeding are common physical complaints. Men, too, during the climacteric, may experience hot flushes, chills, profuse perspiration, palpitations, and numbness or tingling in the extremities. In addition, they are worried about impotence, di-

minishing sexual ability, and various genitourinary symptoms.

In both sexes jealousy, with ideas of infidelity, emotional instability, mild depressions, irritability, indecisiveness, loss of self-confidence, and overconcern with bodily functions are manifestations that are observed at one time or another.

In the setting of the involutional period, a serious type of depressive illness called involutional melancholia may occur. Certain types of personality are most prone to develop this condition. The person who has had little fun out of life, who has led a rigid existence, who has been most particular about his moral life, and whose existence has been so narrowed as to give him but few interests and opportunities for satisfaction is especially prone to develop the psychosis. The worrisome, meticulous, perfectionistic, and stern type who has done things routinely and systematically is also a ready subject. In these persons any very disturbing situation may, at this period of life, precipitate involutional melancholia. The illness is most common among women between the ages of forty and fifty-five, usually occurring during menopause. In men it is observed somewhat later in life, roughly between the ages of fifty and sixty-five. In its typical form it is not a common illness, and it is not to be confused with simple reactive depressions (those in which the illness is a direct reaction to a serious circumscribed life experience) which also occur at this age period.

The prodromal or initial manifestations are a period of instability, characterized by insomnia, headache, irritability, and a decided loss of self-confidence. Emotional display, lack of interest in business or profession, and a feeling of hopelessness are also premonitory indications.

Clinically, the characteristic picture is one of severe agitation and depression, without any history of a previous manic-depressive episode. The depression itself is accompanied by aversion, irritability, and apprehension. Ideas of self-condem-

nation, anticipation of torture, and bizarre hypochondriacal delusions are commonly expressed. Patients will remark, "I have no bowels," or "I am just an empty shell," and refuse to eat because of their convictions. Additional psychiatric symptoms are feelings of unreality, nihilistic delusions—ideas that the world no longer exists, that everything is dead—and hallucinations which are usually of a persecutory nature. Many of the agitated patients express guilt feelings and are serious suicidal risks. Some pace up and down the floor, greatly distressed, wringing their hands. One patient kept repeating: "Why can't I die? Why can't I die? Oh, why? Oh, why?" The patient may believe that he is being punished for some unpardonable sin, that he is no longer of use to the family or the world, that death would be an atonement for his sins. In some cases delusions of a grandiose nature, but including the idea of torture, have been observed: "I am immortal and am doomed to eternal suffering." Or the patient may insist that he is rotting inside from leprosy, syphilis, or cancer.

A.W., at the age of fifty-five, was a successful engineer. He lived with his brother who was also a bachelor and the two were especially close to each other. The patient had reached a position of eminence in his field by dint of hard work to the exclusion of other interests in life. His brother died suddenly in the summer of 1941, but no unusual reaction occurred in the patient except for the expected temporary depression. This cleared up after a few weeks, but in the fall of the same year A.W. became depressed again. He complained of a lack of self-confidence, felt inadequate, could not make decisions, and was apprehensive. Agitation gradually increased so that he slept very little. His appetite was poor and he lost eighteen pounds in two months. He was self-depreciatory and spoke of suicide. For these reasons he was hospitalized.

The patient had always been pleasant and agreeable. He graduated from engineering school with average grades, but he was a hard-working student. Recreation had

little place in his way of living. He was somewhat effeminate in his behavior and showed only a passing interest in the opposite sex. His code of personal ethics and his moral standards were especially high and rigid. At the office he was considered a meticulous and perfectionistic employee, but he was often obstinate and stubborn.

There was no history of any similar illness in the family, nor had the patient himself ever experienced a depression. Physical and laboratory examinations revealed no evidence of organic disease.

In the hospital A.W. was most agitated and restless. He paced the floor during interviews and picked at his finger nails until the surrounding skin was raw. When a nurse passed his door with some instruments he asked if he was going to be castrated. "Yes," he added, "I'm depressed—the situation is beyond endurance for me. This is the worst torture a man could have!" He complained that the food he was eating was clogging his intestines and that eventually his rectum would close completely. Subsequently, he claimed this had happened and asked that it be opened by operation. On occasion he was incontinent of urine and complained that his genitalia were diseased. He often remarked that he was the only one who had ever had an illness like this and that it required supernatural powers to understand it. Sedatives helped decrease his agitation and improved his sleep. However, his hypochondriacal and nihilistic delusions persisted. "I am in a nonexistent state," he moaned. "I'm just like a person who has passed out of the world. I can't take in liquids or food. I'm filled up, and there's no going or coming of the food. My brain is gone. I've gone out of existence except for my body. No doubt it must be a visitation from God for all my sins."

Throughout this period he was still able to read short stories and summarize them adequately and could even smile when distracted by an amusing story. At all times he was well oriented and could recall both recent and remote events. Electric shock therapy was given, which resulted in a temporary improvement in personal hygiene. His delusions were less prominent, but soon after the termination of shock therapy they returned. He continues

to be a serious problem in management and has been committed to a state hospital.

MANIA AND HYPOMANIA

The elated phase of a manic-depressive psychosis is essentially the opposite of the depressed one. The patient describes his mood as "top-notch," "happy," or he says "I never felt better in my life." When interfered with he shows undue irritability and anger. He is overactive and overtalkative. His ideas come so rapidly that he jumps from one topic to another, each being only superficially related to the last (flight of ideas). Distractibility is a common feature. Many manics talk in rhyme or they pun for hours on end. Grandiose delusions are often expressed. Judgment is so poor that the manic may go on spending sprees, pass bad checks, or drink alcohol to excess if given the opportunity. Sexual desire is increased, which fact, coupled with poor judgment, may lead to escapades and the contraction of a venereal disease or illegitimate pregnancies. The patient with bizarre manifestations may decorate himself with medals, buttons, feathers, pins, or rags. He may be noisy and shout; he may injure himself, but if he does he pays no attention to the injury. Sleep is poor and of no definite pattern, and he is usually too busy to bother with eating. These factors and the overactivity lead to loss of weight. The pulse and blood pressure are increased, especially in resentful patients.

In extreme cases of manic excitement, the patient may be so active and excited as to talk incoherently and to be disoriented. There is danger of physical exhaustion. Hallucinations support the grandiose delusions.

A.M.G., thirty-five years old, unmarried, and a renting agent, began to be overactive and overtalkative three weeks before she entered the hospital. She had numerous

plans about renovating her home, did a great deal of shopping, and spent much money. She talked incessantly and skipped from subject to subject. When her mother hired nurses she became very antagonistic toward them. Despite large doses of sedatives she continued to be excited and incoherent. She cursed the nurses and ran around nude in the lobby of her home. She refused to eat and lost eight pounds in two weeks.

Her early life was not unusual. She graduated from high school in Cincinnati and following that made a number of appearances on the stage, but did not seem to be too popular. Because of this she went into the real-estate business with her brother. A year and a half prior to her admission to the hospital the brother died suddenly and she was moderately depressed for a few weeks. Then she resumed her work and was well until the present illness. There was no history of nervous or mental disease in her immediate family. When she entered the hospital she had many bruises on her body. Her hair was dyed a light blonde and was disheveled. She spoke in a singing voice or whispered her answers. Her mood was definitely elated and for the most part she was cheerful and silly. At times she was irritable and kicked the nurses when she could not have her way. When her mother visited her, she cursed her and on one occasion threatened to kill her.

After three months she began to quiet down and became more pleasant and agreeable. She discussed her previous behavior and recognized that she had been ill. Following her discharge from the hospital, she has been working successfully.

Q.C. is twenty-six years old and married. His parents and one brother are living and are well. He had the ordinary diseases of childhood and denied ever having had a venereal disease. There is no history of mental disease in either the direct or collateral branches of the family. He was a moderate drinker and smoker and did not use narcotics. At the age of twelve he fell down a manhole and was unconscious for a short period. He attended high

school for eight or nine months during which time he tried out for the football team and in a scuffle had several teeth knocked out. Then he left high school. At home he was morose and would not leave the house, except when he became overactive and even combative. He threw a can at his mother and on one occasion tried to jump out of a window. He remained at home until the age of eighteen. Then he secured a position in a broker's office, working only three months before he was discharged for refusing to carry out orders. After that he worked in several places, never for more than a few months. He either left of his own accord or was discharged for being a "smart guy," as one boss put it. One morning he told his parents that he was going to get a job that would pay him hundreds of dollars. He left home that morning and did not return until midnight. He had walked so far that his feet were swollen and his shoes had to be forced off. He slept little. He was overtalkative and boastful.

During the days that followed he told different men that for \$500 he could get them a position with the state as liquor inspectors, though he had absolutely no connection with the state. This way he obtained several thousand dollars. He told his parents that he had been admitted to New York University as a medical student and he bought an automobile on which he put a medical insignia. He bought an interne's uniform. He obtained a hand grip on which his name was printed with M.D. after it. He bought a kit of surgical instruments. One day he brought home a trophy which he told his parents had been awarded to him for good work. He exchanged the car and got a bigger one. He told his parents he had to go to Boston. He drove as far as Mt. Vernon, parked his car in the street, forgot all about it, and took the train the rest of the way.

Finally a complaint was lodged against him in the District Attorney's office. He was apprehended in Boston and brought to New York. During his examination it was noted that he was of pyknic habitus, boastful, overtalkative, exhilarated, flighty, and smiled almost constantly. He was well oriented. Following an investigation he was committed to a state hospital.

Hypomania is a mild degree of elation in which the patient can voluntarily control his overactivity and overproductiveness to some degree. Outsiders who do not know what the person was like before his illness may think that he is just exuberant and unusually jolly. He shows great self-confidence, feels that everything is fine, and expresses himself accordingly. He is buoyant and smiling most of the time. However, sudden bursts of anger may occur during which he is argumentative, hostile, and abusive. He may engage in business ventures with great recklessness and run up tremendous telephone bills. Memory and retention are unimpaired.

E.G. is thirty-two years old, a college graduate, married, and the father of two children. His father, who was considered eccentric, died of a cerebral accident. His mother died of cancer. One of his two sisters was in a state hospital, with a diagnosis of manic-depressive psychosis. He was always considered to be a good mixer, and after graduating from college became a successful salesman. When his wife developed a gynecologic condition, sexual relations were forbidden, and he began to visit prostitutes. During this time, he became rather overtalkative and overactive and slept little. He was boastful, claiming to be the ace salesman of his concern, and had an altercation with his best customer. He received several tickets for exceeding the speed limit while driving his car. Finally, his boss insisted that he take a rest. He was prevailed upon to enter a private sanitarium, where he made a good recovery in three months.

COURSE AND PROGNOSIS OF MANIC-DEPRESSIVE DISORDERS

There is considerable variation in the duration of a manic-depressive illness. The usual resolution is complete recovery from within a few months to a year. The average duration of an attack of elation or depression is six months. In general, the manic reaction has a shorter duration than the depressed one,

although there are many exceptions. A careful follow-up study by Dr. T. A. C. Rennie of the Payne Whitney Clinic reveals that 93 per cent of the patients recover from their first attack, but that recurrences are likely; approximately 80 per cent have two or more attacks of either elation or depression.

The best opportunity for lasting recovery exists in those persons who have their first attack in the third decade of life. In those who first become ill after the age of forty or fifty, the illness is prolonged so that a chronic form may develop. This may be aggravated by the coexistence of arteriosclerosis.

In a few cases, paranoid ideas dominate the mental picture, relegating the mood reaction to a secondary place. In these patients the prognosis is guarded. If restoration occurs it may not be as complete as in the nonparanoid case.

The agitated depression of later life and involutional melancholia may disappear in from one to three years, with shock therapy shortening the course. However, less than half the patients suffering from these illnesses make a satisfactory recovery because of an increasing rigidity of the personality and fixed attitudes that make adjustment difficult. Many patients who do not recover settle into a depressed rut and have strongly fixed hypochondriacal delusions. Often they are untidy and incontinent of urine and feces. Progressive deterioration over a period of many years is the rule. Those who do improve, gradually increase their activities, until they are able to get along quite well. Involutional melancholia may be succeeded by a cerebral arteriosclerotic psychosis, an organic condition that is described in Chapter Fourteen.

TREATMENT OF DEPRESSION .

PREVENTION OF SUICIDE

The primary consideration in the management of depressive illnesses is the preservation of life by the prevention of self-

mutilation and suicide. It is an unfortunate circumstance that the risks are greatest when the patient is apparently improving or during the convalescent stage. There is a tendency during this period to relax vigilance and this in no small measure contributes to the high incidence of successful suicides at this stage. When the depressed individual is in the depths of melancholia he is usually too retarded to carry his thoughts into action. However, as he becomes capable of greater activity, carefully calculated plans that he may have entertained for weeks or months can be executed.

There is a saying that implies that those who talk about suicide never do anything to hurt themselves. This is a most dangerous attitude and is certainly far from the truth. As a matter of fact, suicidal talk or gestures should be accepted as *prima-facie* evidence of serious intent and adequate precautions should be instituted. If the patient objects to these measures, which often means psychiatric hospitalization, he should be told frankly that from a medical standpoint he is ill and a potential source of harm to himself. When the situation is presented in this way, the depressed person may disagree, but the need to follow experienced medical advice should be stressed.

Agitated patients who for no apparent reason show a marked improvement almost overnight should be watched most carefully. This rapid change is often associated with a decision to end it all and the superficial ease and calm are manifestations of what they consider a solution of their problems. The so-called smiling depressions, where a thin veneer of cheerfulness masks a most intense depression, are among the serious risks. The early hours of the morning, after the patient has had a sleepless night and is deeply depressed, constitute the time when most suicidal attempts take place.

When hospitalization is not feasible, the responsible relatives should be informed of the risks and of the usual precautions to be taken. The patient should not be left alone, and

potentially harmful objects should be removed. When the physician has established rapport with the patient, encouraging the latter to express his feelings and thoughts freely, some of the restrictions may be relaxed. In general, it may be said that *the seriousness of a depressive illness in terms of endangering the life of the patient is not sufficiently appreciated.*

The general physical health of the patient must be maintained or improved when a thorough physical examination reveals somatic disease. Foci of infection such as abscessed teeth, infected tonsils, and chronic sinusitis require treatment as soon as the patient is well enough to co-operate.

NUTRITION AND ELIMINATION

Proper nutrition is particularly important. There is almost always a decrease of appetite with consequent loss of weight. Vitamin deficiencies may be seen as a secondary complication. Especially is this true of the vitamin B complex, hence a supplementary source of this essential dietary constituent should be prescribed. Patients may try to starve themselves to death, and close supervision of their eating habits is necessary. A high-caloric, high-vitamin diet may be tried or food may be offered at frequent intervals, especially the kinds of food we know will appeal to the patient. With continued loss of weight, spoon feedings and finally tube feedings may have to be instituted. Some individuals may eat a little at each meal and it may be difficult to decide whether tube feedings are absolutely indicated, but if the patient shows evidence of acidosis (acetone odor on the breath or acetone in the urine or a low carbon dioxide combining power of the blood) tube feeding should be started. Gastrointestinal motility is often impaired, with a slowing down of peristalsis. This may lead to difficulty in elimination and to constipation. Oftentimes, food with a high-roughage content like fruits, vegetables, and whole-grain

cereals will help. Mineral oil (15 to 30 c.c.) each night or cascara sagrada (0.3 to 0.6 gm.) when necessary help. Saline or soap-suds enemas may be used if other methods fail. In the agitated and anxious types of depression, abdominal pain due to spasm of the gastrointestinal tract should be corrected by the use of an anti-spasmodiclike tincture of belladonna (0.6 to 1.0 c.c. one to three times daily).

RELIEF OF INSOMNIA

Practically all depressed patients have difficulty in sleeping. Many blame all their symptoms on the lack of sleep. Any help that may be given is greatly appreciated and makes for a better rapport. Sufficient exercise and recreation to induce a pleasant feeling of fatigue may improve sleep when the person is capable of such activity, which is the exception rather than the rule. The use of prolonged baths or cold wet packs, when combined with strong suggestions for relaxation, may prove effective in allaying tension to the point where the patient falls asleep quite readily. In most cases some form of chemical sedation is required. The type of drug used and the time of administration vary with the individual case. Those patients who suffer from a simple depression—who have no trouble falling asleep but who awaken early in the morning—require a late-acting drug. The sedative most frequently used is barbital (0.6 gm.). Where both an early- and late-acting drug are required a combination of a rapidly acting sedative like seconal or sodium amytal may be combined with barbital (sodium amytal, 0.2 gm. and barbital, 0.3 gm. together at bedtime). In the agitated depressions small doses of barbital (0.15 gm.) during the day—8 A.M., 12 noon, and 4 P.M.—and at bedtime favor relaxation. Recently a new barbiturate called mebaral (0.1 or 0.2 gm. repeated two or three times a day) has been described and recommended as being particularly

effective with the agitated, depressed group of patients. Where retardation is prominent during the morning benzedrine (5 to 15 mgm.) may be given if there is no hypertension.

ENDOCRINE THERAPY

Menstrual irregularities or amenorrhea are commonly seen in depressions in younger patients. These disorders are related to the emotional disturbance and clear up as the depression lifts. The irregularities require explanation to the patient, who often worries about them.

In the later-life group similar menstrual or menopausal symptoms are encountered as part of primary endocrinologic changes. Those patients who complain of hot flushes or other vasomotor symptoms are not infrequently made much more comfortable by the use of estrogenic hormone injections (theelin, progynon). The development of a product that can be taken orally, stilbesterol, has greatly simplified the use of ovarian hormones. (Stilbesterol is taken by mouth, 0.1 to 1.0 mgm. a day, for months if necessary.) The use of these hormones has not been attended with too much success in the involutional depressions. They produce definite physiologic changes, as attested by induced uterine bleeding and alterations in the type of vaginal smear, but the clinical symptoms of the depression itself are not affected to any considerable degree. They should be taken only under the direction of a physician.

In the cases of involutional melancholia occurring in males, testosterone has been used with the production of sexual stimulation and relief from symptoms of benign hypertrophy of the prostate gland. But here, too, the course of the melancholia is not greatly altered. (Testosterone is given only by injection a few times a week. Dosage and length of treatment in the case of stilbesterol as well as testosterone are determined by the effect desired.)

DAILY ROUTINE

A daily routine, worked out with the patient to cover the day from morning until bedtime, is indicated. Three meals a day, on time, with supplementary nourishment in midmorning and evening if loss of weight is a problem, should be the plan with regard to food. Coffee and tea are best avoided in the evening because of their caffeine content and warm milk substituted. Walks, physical recreation, handicrafts of various sorts such as knitting, embroidery, and needlepoint, magazine articles that are not involved and do not require a long-concentration span, modified social activities, and visitors whom the patient likes should all be worked into the schedule, with definite time periods assigned for each activity. Monotony defeats the purpose of a routine. The problem should take into account the special interests, abilities, and talents of the patient, avoiding his handicaps and aversions. The activities should be planned in such a way that the patient is not asked to do more than he is capable of doing at a given point in his illness. Pushing him too fast leads to failure and subsequent discouragement. Yet the therapy must not be too lax, because of the danger of the patient's getting into a rut and refusing to undertake increasing responsibilities and activities. Keeping the patient occupied not only gives him satisfaction through accomplishment, but serves to distract him from his problems and allows little time for self-depreciation and unhealthy introspection. Individuals who show a diurnal mood variation can use the periods when they feel better to undertake more complex activities; this can be used psychotherapeutically to encourage the patient. Perfectionist patients have to be taught to derive encouragement from partial successes. Apathetic patients require frequent urging and assistance in following the routine. The aversive reactions (unwillingness to co-operate) which are seen in self-assertive patients require analysis of the

situations that call them forth, with emphasis on the factors that arouse the resentment.

NURSING CARE

In her relations with the depressed patient, the psychiatric aide should try to encourage in him a more optimistic outlook and avoid contradictions and arguments when he cannot or refuses to accept her help. A routine pat on the back does not mean much to the ill person, but reassurance based on facts—the patient's actual accomplishments—are of real value. Explanations of the procedures involved also offer opportunity for suggestive therapy, reinforcing the optimistic point of view. All physical complaints should be called to the attention of the physician, even though the patient has shown hypochondriacal tendencies. Delusional ideas and other thought contents should be noted but usually are not analyzed by the physician until the depression lifts. However, at times the tactful injection of doubt helps in slowly undermining these delusions. The competent nurse will often be able to interest the patient in group activities or persuade him to eat when others have failed. To divert the depressed patient from disturbing preoccupations and encourage a greater interest in external realities are important.

PSYCHOTHERAPY

During the acute phases of the depression, psychotherapy is relatively limited to reiterated assurances of future improvement, suggestions concerning a beneficial mental hygiene, and giving the patient opportunity for ventilating his worries and fears. An effort is made to correct structural factors in the environment where these have played obvious precipitating roles. The patient needs frequent encouragement to be able to live with the depression until it begins to lift.

Intensive analysis is not advisable during the height of the

attack but is best deferred until the convalescent period. It is then that a personality analysis and synthesis should be undertaken. The analysis should seek to determine assets that can be used to prevent future attacks, in addition to an elucidation of causative attitudes or situations.

With the recurrent type of manic-depressive illness, the patient should be taught to recognize its early symptoms so that he may seek help in time to avert a full-fledged attack.

As part of a program of re-education designed to prevent recurrences, all patients should be taught to express their feelings more freely and naturally in order to avoid unhealthy repressions. Even aggressive attitudes and resentments may be expressed if done in a socially acceptable way. By creating opportunities for the patient to derive personal satisfactions in life, by cultivating more diverse interests, and by utilizing personality assets, the patient is shown how to establish a more stable emotional life.

SHOCK THERAPY

Shock treatment has been used in depressive illnesses. Metrazol convulsions have been fairly effective in shortening the course of many depressions, but this therapy is gradually being supplanted by electric shock treatments. The latter are more easily regulated and there are fewer instances of fracture than with metrazol. Electric shock therapy is less effective in cases of involutional melancholia than it is in other forms of depression. Insulin treatment in subshock doses is often helpful in allaying fear and producing a soporific (leading to slumber) reaction, but generally is not as helpful as is electric shock therapy.

TREATMENT OF MANIA AND HYPOMANIA

- The central aim of the management of patients in the manic phase of a manic-depressive psychosis is to diminish the oppor-

tunities for stimulation and irritation. This is accomplished by removing all exciting and disturbing influences from the patient's environment. Usually this is impossible unless the patient is removed to a psychiatric hospital where he will not only find a peaceful, quiet atmosphere but protection from his own impulsive acts.

The most difficult situation to manage is the hypomanic phase of elation. To those who have not known the patient previously he appears to have a great deal of drive and exuberance and not at all as one who is mentally ill. Yet from the standpoint of the possible harm, embarrassment, and legal complications that may result from the patient's behavior, his illness may be as serious as when there exists a full-fledged manic excitement. The overoptimistic mood, coupled with poor judgment, requires restriction and supervision of all activities. Mild hypomania may be aggravated with a full-blown mania by hospitalization.

The attitude of all those who care for elated patients must be friendly, not critical. Retaliatory measures and vindictiveness have no place in management. At all times, the patient's behavior must be recognized as part of an illness. Argumentation will only increase the irritability and lead to quarrels and perhaps physical combat. Explanations about interference, when that is necessary, must be made in an effort to get the patient's co-operation. With the acutely excited patient, it is essential that the psychiatric aide or nurse maintain her composure. Sensitivities are to be carefully avoided and the patient is to be watched for reactions of anger that may be a prelude to combativeness. The aide or nurse should never show fear or anger, because to do so may call forth greater pugnacity. It is important that the person caring for the patient keep in mind the need to protect himself against the possibility of the patient's becoming violent and that he take adequate precautions.

beforehand, thereby giving him the needed measure of self-confidence.

With patients who are able to co-operate, a schedule that aims toward a constructive program of readjustment to society can be worked out. Opportunities for physical recreation and a strenuous type of occupational therapy to utilize the great amount of energy these patients exhibit should be included in the routine. When tactfully approached, they can often be persuaded to utilize their energies along constructive channels, and so decrease the material damage they otherwise might cause. Individual attention may be required until the patient is able to accept group activities and enter into them without becoming excessively stimulated. Reactions to different visitors, letters, and telephone calls have to be evaluated so as to decrease the frequency of these events when the effects are harmful.

Especially careful measures are required to manage patients who are not in a hospital because of their heightened sexual drives. Cold sitz baths may be helpful. Erotic literature and sexually stimulating situations must be strictly forbidden. Alcoholic beverages should be prohibited, and a maximum of one package of cigarettes daily permitted. Since the judgment of these patients is poor, it is necessary to protect their financial resources and supervise their dealings with other individuals.

SYMPTOMATIC CARE

Symptomatic care is particularly important in the hypermanic group. Distractibility may interfere with proper nutrition, and even where the food intake is fairly adequate there may be marked loss of weight because of the patient's tremendous physical exertion. High-caloric and high-vitamin diets are helpful in these situations. Hydrotherapy (see Chapter Sixteen) and especially prolonged baths and warm wet packs often relax and calm the excited patient. Hydrotherapy should

be instituted on the day of admission and the reason for it explained to the patient. If this is not done as part of the routine, the patient may consider it a punishment or a discipline for his overactivity, whereas in reality it is part of the effort to relax him.

The judicious use of chemical sedation (sodium amytal, 0.4 to 0.6 gm. or barbital, 0.6 gm.) will be helpful where sleep is markedly disturbed and where physical exhaustion is extreme. If tolerated by the patient, paraldehyde, in doses of 10 c.c. served in cold tomato juice or twice that amount in 60 to 90 c.c. of milk by rectum, gives rapid relaxation, but the effect is short compared with that of the barbiturates. In extreme situations morphine (0.015 gm.) and scopolamine (0.0004 gm.) may be necessary. It is usually best not to employ sedatives, except at night, for the patient may object strenuously to such chemical restraint.

The problem of elimination requires attention in order to prevent rectal fecal impaction and intestinal obstruction. For marked constipation, an oil-retention enema, followed by a cleaning soap-suds enema, is most helpful. Ordinarily, insistence on laxatives and the use of toilet facilities at regular intervals will prevent constipation.

Prolonged sleep, insulin therapy, or electric shock treatment are frequently used to aid in managing excited patients. The course of the elation is often shortened in this way. The technique of these procedures will be described in Chapter Seventeen.

READJUSTMENT

The primary aim of all psychiatric therapy lies in helping the patient to deal more directly with his problems and to teach him how to recognize and modify his unhealthy habits. A widened range of interest should give him a greater satisfaction in life. However, the necessity for carrying his projects

through to completion is emphasized. Should he feel himself becoming elated at any time in the future he should seek medical aid so that the attack may be aborted or modified. An important consideration is that there may be an elation with a depressive undertone. Many elated patients feel depressed and tearful in the early morning hours, particularly those who are subject to the circular type of attack—for whom depression follows elation with hardly a “free interval.” The need for protecting these patients against their suicidal impulses during their transient depressions is great. Vigilance must never be relaxed lest the suicidal impulse find its tragic consummation.

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Schizophrenia (Dementia Praecox)

THE schizophrenic illnesses include a number of reaction types that are characterized by a specific kind of loosening of the personality organization, and oftentimes the most striking symptoms are the bizarre delusions and hallucinations associated with the disorganization of thinking and feeling.

When Kraepelin first described this reaction in 1896 he suggested the name dementia praecox because of the prevalence of the illness among youths and its seemingly inevitable termination in dementia. However, in 1911 Bleuler was able to modify this conception by showing that the illness is not uncommon among older persons and that it need not progress to complete deterioration of the personality. He suggested the term schizophrenia, for he considered that schism or splitting of the personality more clearly described the process taking place than did the term dementia praecox.

The basic difficulty appears to be a type of thinking that leads to a disturbance of the relationship to reality and an impairment of the usual emotional reactions to various stimuli. In normal adults, answers to questions are logically and coherently organized and proceed in an integrated manner toward the definite goal-idea. The various elements in the response are related to one another and are integrated so that others may be convinced. The schizophrenic individual is no longer able to exercise the functions of selection, restriction, and orderly arrangement necessary in the process of logical thinking. Loose clusters of terms are used which, although actually somewhat

related, are not effectively integrated. The result is a conglomeration of terms in which even opposing ideas may coexist. Schizophrenics may also "talk past the point." Instead of using the precise term, as a normal adult would do, the schizophrenic substitutes an approximate or related term, which may be compared with hitting the periphery of a target instead of the bull's-eye. Further questioning, in an endeavor to clarify a previous answer, leads only to greater vagueness as attempts at amplification are made. When Dr. Norman Cameron studied schizophrenic reasoning by giving patients incomplete sentences, some of the answers were as follows:

Question: The wind blows because . . .

Answer: Because it's time to blow.

Question: What makes it time to blow?

Answer: The air—the sky.

Question: How does the sky make it blow?

Answer: Because it's high in the air.

Another illustration that points out the substitution of approximate terms is one in which the patient states he is alive "because you really live physically, because you have menu three times a day, that's the physical." What the patient is really trying to convey is that he eats ("have menu") three times a day. The scattering attempt at amplification is shown by the following completion: "*A boy threw a stone at me because . . .*" "Because he had mischief and arm exercise to exercise the body."

There is a tendency to withdraw from reality into a fantasy world (autism) where the unpleasant demands of the outside, real, environment are dismissed, as a result of which there is an emotional blunting (shallowness) and an indifference or incongruity in the affect (mood) response. The emotional reactions that do occur are bizarre in contrast to the infectious

laughter of the manic or the sadness of the depressed individual. The schizophrenic may suddenly burst into laughter or weeping without appropriate cause.

From a clinical standpoint four main types are usually recognized. Not every case, however, fits easily into a specific group. The four types of schizophrenia indicate grossly the most conspicuous clinical features of the respective cases and are the simple, catatonic, paranoid, and hebephrenic.

Schizophrenia occurs most often between the ages of fourteen and thirty, somewhat more frequently in males than in females, and more often in the Negro than in the Caucasian race. More cases seem to come from city than from rural areas. This finding may be related to the fact that it is easier for a schizophrenic to make an acceptable adjustment in the smaller, rural community where the environment is less complicated and social requirements less stringent than in a city.

Schizophrenia is the most common of the major psychoses; in fact, it is so often encountered that its economic consequences in terms of cost of maintenance and loss of earning capacity are staggering. Each year between 20,000 and 30,000 new cases of schizophrenia—the majority of the patients in the prime of their lives—enter our psychiatric hospitals and a large number remain for many years. Schizophrenia constitutes one of medicine's greatest challenges.

ETIOLOGY

Studies of the possible hereditary factors in schizophrenia have not been especially helpful. Various types of personality disturbance are frequently seen in the families of schizophrenics, but similar reactions are seldom seen in the direct line of inheritance from grandparent to parent to child. The same type of illness more often appears in the collateral lines—aunts, uncles, and cousins.

Pathologic changes in different parts of the brain have been described, some workers incriminating the cortical gray matter, others the white matter, the thalamus, the basal ganglia, and so on. Suffice it to say that these structural alterations have not been found in the brains of schizophrenics with any consistency. The prevailing belief is that the brain changes are not especially related to the mental illness. Some of the described alterations are probably related to post-mortem changes, effects of aging, malnutrition, and other extraneous factors.

Various physiologic and somatic disturbances seen in schizophrenics have been implicated at one time or another as etiologic factors. Kraepelin believed that the disease process resulted from an autointoxication produced by dysfunction of the sex glands. The frequent onset of the illness during adolescence and the not unusual exacerbation or outbreak of symptoms with menstruation were cited in support of this contention. Dr. Frederick Mott, after studying the tissues of the ovaries, testes, and adrenal glands, has also attributed an important causal role to endocrine disorders, but the basis of his work was subject to criticism on the ground that similar changes have been observed in normal individuals who were undernourished or who were recovering from acute physical illnesses. Regardless of subsequent histologic findings in the endocrine glands, deviations in the secondary sexual characteristics are more frequent in schizophrenia than in other mental diseases. Normally, the distribution of the female pubic hair is horizontal or triangular, whereas the male hairline gradually ceases as it approaches the umbilicus (navel), for which reason it is called vertical. The female schizophrenic tends to have much facial hair and a vertical (male) type of pubic hair distribution. The male schizophrenic often presents the reverse picture.

The small heart and defective development of the circulatory system have impressed Dr. Nolan Lewis in the post-mortem examination of a number of cases of schizophrenia.

In addition, he found histologic changes in the thyroid, adrenal, and sex glands. The significance of these findings is still unclear.

Formerly, many schizophrenics died of tuberculosis and this led to theorizing about the relationship between the two diseases. With improved care the incidence of tuberculosis dropped sharply, and there appears to be little basis for linking it with schizophrenia.

Changes in the electroencephalogram have been described as being more or less characteristic of schizophrenia by Doctors F. A. and E. L. Gibbs. The work is not sufficiently advanced, however, to permit the appreciation of the importance of these studies.

Despite the inconclusive data on etiology we do know that a number of factors may act as precipitating causes. Child-birth, acute infection, severe exhaustion, worry over sexual matters (menstruation, homosexuality), the problem of emancipation, an unhealthy love affair, sudden subjection to a new routine, and many other factors may usher in the illness.

Dr. Adolf Meyer's formulation of schizophrenia shows the illness to be the end result of an accumulation of faulty habits of reaction in a peculiar constitutional make-up. The individual often overreaches for goals beyond his actual capacity to attain, with resultant conflicts and dissatisfactions. The tendency to withdraw into fantasy for gratification becomes a more pronounced habit. In a similar manner other such faulty habits become more or less ingrained, and there is great difficulty in reversing the process once the illness has appeared in full-blown form. This genetic-dynamic concept is most hopeful since it points the way to preventive therapy and treatment.

SCHIZOID PERSONALITY

In the great majority of cases the schizophrenic illness occurs in a person with a schizoid personality. Such a person is

the serious, quiet, shut-in type. He is the "lone wolf" of society whose outstanding traits of personality are shyness, lack of self-confidence, sensitivity to criticism, and a tendency to keep things to himself. Many schizoid individuals are primarily of the intellectual type and often prefer the abstract to the concrete type of thinking. Some are absorbed in philosophic or religious problems; others are conscientious and consistent workers who may be unpopular with their fellow employees. Others find the realities of life so overpowering that they become increasingly shut in—living in a world of daydreams or fantasy. A smaller number are stubborn and resentful of authority. Sexual trends are poorly integrated so that there are frequent conflicts leading to progressive failure in the procurement of satisfactions from life. The following is an example of the schizoid personality.

G.S. was a quiet, shy girl who attended public school in New York City. In the classroom she seldom spoke to other children, but answered willingly when called upon by the teacher. She was upheld as an example of good behavior. During exercise hour she did not mingle with the others, who called her "stuck up." At home she was thoughtful and an avid reader. Her parents constantly urged her to go out and play with other children, but she refused. Since she was an only child, her wishes were granted. At the age of fifteen while in high school she seemed to lose interest in her studies and became inattentive. Now she is sixteen, cares little for school, and does practically no studying at home. She is stubborn and resentful of parental authority, friendless, and spends most of her time daydreaming.

G.S. requires close observation and treatment to prevent the onset of a full-fledged mental illness of the schizophrenic type.

The schizoid personality is often found in individuals of an asthenic or dysplastic (disproportionate) body build.

It should be emphasized that the schizoid personality does not in itself indicate a pathology, anymore than does being an outgoing type (extrovert) indicate a manic-depressive illness. Many schizoid individuals are extremely successful, excelling as musicians, artists, physicians, and as other specialists. As judged by the incidence of schizoid personalities, very few indeed develop schizophrenia.

SYMPTOMS OF SCHIZOPHRENIA

SIMPLE

The simple type of schizophrenia occurs usually in adolescence or in early adult life. It presents primarily a withdrawal of interest and habit deterioration, with neglect of personal hygiene and a lapse from orderly thinking. The patient is lazy at first, manifesting little interest in his environment, and finally becomes apathetic. Delusions and hallucinations are rare, but hypochondriacal preoccupations of a vague, diffuse nature are common. The patient talks about these preoccupations with health but in a disinterested, detached manner. Purposeless fantasies may be abundant. Orientation and memory are usually unaffected. Many of these persons are able to make a simple routine adjustment following psychiatric treatment.

C.R., twenty-three years old, unmarried, and a student, was hospitalized for observation because of decreasing ability in school and lessened interest in his surroundings. For seven years he had shown an increasing difficulty with his school work but had managed to graduate from high school. His family became aware of a gradual withdrawal from social activities. He laughed occasionally in a forced manner and without any particular reason. He seemed to know that he was a psychologic problem and had frequent discussions with his father about it. These were vague, and the father found it hard to understand what the son was talking about. In the year before hospitalization, C.R. became more preoccupied, failed in his college courses, and

preferred to be alone. He read various books on psychology and liked to discuss them with his teachers, but his understanding was superficial. His talk was incoherent and vague, particularly when answering questions about his future plans.

C.R.'s birth and early development were not unusual. In grade school he required special instruction in writing. In the second year of high school (at seventeen) he began to withdraw from his friends and to spend money foolishly, being unable to account for large sums.

The family history revealed that his paternal grandfather was subject to moody spells and that a paternal uncle was an alcoholic. The father was a successful businessman; the mother a sensitive, artistic type of person. A maternal uncle committed suicide when beset with financial difficulties.

The patient's vague talk made it difficult for the examining psychiatrist to grasp the meaning of his statements. Most of his talk concerned his philosophy of life and his "substitute accomplishments" after he had failed in his real goal. He denied having delusions or hallucinations.

The patient's physical and neurologic examinations were negative.

While in the hospital his spirits varied, but for the most part he was pleasant and cheerful. At times he was restless and wandered about aimlessly. On one occasion he laughed to himself and remarked: "My case is so subtle that even the doctors don't know what is going on within me."

Arrangements were made for the patient to live a simple type of life on a farm under supervision. It was felt that he could make a better adjustment doing work of a manual nature in a rural community than if he continued to live in a large city. This plan has proved satisfactory. With some supervision, C.R. is able to work constructively.

CATATONIC

The catatonic type of schizophrenia occurs most often between the fifteenth and twenty-fifth years. Generally, it has an acute or subacute onset precipitated by some emotional ex-

perience. Motility features such as stereotyped or odd postures, grimacing, and *flexibilitas cerea* are characteristic. The illness may be ushered in by a period of depression during which the patient is mute, negativistic, retains his urine and feces, refuses to eat, allows saliva to drool out of the corners of his mouth, and will not respond to ordinary stimuli. This phase may be followed suddenly by an excitement phase (or the excitement may be the primary phase) during which he becomes violently excited and menacing without apparent cause. He may imitate movements (*echopraxia*) or repeat words and phrases that he hears (*echolalia*). Some patients alternate between periods of stupor and excitement. Sexual excitement with open masturbation, erotic behavior, and fantasies of being pregnant are observed. Variations in reflex responses associated with a change in muscle tonus and transient inequality of the pupils, with temporary loss of reaction to light, are seen as indications of a neurophysiologic disturbance.

W.G., a twenty-one-year-old unmarried clerk, was apparently well until one month before he came to the hospital. At that time he had gone to work for a large electric company, after having passed their usual personnel tests and interviews. A week later he was told by the foreman not to keep his lunch in the locker. He became unduly distressed over having violated this minor rule and told his mother about it. The next day he complained of weakness and stayed in bed in a stuporous condition with his eyes closed, mute, and eating nothing for two days. Then he arose, yelling and howling, struck his father with a chair and accused him of saying something nasty to his mother. He was immediately brought to a hospital where he again became mute and negativistic.

W.G. was an only child and during his early years had been a model of good behavior; in fact, "almost too quiet," his mother said. In grade school he did not have any scholastic difficulties. After two years of high school he quit because he was sensitive about being much taller

than the other boys. He went to work, but his interests were narrow and he had no hobbies. He never had a date with a girl and was usually home in the evening. There were only two friends with whom he had any social intercourse, and they were quiet and reserved.

The father was a well-adjusted manual worker of average intelligence. A paternal aunt had been a patient in a state hospital for fifteen years with paranoid schizophrenia. The mother was well adjusted.

During the first day in the hospital the patient remained in bed and was mute; later he began to talk in a low voice. His answers were evasive and he appeared irritable. His extremities were stiff when attempts were made to flex them. Waxy flexibility was present. Urine was passed once a day in great quantity. Enemas were necessary for bowel evacuation. Tube feedings were required. On one occasion he fell to the floor and cut his lip. When asked how it happened he said that voices had told him to fall.

Examination of his pupils showed an inequality in size, but both reacted to light. Subsequent examination showed them to be equal. He continued to grimace and gesticulate in a pantomimelike way with a silly smile, and did so for about three months. Then he became more co-operative, participated in activities with greater interest, and spoke more freely to his physician about his relationship to his parents. His sociability increased and he was allowed to go out visiting. By the end of the fourth month he was well enough to return home.

His father had dominated and bossed him and the patient was very resentful toward him. However, he had accepted the domination in a passive way because he feared his father and was financially dependent upon him, for which reason he felt it to be important that he keep his job with the electric company.

W.G. is now running an elevator in a large office building. He is quiet and not very sociable, but he is being encouraged to be so and on the whole is doing very well.

While stuporous, the attitude of those who cared for W.G. in the hospital was kind and sympathetic. Even though he ap-

peared to be unaware of what was being done for him, each procedure was explained to him before it was carried out. The psychiatrist's desire to help him with his problems was frequently mentioned, although at first he did not answer. The nurses explained that they knew the tube feedings were disagreeable but that since he did not wish to eat by himself they had to feed him. Each time before passing the tube, he was offered milk from a paper cup. Most of the time he allowed it to drool, but later he began to swallow some of it. The psychiatrist and the nurses then expressed their satisfaction and told him the tube would not have to be passed again. By this approach he was encouraged to co-operate, until finally he could return home. Psychiatric guidance continues.

PARANOID

When the content of the illness is characterized primarily by delusions tending toward systematization and hallucinations it is usually diagnosed as the paranoid type of schizophrenia. This form of illness is frequently seen in people of advanced years and is not infrequent in adults in their twenties.

Initially, the individual is suspicious and readily misinterprets commonplace events. The paranoid schizophrenic looks for meanings in ordinary situations that leads him to the idea that he is being watched or persecuted. He complains that the newspapers are spreading lies about him, or that the radio is sending him messages, or that he is being hypnotized or directed by electric currents. In addition to poorly organized delusions of reference and persecution, grandiose beliefs may be expressed such as being a millionaire, or related to royalty or to God. The "millionaire" sees no essential contradiction in the fact that he cannot afford small expenditures of money. Fantastic delusions concerning bodily changes or diseases may be expressed. Auditory and visual hallucinations are the most common types of false sensory impressions. The voices may be

accusatory or confirm the grandiose ideas. Some patients claim they talk with or see God, angels, and deceased relatives. The particular content of the delusions and hallucinations depends upon the repressed unconscious wishes or fears which are projected to the outside world and perceived as though coming from some other source. Appropriate emotional responses are commonly preserved for a longer period in paranoid schizophrenia than in any other type of schizophrenia. When the illness follows a chronic course, habit deterioration ensues.

The onset of paranoid schizophrenia is slow and the delusional content is somewhat loosely systematized. Memory and orientation are unimpaired. Auditory hallucinations may be so troublesome as to cause the patient to stuff his ears with cotton. The paranoid schizophrenic shows great exactitude, insisting on making his point. This type of schizophrenia is frequently met with in those who come in conflict with the law, which many of them do since they are frequently antagonistic, threatening, and eventually combative.

S.G., thirty-one years old, graduated from parochial school and attended evening high school until he was seventeen. Then he went to work but was never able to hold a steady position. He quarreled frequently with his fellow employees. While working he also went to a trade school for a while, taking a course in steam engineering. He obtained employment with the Interborough Rapid Transit Company in New York City and worked for them for three months. He was laid off but later worked for the concern in the power house. He believed that his fellow employees were talking about him and that they did things to tease him, circulating stories that he was a degenerate. He left his position in order to get away from the people who were talking about him. He traveled to Connecticut, Illinois, Washington, Wisconsin, Nebraska, California, and elsewhere, hoping to escape from these stories. But wherever he went the rumors continued, and he was sure he was being followed. Returning to New

York, he again went to work for the I.R.T., still certain that rumors about his being a degenerate were being spread. One man in particular always stared at him. One day he followed one of the men to the cellar where he picked up an iron pipe and turning on the man said: "You s.o.b., I'm going to get even with you!" A tussle ensued. S.G. hit the man on the head, smashing his skull.

When S.G. was psychiatrically examined after his arrest, it was found that he was an asthenic type, unkempt, suspicious, guarded in all his answers except those that related to his delusional content, and that he was oriented as to time, place, and person, with no memory defect. His affect (mood) was inappropriate. The physical findings and the neurologic examination were negative. He was found "insane" and committed to a state hospital for the criminal insane.

S.G.'s mother is a patient in another state hospital and one aunt died in one. His father is an alcoholic, and one of his three brothers appeared to be irrational at the time of S.G.'s trial.

Various and bizarre delusional patterns are met with in paranoid schizophrenia, as illustrated by the following unique cases:

E.T. sought help of the district attorney because people were talking about her. They caused her to lose her position with a bank and to have syphilis and tuberculosis. They also caused her to have abortions performed and robbed her of her right to make a living. She furnished the district attorney with the names and addresses of seven people she wished to have arrested.

P.Q. complained that he was being influenced and annoyed continuously by cosmic rays which entered motors and were reflected personally at him. His brother was involved in a plot to destroy him. A peculiar odor invaded his bedroom due to cosmic rays. He wished the district attorney to put a stop to all this.

J.N. wished to report her case to the authorities because she expected to be killed. For several years she had been followed by white-slavers. When she was sitting they

would squirt something into her eye which produced a burning sensation. She could not sleep in her bed because there was poison on the pillows and blankets. She could not cook because the pots had been smeared with poison. She drank water directly from the faucet because the glasses had been smeared with poison.

T.E. sought police protection because gangsters had been taking out her eyes. They took off her limbs. They buried her. They changed her meat so that she was afraid to eat. They said her husband was dead, though she knew he was not; they buried one of her sons instead.

A.N. complained that while she was in a hotel room some woman tried to frame her as a prostitute. A dictaphone had been placed in the room and her wire was tapped. Television was used to watch her actions. They knew when she went to the toilet. They saw her when she bathed. It was all a part of a prohibition espionage. She was raped and beaten up. She became pregnant but the germ passed. They then planted a fibroid tumor in her. She sought protection from the authorities.

HEBEPHRENIC

The onset of hebephrenic schizophrenia is usually insidious and is most commonly seen in adolescence, deriving its name from Hebe, the goddess of youth. In the beginning there may be a catatonic or paranoid type of symptomatology but this soon changes to a typical childish, silly, impulsive behavior. The person acts in a simple-minded way, talking incoherently and in scattered sentences. There are unsystematized delusions, frequently of a hypochondriacal nature. The conduct is aimless, rapidly deteriorating to neglect of ordinary personal hygiene, accompanied by emotional dilapidation. The hebephrenic is given to daydreaming, often has tantrums and periods of excitability, giggles and indulges in baby talk. He may present ideas of reference and of influence. Nonsystematized childish delusions and symbolic hallucinations are frequent.

H.J., an eighteen-year-old art student, was brought to the hospital because for three years she had been suffering from increasing fatigability and preoccupation with her bodily functions. The onset of the illness was obscure. Up to three years before her admission, she seemed to be very dependent on her mother and then became quite antagonistic. A year later she went to a preparatory school where she made a poor social adjustment and failed to pass her courses. The following year she became seclusive, complaining of vague aches and pains. She would be found gazing and grimacing at herself in the mirror. A month before she was brought to the hospital she complained that her face twitched and that her eyes were drooping. She wondered if she had sleeping sickness; she was quite sure that she had some physical disorder.

H.J. is the younger of two children. As a child she was a poor reader, and she has continued to bite her nails since childhood. Her menstrual periods, which started at thirteen, have been irregular, requiring hormone injections. In school she had few friends and only on rare occasions did she attend social functions. She went out with a boy once but refused to see him thereafter.

Her father is a well-adjusted lawyer. A paternal uncle was "peculiar" and addicted to the use of drugs. An uncle on the maternal side was subject to repeated depressions and finally committed suicide. The mother has always been easily exhausted, complaining often of weakness and fatigability.

While being examined, the patient smiled and laughed for no apparent reason. She talked slowly, making grimaces most of the time. Her answers were vague and she appeared indifferent and listless. She thought she heard unusual noises but would not qualify her statements. She was well oriented and her memory was unimpaired. Her physical examination, including the neurologic study, was essentially negative, except for a systolic murmur of the heart which was thought to be without clinical significance.

While in the hospital she complained that she had nightmares and woke up screaming on numerous occasions. The

grimacing continued. Poor eating habits necessitated her having a tray, giving her special attention. She willingly accepted this because when in the dining room she saw heads and arms all around her. She had many somatic complaints such as dizziness, headache, nausea, and pains in the chest. Once she said: "I feel as if I had some kind of sugar in my system which interferes with my feeling good." At another time she complained of bad odors and a metallic taste in her mouth. On another occasion she expressed the idea that she was not feminine enough, and on another that she had a lot of "awful sexy thoughts." She was often boisterous, silly, and childish in her behavior.

There has been no improvement and the patient is still in a hospital, where she seems content to remain for the present.

COURSE OF SCHIZOPHRENIA AND PROGNOSIS

In general, slowly developing schizophrenia in an individual with a schizoid personality tends to run a chronic, downhill course toward deterioration, especially if the illness is the simple type of schizophrenia. Catatonic illnesses may be marked by periods of remissions and exacerbations. This is true, also, of paranoid schizophrenia, but in less degree. Improvement may occur at any stage of the illness.

If the illness has an acute onset with affective features in a previously fairly well-adjusted individual, the outlook is favorable. If the patient has a strong hereditary predisposition, however, the prognosis is less favorable. Other factors influencing recovery are the many personality assets and previous successes in life and an environment that can be modified to accommodate the individual who continues to need supervision at least temporarily.

Approximately one fourth of all cases make a sufficiently good recovery—after conservative psychotherapy and without shock treatment—to resume their place in society and even partially or fully to support themselves. About half of all cases

will get along fairly well outside the hospital, although some of their symptoms will persist and they may be regarded as queer people. These patients may require occasional short periods of hospitalization. The remaining one fourth will require permanent hospitalization either because of no improvement or because it is wiser in the interest of public safety. Although it may be poor mental hygiene to keep the schizophrenic in the hospital, the paranoid schizophrenic with combative tendencies should be hospitalized despite improvement, rather than to be free with the citizen at his mercy. Unless definite assurances of constant and reliable supervision are obtained, such schizophrenics should not be released.

TREATMENT OF SCHIZOPHRENIA

Psychiatric hospitalization is advisable for the majority of patients at some time during the initial stages of the illness. The seriousness of the disorder demands that the patient be given every opportunity that will aid in his ultimate improvement or recovery. The hospital offers opportunities for complete examination and medical treatment, the use of special therapeutic facilities (hydrotherapy, occupational therapy, etc.), and for socialization in a controlled environment. Furthermore, it relieves the family and community from having to cope with a disruptive situation for which they may feel unprepared.

To prevent an increase in the schizophrenic's autistic (fantasy) withdrawal and seclusiveness, the atmosphere should be pleasant, agreeable, understanding, and satisfying. A sincere, sympathetic attitude will materially aid the physician in establishing rapport with the patient, and this good relationship may then be utilized in therapeutic interviews to guide the patient back to reality. When making his initial contacts with others, the patient has to be protected and aided by a nurse until he develops a feeling of security and self-confidence. It is con-

sidered poor therapy to appeal to the patient's tendencies toward self-admiration and his narcissistic attitudes because of the possibility of increasing these habits hence delaying the readjustment to the outside world. Contact should be established by discussing subjects or books with which the patient is familiar, or in which he has shown an interest. It is wise not to discuss the patient himself at the beginning lest he misinterpret suggestions concerning his behavior as criticism. Relatives should be asked regarding the patient's interests and likes and dislikes so that his preferences may be fostered and his sensitivities avoided. Rapport may also be advanced by a three-way meeting: the patient, the doctor, and a friend or a relative who is accepted by the patient, thus demonstrating to the patient that the doctor is acceptable to the relative or friend.

Group contacts are desirable, but the patient must not be pushed lest he develop a negativistic reaction and withdraw into the world of his reveries. In working out plans for his socialization the needs of the particular individual must be considered. Projects and games that require co-operation with others are helpful, but the games should avoid competitive features, for schizophrenics often have high ambitions and goals and a game lost may block further socialization. At no time should the personality of those caring for the patient be forced upon him, and neither the psychiatrist nor the nurse should make the error of accepting a homosexual or heterosexual attachment as evidence of a satisfactory rapport. When such an attachment does occur, bodily contact as in dancing or sitting on the patient's bed is to be avoided.

Schizophrenic patients (especially those suffering from simple schizophrenia) present a disorganization of all habits of a psychobiologic nature. There is not only an involvement of surface habits, such as eating and dressing, but a disorganization of the habits of thinking. Thus, an extensive program of re-education to encourage healthier habits of thinking and

acting is essential. Unhealthy habit patterns of many years' duration cannot be changed overnight. Modification is a slow, long process, and the patient should be led to appreciate even partial successes. Tactful and persistent suggestions must be made concerning proper personal hygiene, correct table manners, proper dress, and general appearance. Nagging is to be avoided because it leads to negativism and aversion. The need to be decisive with problems that are undertaken by the patient should be stressed.

The tendency of the schizophrenic patient to withdraw and become absorbed in himself is best counteracted by a planned routine that includes group activities and socialization. A well-organized regime will leave little time for morbid preoccupations with fantasies and hallucinatory experiences.

The thought content should be recorded by the nurse for the physician, for it may warn in advance of a patient's intention to hurt himself or others. Those who talk about unforgivable sins and the need for self-punishment or atonement often put their thoughts into action. Self-mutilation or homicidal attacks may be undertaken in response to "directing voices." On the constructive side, the thought content may indicate various problems with which the patient may be helped, or possible approaches to making the environment more satisfying. Particularly during the acute phases, the significance of the various ideas should not be intensively analyzed with or in the presence of the patient because of the danger of precipitating further personality disorganization.

OCCUPATIONAL THERAPY

In occupational therapy, the emphasis should be on giving the patient tasks that he can do from beginning to end by himself, permitting him to derive satisfaction and gratification from accomplishment. The kind of occupation should be planned in accordance with the patient's interests, but it must

be sufficiently diversified to present a well-balanced combination of intellectual and mechanical activities, thus avoiding monotony. The product achieved is relatively unimportant. The work itself is significant because it takes the patient away from his preoccupations into a more objective, real field of personality functioning. The patient should be encouraged in his occupation by being shown the parts he has done well. The patient who presents silliness and overactivity as the outstanding features of his illness will be helped by supervision that directs his available energy into doing something worth while.

HYDROTHERAPY

Hydrotherapy is useful in decreasing excitement and quieting the patient at bedtime to promote better sleep. Warm tubs and cold wet packs are used. When the patient is too restless to remain in the tub a mild dose of sedative (sodium amytal 0.1 to 0.2 gm.), given about half an hour before the treatment procedure, may make the patient at least passively co-operative.

MEDICAL CARE

Many of the schizophrenic patients present problems in internal medicine. The proper care of these conditions offers an avenue of approach to the preoccupied individual. Attention to skin lesions, such as acne, about which the patient may be sensitive, will help in establishing a closer rapport. Among the more usual problems arising are those concerned with maintenance of weight, adequate vitamin intake, management of constipation, and the care of any self-inflicted injuries. The management of feeding and toilet habits will be described in the chapter on the general care of the patient.

Frequently, patients express bizarre hypochondriacal ideas such as having "stopped up" or "rotting" bowels. Physical ex-

aminations may satisfy the patient. Physiotherapeutic procedures (massage, hydrotherapy) may be utilized to facilitate the eliminative functions. Habit training, with emphasis on personal cleanliness, proper table manners, and appropriate dress, is particularly important for the hebephrenic patient.

The catatonic patient may react to aggressive actions with complete submission in the form of a stupor. This may be followed by a period of excitement with impulsive combative and suicidal intentions.

A catatonic stupor is not the same as being unconscious even though superficially there are many similarities. Memory is seldom impaired and adverse or critical comments overheard by the stuporous patient will probably be recalled by him in minute detail and later interfere with the achievement of rapport. All procedures should be explained even though the patient is apparently not in contact with his surroundings. Tube feeding may be required, but invariably the patient should be offered food first and then told why gavage is necessary.

Nursing during stupor entails particular care of the skin, eyes, mouth, teeth, and general appearance. The eyes should be washed daily with a solution of boric acid. The lids may become crusted, and if a mild eyelid infection supervenes, a 1 per cent ointment of yellow oxide of mercury may be applied to the margins of the lids. The teeth should be brushed to remove accumulations of sordes and other matter, the head being held to one side to prevent the aspiration of any fluid. A mixture of lemon juice and glycerine is helpful for crusted lips and care of the mouth. If there is a mild gingivitis (infection of the gums) the teeth and gums should be brushed with sodium perborate in warm water.

The position of the stuporous patient should be changed frequently to avoid pressure sores and also to decrease the danger of hypostatic bronchopneumonia by allowing a better respiratory exchange. Massage aids in maintaining the tone of

muscles and skin. If the joints are kept continuously in a flexed position, passive movements of flexion and extension are indicated at frequent intervals during the day. This is done to prevent contracture.

With excitements it may be necessary to isolate the patient temporarily in order to protect him and others. Measures to allay fear and preclude the danger of attempted suicide or combativeness must be undertaken immediately. Hydrotherapeutic measures and chemical sedation in large doses (sodium amytal 0.2 gm. three to four times a day) are important adjuncts in the treatment of excitement. All patients should be encouraged to feed themselves. If tube feeding is finally required and the patient struggles against it, it is best to place him in a sheet pack until the feeding has been completed.

Prolonged narcosis is helpful in the management of the patient with an excitement. (For details of the methods see the chapter on therapeutic aids.)

The psychotherapeutic aspects of the care of the paranoid schizophrenic will be discussed in the chapter that follows.

SHOCK THERAPIES

The catatonic and paranoid types of schizophrenia respond favorably to insulin shock therapy. In general the earlier in the illness the treatment is begun, the better are the results. It appears to shorten the duration of the illness and perhaps even increases the ultimate number of recoveries. Insulin therapy is superior to other forms of shock therapy for schizophrenia.

Electric shock treatment is preferable to metrazol convulsion therapy because of the greater control that can be exercised with the machine. The number of spine fractures is less with electric shock treatment, and the convulsions are not as severe. However, metrazol causes less of a memory loss following treatment than does electric shock.

Some form of shock therapy has been used in 94 per cent

of state hospitals, according to a recent survey of shock treatment in 305 mental hospitals by Dr. Lawrence Kolb and Dr. Victor H. Vogel. In many instances it was found that insulin treatment was being discontinued because the results were not very encouraging, and because of the expense and shortage of help. The writers conclude that in spite of evidence that the use of insulin and metrazol is declining rapidly, 66 per cent of hospital administrators believe that insulin shock is a valuable form of therapy; 78 per cent believe that metrazol is valuable; while 77 per cent believe that electric shock is valuable.

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Paranoia and Paranoid Reactions

PARANOIA and the paranoid reactions comprise those major personality disorders that are characterized by systematized delusions in individuals who otherwise show correct behavior. In both of these reactions the false beliefs are products of a "twisted," emotionally determined type of thinking which appears to others as illogical. To be sure, many of our beliefs may be nothing more than the rationalizations of our own desires, but when these convictions are subjected to the test of reality and found wanting, we are able to give them up. However, the paranoiac and paranoid individuals tenaciously cling to their convictions and if questioned will even further elaborate them.

PARANOIA

Paranoia is an extremely rare condition in which the delusions are well organized. If certain premises are granted, the superstructure of false beliefs is built by a perfectly logical and understandable series of steps. The thinking processes are formally correct and contact with reality is usually not disrupted. Paranoiacs are quite reasonable and show normal intellectual functioning in all subjects except those allied to the particular delusional system. It is as though the delusional topic were enclosed in a logic-tight compartment, walled off from the rest of the personality. The individual reactions are congruous with the thoughts expressed. Hallucinations are rare and when they do occur support the false beliefs.

The paranoiac is characterized by a rigid personality in which compromises or a willingness to modify attitudes are not acceptable, even though flexibility is required in order to permit him to make adjustments to difficult situations. He is sensitive to the impressions and behavior of other persons and has a tendency to misinterpret. He is proud, haughty, and egocentric, and will often reconsider a question and ponder over previous events that aroused his suspicions. When an effort is made to discuss such misinterpretations, the paranoiac is unwilling to co-operate, adopting the attitude of "I have nothing to say. . . You know it better than I do." These false notions then become charged with feeling or emotion to the point where they become a conviction. The previous questionings and ruminations are dispensed with, there being no longer any need to apply checks. The whole scheme becomes clear and is further systematized. Past experiences are distorted and changed to fit in with the delusional system. On the surface, it appears that the paranoiac has a prodigious memory, for he makes statements with great exactitude. However, when the memory is checked it is often found that lapses in memory are covered by a retrospective falsification, permitting him to make a picture more consistent with the delusions. Such paranoiacs talk with so great a facility that they are able to convince people that their remarks are absolutely true.

ETIOLOGY

The onset occurs most often after the age of thirty. Men are more often affected than women. The particular personality type is probably the dominant factor that predisposes to paranoiac reactions. The sensitive, suspicious, jealous, easily biased person is especially susceptible. Freud emphasized the role of homosexual strivings, which are not clearly recognized by the person and finally are projected upon others in the environ-

ment. The illness is a defense against these unacceptable strivings which cannot be successfully repressed and so are attributed to others. However, instead of love being projected its opposite—hate—is projected, and the patient is then persecuted or hated by the one for whom he yearns subconsciously. A sense of inferiority, which may be associated with repeated failures or with guilt feelings related to unacceptable sexual strivings, is another important factor. There is then an overcompensation which may lead to grandiose delusions.

SYMPTOMS

Persecutory Type: Complaints and dissatisfactions are frequent since the paranoiac's high ambitions are often frustrated. He is embittered because his leadership and superior abilities are not accepted as a matter of fact. Frequent failures are rationalized as being due to persecutions. This may further develop into grandiose or megalomaniacal ideas in which the person fancies himself a great inventor or of royal parentage, thus explaining why everyone is so interested in persecuting him. The urge for vindication and justice leads to repeated court procedures. Many of these individuals never come to the attention of physicians because they may do well in business and appear merely as queer or eccentric people who are accepted by the community.

During the spring of 1914, the City of New York was startled by an attempt upon the life of Mayor John Purroy Mitchel. The shot that was intended for the mayor hit Mr. Frank L. Polk, causing a severe injury. The assailant was Michael P. Mahoney, also known as Dave Rose.

When brought to the Tombs prison, the defendant seemed quite elated and satisfied with his deed. "You don't know how relieved I feel," he exclaimed. He was seventy-one years old, born in the south of Ireland, and a blacksmith by occupation. He had been in the United States for fifty-two years and was married, with no children. He

smoked and drank moderately, had no history of venereal disease or of habituation to narcotics. He was one of six children, one of his sisters being "very simple."

In 1873 he had had an altercation with another man and was hit on the head with an iron bar, sustaining a fracture of the skull. He was in bed for five or six weeks, following which he suffered frequent headaches. When he had told this much of his story, the defendant became surly and said he would not answer another question. He said he had often been the victim of a "frame-up" by certain people and that "You may be one of them and it won't do me any good to tell you." He had been victimized for more than forty years. The Masonic Order was against him. Mayor Mitchel was a member of that Order and was in a conspiracy to ruin him. The Masonic Order always made it their business to get opponents out of their way. It was their creed to protect their brethren. They would stop at nothing to accomplish their end. The Odd Fellows were like the Masons. He had tried to secure employment but the Masons prevented it. He had traveled from one state to another looking for work, but the same influence was always against him. Mayor Mitchel, being a Mason, had also exerted his influence to prevent his obtaining employment.

The defendant stated that, exclusive of the head injury, he had never been ill in his life. He lived in a rooming house but did not mingle with the other boarders. He would give no further information.

When examined by a lunacy commission he refused to answer questions. He was surly, insulting even, and made remarks to indicate that the members of the commission were part of the conspiracy. After one of the commissioners gave him a cigar, he talked, but guardedly. He refused to submit to a physical examination.

In the Tombs prison he kept to himself. When asked why he would not talk to other prisoners he answered: "The Masons have great power." At first he thought he had actually shot Mayor Mitchel, mistaking Mr. Polk for the mayor.

The defendant was found insane and was committed to Matteawan State Hospital.

The persecutory type of paranoiac with homicidal tendencies offers a certain kind of reasoning which he uses often in discussing his responsibilities. To him crime may be a virtue. He may know he has a gun that is loaded and that if he points the gun at a vital spot in another person and pulls the trigger that he will kill that person. He believes, however, that his action will be right, that this is the only way in which he can secure relief from persecution. Thus, he knows the nature and quality of the act. He may know that the act is looked upon as wrong, but he is convinced that for him to do it would be justified. For example, the man who attempted to shoot Mayor Mitchel knew all these things; he knew that by pulling the trigger he would shoot and probably kill the mayor; he knew he had to avoid the police. Yet in spite of all this knowledge he thought he was doing right. He was dominated by a delusion that the mayor was persecuting him and that therefore he was justified in killing him. The fact that he knew the nature and quality of the act, but not that the act was wrong, made him legally irresponsible.

Religious Type: The religious paranoiac may believe that he is called upon to found a new religion or that he is the living Christ. He may write his own interpretation of the Bible and may rally many followers, since such individuals usually possess great energy and are quite aggressive.

Erotic Type: The erotic paranoiac may believe that some important person of the opposite sex is in love with him.

Litigious Type: The litigious paranoiac is concerned with the desire to see "justice triumph." When mentioning his friends,

he will often include those very lawyers, judges, and clerks of the court which his litigious nature frequently brings him up against. He has little respect for authority and he may become combative.

When Edward A. Ridley, a millionaire, was killed in the latter part of 1934, Jens Nelson claimed to be his heir and as a result of the fraud was arrested. It seemed apparent that he was mentally ill. The judge appointed two examiners to investigate his mental condition. This is what they found:

"Defendant is sixty-nine years old, was born in Michigan, states his father was Edward A. Ridley. His uncle and mother were Swedish. He lived with his uncle's family for fifteen years because his grandfather broke up his father's marriage. His uncle took him to Sweden when he was two and a half years old. He denies ever having had a venereal disease and that there is any history of mental or nervous disease in any of the branches of his family. He denies being a narcotics user and is only an occasional drinker. He has had an ordinary public-school education.

"His first appearance in court was in 1916. He sued an insurance company for \$1,000 in salary. He had no witnesses but was on the stand for two full days and won the case. Since then he has been in court on many occasions, suing for various reasons. In the present instance he stated that people were trying to discredit him so that he could not enjoy the money of the Ridley estate. That is why the judge appointed the examiners. The judge is part of the conspiracy. About thirty days after Ridley's death he went to the bank to inquire if there was a will, and was told that Ridley had left no will. In 1881 his aunt had told him that her husband (defendant's uncle) was not his father. He did not believe this. The defendant came to this country from Sweden and obtained a position taking care of Ridley's horses. He claims that he went under the name of Ridley for twenty-two years in different parts of this country and that he can prove this by hundreds of people. He also claims that the doctors in Bellevue Hospital received a present to make a report against him. He states

that he trusts the examining doctors even though he knows they are from the opposition and are being paid by it. He knows also that the foreman of the jury accepted money from James G. Gerard, former Ambassador to Germany. Gerard has been fighting him all the way through. Gerard has spent more than \$1,000,000 to cause his arrest and keep him in the Tombs. He states that Gerard was Ridley's lawyer and the lawyer for the Hanover Bank. His conviction prior to this examination was illegal because it was obtained through Gerard's influence; the judge and the district attorney were not fair to him at the trial; the testimony was forged. He says that Ridley gave him much money but he never kept track of the amount; he states that when he went to Europe with his uncle and aunt, Ridley gave him \$150, that in 1905 Ridley visited him when he lived on East 27th Street, that he saw Gerard give money to the foreman of the jury. He states further that Jurymen One, Three, and Eight looked at Gerard and gave him a reassuring smile. His own attorney was against him and in the conspiracy with the district attorney, the jury, and the judge to convict him."

The neurologic examination was negative. Blood and spinal fluid tests were negative. The defendant was committed to Matteawan State Hospital.

COURSE AND PROGNOSIS

The onset of paranoia is generally insidious and the course is chronic and drawn out. Treatment is particularly difficult and complete recovery is rare. This may be due to the fact that years of intensive therapy are necessary and most patients will refuse to co-operate in such a lengthy procedure.

PARANOID REACTIONS

The paranoid reactions although similar to paranoia differ in a number of significant features. Paranoid states are fairly common. There is less systematization of the delusions, which are readily amplified and not confined to any topic. Explanations

tions are not as logical as in paranoia and bizarre reasons are involved to explain the false beliefs. Hallucinations are frequent accompaniments of the illness. In general, there is a more sweeping involvement of personality function so that behavior disorders are conspicuous. The illness is less chronic than paranoia.

Paranoid reactions are often associated with other conditions such as depressions, manic excitements, and schizophrenia. In the depressions the paranoid ideas are ones of self-deprecation, self-torture, and of others wishing to inflict punishment. The paranoid manic thinks that people are after his riches, and he expresses other delusions of a grandiose nature. The paranoid type of schizophrenia is discussed in the previous chapter.

Temporary paranoid reactions are seen in states of panic. In delirious reactions, ideas of persecution associated with fear are common.

SYMPTOMS

The personality traits are similar to those that characterize paranoia; in women, they may occur at the time of the menopause. The person suffering from paranoid reactions is rigid, sensitive, and suspicious. Failure at school, at work, and in social life if coupled with family or marital trouble leads him to rationalize his lack of success. This may take the form of hypochondriacal delusions in which he blames his own physical condition—or he may blame others for his failure, expressing persecutory ideas.

Deaf persons who are sensitive and proud and who may inadequately perceive or distort what is said sometimes develop paranoid reactions.

Alcoholics may show a jealousy reaction in which they accuse their mates of infidelity. The basis for the jealousy may be actual impotency caused by the excessive use of alcohol. Or, ideas of persecution may be secondary to the realization of latent homosexual strivings through the use of alcohol.

COURSE AND PROGNOSIS

The outlook for the person with paranoid reactions is better than it is for the one with paranoia. Paranoid ideas often clear up when there is improvement of an underlying illness. For example, with the disappearance of a depression the paranoid ideas will dissolve.

Paranoiacs and paranoid persons are potentially dangerous. Resentment of a supposed persecution may lead to an attack on the imagined persecutor, as exemplified by the shot that was intended for Mayor Mitchel.

A number of paranoid patients, especially those with more diffuse and vague delusions and hallucinations, will show a gradual deterioration over a period of many years. A paranoid reaction may cloak a true schizophrenia.

TREATMENT OF PARANOIA AND
PARANOID REACTIONS

The depressed individual is recognized as a grave suicidal risk by physicians. The paranoid individual should be considered dangerous because of his potential homicidal tendencies. These delusional persons appear to be socially acceptable and are capable of using their intellectual faculties adequately. They soon learn to be guarded in discussions, avoiding topics that in the past have not been acceptable to others. These factors make recognition of hostile and antisocial tendencies most difficult.

Treatment of the paranoiac and paranoid individual is difficult, as we have said, and the results are not encouraging. However, many paranoid persons manage to get along in the community despite the persistence of delusions. From time to time the difficulties may become intensified and an acute crisis may supervene for which psychiatric hospitalization is required. Patients who react with panic to the accumulation of delusional

fears will often welcome the security of a hospital and improve in its protected environment. Those who react with increased aggression, so that other individuals are threatened with harm, also require confinement. In these cases legal commitment will be necessary if the patient refuses to enter voluntarily. When the paranoid reaction occurs in the setting of a depression, the possibility of self-harm may require commitment to a psychiatric hospital.

Patience and an ability to listen with an understanding but neutral attitude are most helpful in treatment. It is a mistake to humor the patient, to explain away his delusions by superficial statements, or to argue about his beliefs. These approaches are doomed to failure and will permanently destroy the possibility of establishing a working rapport. The physician should strive to create a situation of mutual trust and respect in which the patient feels free to discuss his peculiar beliefs or feelings without fear of being ridiculed or having his ideas dismissed lightly.

Complicating physical conditions require early treatment especially in those cases where they are associated with the psychiatric condition. Deaf persons who are particularly sensitive about their disability may develop delusions of reference or persecution and even have auditory hallucinations. Prescribing a proper hearing aid in these cases will do much to alleviate the paranoid state. Similar situations are encountered in persons with defective vision. Nutritional disturbances associated with vitamin deficiencies may also lead to confused states with paranoid ideas. These conditions are aided by proper diet and specific vitamin therapy.

Apart from these indications, showing an interest in the patient's health leads to increased rapport. Various ailments such as the common cold, sinusitis, and headache offer opportunities for the physician to impress the patient with his interest and sincerity. This makes for the patient's tacit ac-

ceptance of the therapist as a doctor not only for somatic conditions but for the treatment of his other problems as well.

The primary aim is the dissolution of the delusional system. This is difficult because of the relative fixity of the delusions, the rigidity of the personality, and a hereditary predisposition to this type of reaction which tends to make for chronicity, but the course is modifiable with intensive therapy. One may succeed, for instance, in preventing the elaboration of the delusional scheme, and many patients can make satisfactory adjustments at home and at work if given the opportunity for occasional discussions with the physician they trust. A few cases of paranoia have been completely cured. The paranoid individuals have a better outlook on life and are more susceptible to treatment. In the latter group, treatment should be directed toward the underlying illness (e. g., depression, schizophrenia) as well as toward the paranoid ideas.

Treatment starts at the first meeting, with the patient telling his story and the physician listening carefully and sympathetically, neither accepting nor disagreeing with the ideas expressed. When the ideas are unclear the patient is encouraged to give more details and to describe the background in which the supposed events that are being used to reinforce the delusions occurred. Often statements are given that appear to substantiate the peculiar ideas, but when replaced in their context they are seen to be innocuous or misinterpreted. The discrepancies are not pointed out because the need for examining situations in their entirety is so important.

During the discussions an effort should be made to find neutral subjects and avoid ones that are emotionally charged until later in the course. This affords the opportunity to divert some of the patient's energies from the delusional system and allows for the presentation of an objective attitude and a stressing of the need to examine both sides of the fence in any given proposition. Exaggerated claims or statements made dur-

ing political campaigns and the easy acceptance of these claims by proponents of the same party may be utilized to illustrate how our emotions influence intellectual evaluations. The idea of alternative or possible multiple explanations for a given type of behavior should be implanted in the mind of the patient by an analysis of everyday events. Explanations of the so-called normal tricks of the mind, such as hypnagogic hallucinations, illusions, misinterpretations, and the factors that encourage such experiences (fatigue, sleeping-waking states, use of drugs, etc.), may ultimately aid in the patient's accepting similar formulations for his own sensory misinterpretations. It is most important that at first these discussions be very general in nature and not linked to the patient's personal problems.

As rapport is being established the particular delusions and hallucinations are determined. In discussing these ideas and feelings the physician continues his impartial, unbiased, neutral attitude. Further details to clarify any situation are obtained. When the rapport is well developed, the physician may cautiously interpose alternative explanations in the form of a question. "Could it be that . . . ?" or "Is it possible that . . . ?" are two useful phrases that can be used to present another point of view. If this provokes resentment, distrust, or annoyance then the physician must realize that he has been too hasty and has overestimated his positive relationship with the patient. Keeping the alternate presentation in the form of a question allows one to back out gracefully. On the other hand, if the reaction is one of a willingness to entertain other interpretations the physician can go ahead and point out other possibilities. The need for reliance on a consensus, as against emotionally determined personal beliefs, has to be emphasized.

The *technique of casting doubt* is illustrated by the following discussion with a patient who entered a psychiatric hospital with an acute illness characterized by increasing seclusiveness, suspiciousness, irritability, and auditory hallucinations (para-

noid schizophrenia). Shortly after admission she expressed the delusion that her food was being poisoned.

Doctor: Miss S., it has been called to my attention that you have been losing weight because you are eating poorly. Are there any particular foods that you prefer?

Patient: No

Doctor: Why do you eat so little food?

Patient: Well, they have been putting poison in my food.

Doctor: Who has been doing that?

Patient: I don't know.

Doctor: Why should anyone want to do that to you?

Patient: I don't know, but they are doing it.

Doctor: Is your food any different from that served to other patients?

Patient: It looks the same, but those people are very tricky.

Doctor: How does your food affect you?

Patient: It makes me jumpy and nervous.

Doctor: Did you feel that way before coming to the hospital?

Patient: Yes, I couldn't sleep well.

Doctor: Do you think they were poisoning your food before you came here?

Patient: I don't know.

Doctor: Does the food taste differently?

Patient: No, it doesn't.

Doctor: Could it be that you sleep poorly and are jumpy because you are emotionally upset?

Patient: (Long pause, no answer.)

Doctor: Some people have difficulty in sleeping because they are worried about various problems. Do you know of any difficulties that have been troubling you?

Patient: I don't know of any problems now.

Doctor: The kind of nervousness you describe may be made worse by poor physical health. Therefore, I think you would do well by trying to eat an adequate diet. The meals served you are carefully balanced with regard to vitamins, calories, and minerals. Eating will help you to get over this illness.

The question WHY often induces a patient to give more details about delusions, which at times may contradict one another. However, the physician should not harp on the inconsistencies. Instead, he should allow the patient to see the contradictions himself. During the discussion, doubt is gradually injected in the setting as a sincere desire on the part of the psychiatrist to understand more fully. He shows by his behavior that the patient's statements seem unreasonable but that he is willing to believe if adequate proof can be presented. Ultimately, he develops a constructive formulation calculated further to undermine the delusion in an indirect way.

Personality traits that predispose to delusional formations such as marked sensitivity, suspiciousness, the tendency to look for meanings in everyday events require analysis, with constructive suggestions for minimizing their effects. Throughout the procedure, the need for protecting the individual's ego is paramount.

When the paranoid ideas are relatively fixed it may be desirable to inculcate in the patient a willingness to live with his symptoms and learn not to express them freely in public. It may be possible to get the patient to agree to leave the past alone and not perform any antisocial acts. Occasionally, a patient will promise to consult his physician before undertaking any action based on his delusions, and in this way many personal disasters are avoided. Where the patient refuses to compromise and there is danger of harm to others or himself, a prolonged or even permanent hospitalization may be neces-

sary. A considerable number of patients are benefited by one of the shock therapies already mentioned.

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Delirium and Allied Conditions

THE delirious reactions are the result of disorder of the brain caused by poor support of its functions. The causes may be of an infectious, toxic, metabolic, circulatory, or traumatic origin. These illnesses are of particular interest since they constitute the most frequent type of psychosis encountered in general medical practice. They are generally cared for in the medical or surgical wards of regular hospitals especially when the delirium is part of an intercurrent illness.

Individual susceptibility to delirium varies considerably. In some persons a slight rise in temperature may produce slowness in thinking, irritability, and even a rambling sort of speech. Others remain mentally clear even with a temperature as high as 105° – 106° F. What makes for this marked difference in reaction is unclear, but generally speaking the resistance to a delirium may be considered as an index of the individual's mental stability. Some of the predisposing factors to such disturbances are known. Children are especially prone to react with a delirium to fever and infection. This has been attributed to the "immaturity" of the nervous system. Persons who have organic changes in the brain, as those with cerebral arteriosclerosis, appear to be more susceptible. Fatigue and exhaustion favor the onset of a delirium. Finally, personality problems that lead to emotional strains render the individual more liable to mental illness when he is exposed to physiologic stress.

ETIOLOGY

Delirium is a symptom-complex and not a disease entity. Thus, it is a mistake to feel that each particular etiologic factor gives rise to essentially different psychiatric conditions. Whether the delirium is the result of a malarial infection or typhoid fever makes for relatively little difference in the clinical picture. The value in differentiating etiologic agents lies chiefly in the field of therapy. Obviously a delirium that is related to excessive intake of drugs calls for the institution of different therapeutic measures than when it is related to pneumonia. Yet in both cases the patient demonstrates fear, hallucinations, and disorientation.

Any situation making for a deficiency in the nutrition or circulatory support of the brain as an organ may cause a delirious reaction. For practical purposes the *etiologic factors* may be grouped under types causing the support disorder, as follows:

Toxic, including such substances as alcohol, bromides, barbiturates, carbon monoxide, morphine, cocaine, and marijuana.

Infectious, including diseases like pneumonia, typhoid fever, encephalitis, meningitis, influenza, pellagra, and beriberi.

Metabolic, which are inherent in such diseases as thyroid disturbance, renal disease (uremia), pellagra, pernicious anemia, eclampsia, and diabetes.

Circulatory, which may occur in any cardiac illness with decompensation.

Traumatic, which are a result of injuries like concussion of the brain and fracture of the skull.

Sunstroke and miscellaneous factors leading to high fevers of unknown origin, especially in children.

SYMPTOMS COMMON TO ALL DELIRIOUS REACTIONS

The delirious reaction is usually ushered in by restlessness,
H*

insomnia, irritability, and terrifying dreams. Within twenty-four hours the reaction often progresses to the point where many symptoms which are common to all delirious reactions are observed.

CLOUDING OF CONSCIOUSNESS AND DISORIENTATION

The patient has difficulty in understanding his surroundings; that is, he cannot understand what is going on around him and cannot readily grasp the meaning of questions. In most individuals this cloudiness is sufficient to cause an almost complete disorientation at some time during the illness so that the patient does not know the time, place, or persons in his environment. He is usually well oriented for his own person; that is, he knows who he is and is able to identify himself to others. His attention is poor, concentration is difficult, and the thought processes are labored, even illogical. Formal testing for calculation, retention of numbers, and general grasp and recall of a story yields a defective result. These deficiencies are by no means constant; they may vary during the day, at night, and just before awakening in the morning.

The imminence of delirium may be discerned in some cases—especially when the delirium is the result of alcohol—by asking the patient to close his eyes, pressing on the eyeballs, and having him describe what he sees and feels. The alcoholic who is on the verge of delirium tremens may tell of seeing a variety of forms and shapes that resemble animals.

EMOTIONAL STATE OF FEAR

The patient is uneasy, apprehensive, insecure, and fearful. This emotional reaction of fear is brought on by the patient's poor grasp and misinterpretation of his environment. The fear and apprehension are based upon his false beliefs and hallucinations, which are increased at night. In addition, doubt,

uncertainty, perplexity, mistrust, suspicion and depression are frequent accompaniments.

HALLUCINATIONS AND DELUSIONS

Vivid visual hallucinations are the most common type of sensory disorder. The patient describes animals running around on the floor, or he may pick at the sheets in the belief that he is removing brightly colored bugs. Marks on the walls, shadows, and articles of furniture in the room, especially at the time of waking or falling asleep, may temporarily become enemies, animals, and the like.

Auditory hallucinations are next in frequency. The patient complains that he is called bad, filthy names, or he answers voices that only he hears.

Hallucinations of touch and smell are infrequent.

Delusions are a prominent feature of the delirious reaction. The patient fears impending harm: he is going to be persecuted, and he may hurt himself or commit suicide in a frantic effort to run away from his imaginary enemies.

PHYSICAL AND LABORATORY FINDINGS

Evidences of toxic, infectious, metabolic, traumatic, or circulatory disorders are always present, and fever, leucocytosis, exhaustion, and malnutrition may accompany the delirium. The physical examination may reveal skin rashes, tremors of the extremities and face, increased reflexes, slurred speech, unsteady gait, and poor co-ordination of movements. Various drugs, such as bromides and barbiturates, may be found in high concentration in the blood or urine when such medication has been taken over a long period of time. Other blood chemical findings may show abnormalities as in uremia and the toxemias of pregnancy.

SPECIFIC DELIRIOUS STATES

Though delirium is directly related to bodily illness or stress which interferes with normal brain functioning, the personality colors the reaction. The preoccupations and thought content of the delirious state are influenced by the particular fears, hopes, strivings, and conflicts of the ill person. Indicative of this is the similarity of delusions and hallucinations that may be observed in two distinct delirious reactions caused by different etiologic agents (i. e., pneumonia and excessive intake of bromides) in the same individual. In addition certain patients may go through motions during the delirium which they use in the ordinary course of a day's work (occupational delirium). However, in cases where the drug or infection leads to characteristic neurophysiologic alterations, this, too, influences the psychopathologic symptoms. This is illustrated by the frequent complaints of bugs crawling under the skin ("cocaine bug") with a cocaine delirium. It is known that cocaine causes paresthesias (disorted sensations) which are commonly interpreted by the delirious patient to be bugs or worms.

Recognizing these facts a few of the common specific reactions will be presented.

BROMIDE DELIRIUM

People usually resort to sedatives like the bromides because of some underlying physical or mental disorder, and most of those who take bromides to excess will eventually react with a delirium. Persons who suffer from persistent headache, insomnia, so-called nervousness, and the anxiety states will frequently resort to the use of bromides for relief. It is an interesting fact that few epileptics, despite their extensive use of bromides, develop a delirious reaction.

When the bromide content of the blood exceeds 100 to 150

mgm. per cent, a delirious reaction tends to ensue. The excretion of bromides from the blood and tissues is slow and the bromides may be found in the urine several weeks after the use of the drug has been discontinued.

Skin lesions of a pustular nature may be seen in the individual who has taken bromides, but there is little direct relationship between the quantity of the drug present in the blood and the severity of the rash.

The commonest picture seen with bromide intoxication is a delirium characterized by disorientation, ideas of persecution, vivid hallucinations, and an associated fever. Speech is indistinct, tremors of the tongue, lips, and extremities are noticeable, the gait is unsteady, the deep reflexes are exaggerated, and, as mentioned, a skin rash may occur.

S.E., a thirty-two-year-old secretary and divorced, had been tense and worrisome for a few months because of financial difficulties and trouble with her latest paramour. Bromides were prescribed because of disturbed sleep. However, she took the medication in excessive quantities to allay increasing anxiety. Two weeks after starting the drug, she became disturbed and complained that people were out on the fire escape making derogatory remarks about her and threatening her. She misidentified the people about her as being various members of her family. During the next few days she spoke about bugs crawling on the floor and addressed imaginary people in closets. Her speech was slurred and her gait unsteady. She was disoriented for time and place. The blood bromide was 250 mgm. per cent and her temperature rose to 100.5° F. She was given 3 gm. of salt four times a day and fluids were forced to over four quarts a day. By the end of the first week she had improved to where the hallucinations disappeared and she was well oriented. Progress continued and she was able to discuss her personal problems and willingly followed constructive suggestions. At the end of six weeks, she resumed her former position as secretary.

ACUTE ALCOHOLIC DELIRIUM (DELIRIUM TREMENS)

In delirium tremens, tremor is the outstanding feature, which gives the condition its name. The tremor involves the lips, tongue, and hands. It is now thought that a vitamin B deficiency (in particular thiamin chloride—vitamin B₁) plays a great part in the etiology of alcoholic delirium. Such a deficiency is favored by the unbalanced diet of many alcoholics. They “get the jitters” in the morning and not uncommonly take a drink before breakfast “to settle the stomach.” The usual meal consists of doughnuts and coffee or its equivalent and by evening—after perhaps one adequate meal—the drinking bout is started again. Those alcoholics who do have sufficiently high vitamin diets may have a gastritis accompanied by vomiting and so lose the greater part of their food intake.

Delirium tremens usually occurs in chronic alcoholics, following a period of increased drinking with insufficient food intake. The condition may be complicated by the development of pneumonia or brain trauma sustained during the period of drunkenness. These factors tend to prolong the delirium and may even be a cause of death. The average person will experience a delirium when the concentration of alcohol in the blood reaches a level of 3 mgm. per cent. Fatalities may occur from cardiorespiratory depression when a concentration of 5 mgm. per cent is reached.

Many individuals present prodromal manifestations of delirium tremens. They sleep poorly, are restless and surly, depressed and easily upset by noise or slight shocks. They quarrel with those near them, refuse to listen to advice, and lose interest in their personal appearance. They may have visual hallucinations.

The actual onset of the delirium tremens is acute. There is motor restlessness, the face is flushed and covered by beads of perspiration. The conjunctivae are markedly congested and

the pupils dilated. The pulse rate is rapid and the temperature rises. Speech is indistinct, and there is a failure of muscular co-ordination (ataxia). Visual, tactile, and olfactory hallucinations are common. The visual hallucinations are vivid and may be terrifying. There are flashes of color, and animals and insects of every variety are seen in fantastic form. The dis-oriented patient may attempt to walk through the wall or out of a window, having no appreciation of the nature of his act. Delusions of persecution and ideas of infidelity concerning one's marital partner are common. Fear and anxiety are outstanding.

The acute phase lasts four or five days when the condition is uncomplicated as by pneumonia or heart failure. The patient not uncommonly has an amnesia for his behavior during the delirium. In some of the more chronic alcoholics, evidence of organic brain damage may persist until a Korsakoff's psychosis develops (see next chapter). In other cases a paranoid reaction occurs and hallucinations persist to such a degree as to become chronic. Heart failure and bronchopneumonia are frequent causes of a fatal outcome.

DELIRIUM WITH PELLAGRA

Pellagra is caused by a deficiency in diet or by the defective absorption of foods containing the vitamin B complex, more particularly the nicotinic acid fraction. Absorption may be interfered with in malignant conditions involving the gastrointestinal tract.

Pellagra is a systemic disease characterized by skin and gastrointestinal manifestations with symptoms of involvement of the nervous system. The skin lesions at first resemble a sharply defined sunburned area which later darkens in color and becomes atrophic and scarred. They are most frequently seen on the backs of the hands and wrists and on the feet. The face, neck, elbows, and knees may show a similar type of cutaneous

lesion. Being exposed to the sun makes the skin eruption worse.

The gastrointestinal symptoms are due to inflammation of the mucous membrane of the stomach and intestines. The tongue is raw and beefy. Burning in the mouth and a sore tongue are common complaints. Gastric symptoms such as nausea and vomiting are seen in some cases. Diarrhea alternates with constipation, although the former is more frequent, and in those cases with diarrhea the stools may contain blood and mucus. When intestinal symptoms are severe there is a great loss of weight, and abdominal pains are severe.

Sensory disturbances such as hypersensitivity and peculiar sensations (burning, tingling) all over the body are commonly noted.

Anywhere from 5 to 20 per cent of pellagrins develop psychiatric symptoms. The most frequent reaction is a delirium, although mental depression and Korsakoff's psychosis are also seen. The symptomatology of the delirious patient resembles that of any toxic delirium. In the acute cases there is usually a fever which contributes to the physiologic stress placed on the body. The patient is confused, mutters a good deal, and has auditory and visual hallucinations.

With modern vitamin therapy the prognosis is greatly improved (see Chapter Fifteen).

DELIRIUM WITH MENINGITIS

The brain and spinal cord are enclosed in membranes. These consist of a tough, fibrous outer covering, known as the dura mater, and a fine, delicate pia mater which adheres closely to the brain, dipping into the various sulci. Over the pia lies a somewhat thicker membrane called the arachnoid, and it is between the two coverings that the cerebrospinal fluid circulates. The term meningitis usually refers to an inflammation of the more delicate inner membranes.

Meningitis may be caused by micro-organisms of various

types but the most frequent are the meningococcus and the tubercle bacillus. Pneumococcus and streptococcus infections are less common. The meningococcus infection may occur in epidemic form and is then referred to as epidemic cerebrospinal meningitis.

The onset of cerebrospinal meningitis is accompanied by discomfort and irritability. Headache starts early and is persistent. The patient then complains of a stiff neck which is extremely painful when the attempt is made to flex it. Fever, rapid pulse, vomiting, and irregular breathing are common symptoms. Many patients have a skin rash which consists of tiny red or purplish spots ("spotted fever"). The course of the disease is rapid. Shortly after the onset a delirium with disorientation, fearfulness, and hallucinations not uncommonly occurs. The pupils are unequal or fixed so that they do not react to light. Paralysis of the eye muscles occur causing a squint. The average case is over in from ten to fourteen days. Shortly after the fever and meningitic inflammation subside the delirious reaction begins to clear up.

During the acute phases, cerebrospinal fluid examination shows a cloudy fluid with many cells (polymorphonuclear type) and an increase in pressure and protein content (above the normal of 40 mgm. per cent). The sugar content is decreased (normally 45 to 70 mgm. per cent) and this is true of the chlorides which normally are 720 to 750 mgm. per cent, and in this disease are usually 650 to 680 mgm. per cent. Occasionally the organism (small paired spheres) may be seen in or outside of the cells in the cerebrospinal fluid.

PSYCHOGENIC DELIRIUM

Occasionally deliriouslike reactions are seen in hysterical patients or in individuals who are in a panic, and they are referred to as psychogenic deliria. Sometimes apprehensive patients who have had an operation on the eyes that necessitates

their being bandaged show such a delirium, but the disorder usually clears up within twenty-four hours after the patient is able to see well enough to appreciate his surroundings.

ALCOHOLIC HALLUCINOSIS

The delirious reaction to toxins is not always clear-cut. Intermediate pictures are observed, for example, the condition known as hallucinosis, which occurs most commonly as a sequel to an acute alcoholic delirium. The hallucinations are usually auditory, developing either suddenly or gradually. The voices heard are nearly always antagonistic, accusing, threatening, and commanding. Fear and anxiety are present but the patient is correctly oriented. Delusions of persecution and reference may lead to an attempt at suicide or homicide.

A.B., a thirty-two-year-old married mechanic, was a chronic alcoholic who frequently absented himself from home. On one occasion he met a man with whom he began to share a room. One day, A.B. commenced to pull down the shades. When his companion asked why he did so, he answered nervously that he was being watched, that people were calling him vile names and were accusing him of homosexual practices. The voices were asking: "Why don't you kill yourself?" A.B. was well aware of his surroundings and the people about him. His companion tried to reason with him but he would not listen. Instead, he ran upstairs to the roof, intending to jump off. His companion caught up with him just in time. A little later he went for a walk. Voices continued to threaten: "If you don't kill yourself, we'll kill you!"

Coming to a liquor store, A.B. dove head first through the plate-glass window and sustained a severe gash in his scalp. He was taken to Harlem Hospital where he showed great fear and had to be watched closely. He tried to squeeze his head between the bars of his bed. A policeman attempted to stop him, whereupon he grabbed the policeman's gun and killed him.

Several weeks later A.B. was able to recall every event

except the actual shooting. That was a blank in his mind. He was found to be psychotic and was committed to Matteawan State Hospital.

Not all cases of hallucinosis are chronic. In the acute type the reaction may clear up within a few months. If the individual was poorly integrated and maladjusted prior to the onset of hallucinosis, progressive deterioration is the rule.

COURSE AND PROGNOSIS

Delirious reactions have a rapid onset and are of relatively short duration, varying from a number of hours to one month. A few cases may go on to chronicity and even to death, depending on the severity and type of the underlying illness plus the resistance of the patient. The state of mental health before the onset is an important factor in determining the duration of the delusions and hallucinations. A delirium may, for example, set off a latent schizophrenic or manic-depressive tendency.

The course of the delirium is often modified by the physician's ability to remove the harmful agent. In a bromide psychosis the discontinuance of the drug is readily accomplished and its excretion from the body hastened by the intake of salt. On the other hand, in uremia the removal of the nonprotein, nitrogen waste products (like urea) that have accumulated in the blood is difficult. As a rule definite improvement can be noticed within a week after the institution of measures that combine rest, adequate food and vitamin intake, and the avoidance of sedatives that would increase the toxic reaction. Within a week the patient may be quite comfortable during the day and show mild apprehension only at night. Gradually the toxic picture clears completely, and in those patients who are fairly well adjusted prior to the illness, complete recovery occurs.

In all cases it is important to preserve the patient's strength and to prevent exhaustion. If signs of heart failure appear digitalis is of distinct benefit. Constant reassurance and ex-

planation of all procedures to which the patient is subjected will decrease fear so that the patient will not resist something that is being done for his benefit. There is great danger in restraining a patient. Being confused, he will continuously struggle against his bonds even to the point of inducing heart failure. With sufficient nursing care, exhaustion can be entirely avoided. If the patient in his restlessness tries to get out of bed, not force but persuasion should be used to get him back; otherwise he may become combative and exhaust himself.

Rest and relaxation are best induced by isolating the patient from possible stimuli and by sedative hydrotherapy in the form of prolonged warm baths (see Chapter Sixteen). If the patient who struggles against the procedure has fever, wet sheet packs should be used with great caution, because his struggling may induce a rapid elevation of temperature, leading, in warm weather, to a thermal death.

The suicidal risk is serious because of the patient's fear, disorientation, and depression which sometimes accompany the delirium. A delirious patient should never be left alone. Locked screens should be put on the windows, and all sharp objects with which the patient might hurt himself must be removed from his reach. The services of a full-time nurse are most important and whenever possible the same nurse should look after the patient so as not to add to his confusion. The room should be simply equipped, containing only the essentials for treatment. The number of visitors should be kept at a minimum; only close relatives who are not disturbing to the patient should be allowed to visit him and then only singly for a short period of time. Visitors must be cautioned against arguing with the patient about his delusions and hallucinations.

It may be advisable to keep a light on in the room until the patient falls asleep to avoid his misinterpreting shadows or poorly lighted objects. The person caring for a delirious patient requires much patience and should be willing to make explana-

tions as often as required to calm and reassure him concerning his fears and suspicions. Unfamiliar objects and those that seem to be disturbing should be removed from the room.

Whenever possible, confusing or puzzling procedures should be carried out during the day because the patient is usually less fearful at that time. The psychiatric aide should accept the patient's remarks seriously and avoid joking as this may lead to misunderstanding. Whispering in the presence of the patient also brings about misinterpretation.

The aide or nurse must guard against the patient's impulsive and combative tendencies. Usually these can be anticipated by noticing the increasing fear that the patient shows before making an assault.

The delusional ideas are managed by the gradual casting of doubt on the patient's false beliefs and by explaining his fears instead of disputing with him about them. Reassurance, occupation, and recreation are especially important as the acute phase subsides and convalescence begins. The patient should be permitted to establish his own pace rather than be pushed into undertaking too many activities.

Feeding difficulties may lead to dehydration and avitaminosis. Specific vitamins, particularly the vitamin B₁, are indispensable in the treatment of delirium due to alcoholism or where neuritis is present. Nourishment in small quantities should be offered frequently so that tube feeding may be avoided. If tube feeding becomes necessary, the patient's difficulty in understanding the reason for its need should be kept in mind and the necessity for the procedure must be explained in simple language to avoid increasing his fear. Salt should be supplied in capsule form (8 to 10 gm. daily). At least 3,000 c.c. of fluid a day should be ingested, preferably by mouth, to eliminate the danger of straining the circulatory system. If large amounts of fluid are given rapidly by the intravenous route, pulmonary edema may result. If acidosis is present, a high carbohydrate

diet is advisable, in which case small amounts of insulin (10 to 20 units) may be given daily to aid in the body's utilization of this diet. If the delirious reaction is due to the ingestion of a large amount of a drug (i.e., the barbiturates) in a suicidal attempt, early gastric lavage may prevent absorption of much of the drug. If strong alkalis (i.e., caustic soda) have been taken orally, passing a stomach tube is contraindicated because of the danger of perforating the esophagus with the tube. In such instances, measures directed toward neutralizing the alkali with diluted vinegar or acetic acid must be taken.

Bismuth subcarbonate (1 to 2 gm. doses two to four times a day) may aid in decreasing nausea by its mechanical effect in coating the stomach wall, and by its alkaline reaction.

When delirium is associated with cardiac failure, the fear and anxiety are best relieved by morphine alone or in combination with hyoscine. In general, it is best to use a minimum of chemical sedation in order to avoid increasing toxic factors.

The keynote of treatment for bromide delirium is the immediate cessation of all bromides and the oral administration of salt (10 to 15 gm.). There is no advantage in intravenous saline therapy except when sufficient salt and fluids cannot be taken by mouth. A high salt intake favors rapid bromide excretion by substituting chlorides for bromides in the blood. For the pustular rash that may be present, warm saline compresses are helpful. Cathartics are useful to avoid fecal impactions where constipation is persistent.

The treatment of delirium tremens is essentially as outlined above with the following additions: The patient may be given intravenously a mixture of 100 c.c. of 50 per cent glucose, 100 mgm. of thiamin chloride, and 30 units of insulin in conjunction with large quantities of orange juice by mouth. To shorten the delirium it is best to stop alcohol completely even though it may result in a temporary exacerbation of the condition.

If the patient is extremely excited, paraldehyde (8 to 10 c.c.) is one of the best drugs to use because of its rapid excretion. It is best given in cold tomato or orange juice to minimize its objectionable odor and taste. If necessary it can be given by nasal tube or by rectum, mixed with two or three ounces (60 to 90 c.c.) of milk. The paraldehyde may have to be supplemented by chloral hydrate (0.6 to 1.0 gm.) or barbitol (0.6 gm.) once or twice daily in order to control the excitement.

Should there be evidence of increased cerebrospinal fluid pressure, a lumbar tap may be advisable with the intravenous injection of 50 c.c. of 50 per cent glucose to aid in the resolution of brain edema. Cardiac stimulants (caffeine and adrenalin) should be on hand for emergency use. It is important to give the patient as much rest and sleep as possible, and prolonged warm baths will usually prove to be a calming influence. Cardiac failure and pneumonia account for many of the deaths in delirium tremens. Thus, undue exposure or exhausting procedures are to be avoided whenever possible. If they occur, these complications must be treated by the usual specific measures required for their management.

With pellagra the patient requires a diet plentiful in meat, milk, and eggs. Brewer's yeast is an excellent source of vitamin B. Nicotinic acid should be given in large quantities—at least 300 mgm. a day orally or subcutaneously if not well tolerated by the stomach. If the patient complains of burning and flushes after the nicotinic acid, nicotinamide may be substituted. This causes less of a vasomotor reaction.

The course of cerebrospinal meningitis is favorably influenced by the use of the newer sulfa drugs (sulfanilamide and sulfadiazine). The specific sera that were used formerly may now be used in conjunction with sulfanilamide in cases of serious infection. Lumbar puncture with drainage will tem-

porarily alleviate headache and vomiting. It is wise to avoid crowds and to practice scrupulous personal hygiene during epidemics of this disease.

In all toxic delirious reactions the personality setting in which the delirium occurred and the dynamic factors that led to the excessive use or presence of toxic agents require evaluation. Hence, treatment should not only not cease when the delirium clears up but should include the attempt to analyze and resolve the personality problems that led to it.

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Organic Brain Disorders

WHILE the normal functioning of the central nervous system depends upon the integrity of its structure, it is surprising to observe some instances of brain damage occurring without symptoms. It is known that certain areas of the brain are specifically related to particular functions (the motor cortex of the frontal lobe with voluntary movement, the occipital lobe with vision, etc.) but there are large "silent areas" which, when damaged, result in no known symptoms or signs.

Conversely, a profound defect in function is possible without any demonstrable organic change in the brain. The relationship between lesions in the central nervous system and clinical symptoms is most complex and variable. The great tendency is to oversimplify the correlation by trying to assign each function to a special brain area. This approach loses sight of the fact that with the integration of the various parts of the brain, new functions emerge which are more or less dependent on the operation of the brain as a whole.

It must be kept in mind that destroyed tissue cannot function. Thus, structural damage itself can produce only symptoms involving the loss of functions. Negative symptoms of this sort would be a paralysis with a lesion of the motor cortex or blindness with damage to the occipital cortex. Where positive symptoms exist such as abnormal reflexes or behavior disorders, they must be regarded as representing the total activity of the remaining parts of the brain.

The speed with which brain destruction is carried out and

the size of the lesion determine to a considerable extent whether gross changes in personality functioning will be observed. With the small, slowly developing lesions there is some opportunity for the remaining parts of the brain to compensate and so tend to cover up deficiencies.

The structural involvement of the brain may be diffuse, affecting many different parts, or it may be focal. The diffuse type is often accompanied by personality deterioration, whereas the focal type commonly gives rise to neurologic signs of damage to specific areas. However, no hard and fast delimitation of diseases in one category or the other can be made. Cerebral arteriosclerosis, for example, may present a diffuse picture or it may manifest itself only by signs of focal damage.

Epilepsy is even more difficult to classify in any such scheme because it is a symptom rather than a disease. The term includes various types of convulsive disorders, some of which are definitely related to organic brain changes while others have no known structural damage as an etiologic factor. In the latter group the epileptic fits are a reaction to altered physiologic states rather than to anatomic damage.

SENILE DISORDERS

In the senile disorders a progressive deterioration of the personality is observed as a reaction to old age and its associated pathologic changes in the brain. The onset of senility commonly occurs after the age of sixty and manifests itself as an exaggeration of the aging process, or what is familiarly known as a "second childhood."

Intellectual deficiencies are most apparent in the case of failing memory which gradually extends backward to more remote events. During the initial stages, memory deficiency for recent events may lead to a great deal of reminiscing about the past, which is more easily remembered. Relatives often cite this as an indication of memory preservation whereas the

reverse is true. There is a tendency to fill in gaps of memory with evasions and fabrications. Upon closer questioning it is usually revealed that these patients show poor judgment and may get lost when only a few blocks from home, especially at night. They are garrulous and circumstantial, covering up their deficiencies with facetious or general remarks that do not answer the particular questions. Hoarding objects of little value and stinginess are common characteristics of the aged. Emotional outbursts of irritability and anger may lead to threats of assault. Personal untidiness, wetting and soiling are problems in the later stage. Delusions and hallucinations may be part of the patient's confusion.

Different types of senile psychoses have been described to indicate the prevailing character of the symptomatology: for instance, depressed and agitated, paranoid, and so on—all of which does not add much to a real understanding of the psychosis. In actuality these manifestations, now released by illness from the normal inhibition, represent caricatures of the individual's previous personality traits.

When senile psychosis occurs as early as the age of forty, it is known as Alzheimer's disease. The outstanding symptoms of this condition are memory and orientation difficulties and emotional instability. There is also an inability to use and understand words (aphasia) and a loss of understanding for the use of commonplace objects.

I.S., an eighty-two-year old writer, began to show increasing difficulty in adjustment at the age of seventy-six. Since that time he has occasionally soiled himself, spills food on his clothes, and is irritable. He saves old newspapers and string; his closet is full of these articles. On two occasions he was lost and had to appeal to the police to direct him home. He reminisces endlessly. Following an infection of the upper respiratory tract he became excitable, refused to eat, and talked incoherently. He was confined to bed because he persisted in going to dances and

parties in spite of being ill. While in bed he made erotic advances to the young woman who was nursing him and would carelessly expose himself in front of visitors. He recovered from his cold, but the senile symptoms not only persisted but are becoming more pronounced each day.

Course and Prognosis

The course in both the simple and presenile (Alzheimer) deteriorations is progressively downhill. Physically, the marks of old age become more apparent and the increasing weakness, fatigue, and unsteadiness in walking may result in accidental fractures. Not infrequently an intercurrent infection like pneumonia supervenes and causes death.

The pathologic examination of the brains of patients who have died shows a small brain with atrophied convolutions and wide fissures. The covering membranes of the brain (meninges) are thickened and translucent. The cerebrospinal fluid is increased, filling the space left by the shrunken brain. Microscopically there is a decrease in the number of cortical cells and an increase in the fatty material in these cells. There is an increase in the glial cells forming the framework of the brain which makes the brain harder and denser than a normal brain. "Senile plaques," formed by clusters of silver staining material caused by the breaking up of the large glial cells, are specific and confirm the diagnosis of senile psychosis when they are found on microscopic examination.

Treatment

All patients with organic brain disease require protective and supportive care. An adequate diet, regulation of the eliminative functions, and the judicious use of sedatives and hydrotherapy in the management of hyperactivity are important. The food should be simple, nourishing, and easy to chew. Older patients require assistance in dressing and in the maintenance of a proper appearance. Hospital care is indi-

cated when there is difficulty in protecting the patient and his family from his impulsiveness, irresponsible acts, suspiciousness, and irritability. It is a mistake to hesitate considering hospitalization because of sentimental reasons. The patient is often happier in an environment that offers a definite routine, personnel who are trained to handle the specific type of case, facilities for the care of physical disorders, and companionship with persons of his generation. The result is a feeling of security which he may not have enjoyed at home even with an attendant to care for him.

In view of their poor judgment and memory, senile patients should be relieved of financial responsibility and their decisions should be reviewed in an inconspicuous way by some member of the family before action is permitted. Despite this, it is best to give the patient some responsibility in minor matters where he can do little harm, thus allowing him to feel useful. A modified work routine is beneficial. The work should be done under supervision with precautions against overdoing to the point of physical fatigue. Keeping the patient's energies occupied in work reduces the frequency of outbursts of anger.

Occupational therapy should be simple and take account of the particular physical limitations of the patient. An effort should be made to utilize tendencies such as perseveration and repetition of motor acts where these features are present. Folding linen or rolling a ball of yarn from hanks are simple illustrations of the constructive use of such psychopathologic symptoms.

Habit training which aims at the maintenance or improvement of habits and personal hygiene is essential, and the psychiatric aide should always be on the lookout for indications of habit deterioration so that they may be counteracted by a program of re-education.

Patients with organic brain disease may take cat naps during the day and sleep only a few hours at night, and an effort

should be made to avoid their doing so by planning a fairly full program during the day. Elderly patients do not seem to require as much sleep as younger ones do and appear to benefit from just resting in bed during the early morning hours when they cannot sleep. Hydrotherapy and the use of occasional sedatives will be helpful. Hypnotics that are rapidly excreted (paraldehyde) or that are detoxified by the body (sodium amytal) are best in order to avoid the danger of a cumulative effect, especially in patients whose kidneys function poorly.

Susceptibility to physical injury, especially from falling, must be kept in mind. During periods of confusion and during nocturnal excitement there may be marked overactivity leading to cardiac failure. With depressed, fearful, and disoriented patients the possibility of suicide or assault must be guarded against.

The decreased tolerance to infections and toxins makes it imperative that even minor physical ailments receive prompt and careful medical attention. Vitamin therapy often helps in building up general bodily health and resistance to minor infections.

NEUROSYPHILIS—GENERAL PARESIS (DEMENTIA PARALYTICA)

In the early stages of a syphilitic infection, the responsible organism (*spirochaeta pallidum*) invades the central nervous system. In most individuals this does not result in an active neurosyphilitic infection. In some, however, symptoms of extensive brain involvement appear shortly after the initial infection or ten or fifteen years later. There is no known method by which anyone can predict whether or not an infected patient will develop active syphilis of the central nervous system. Even more difficult is it to foresee the particular form of neurosyphilis that will occur.

Syphilis attacks various portions of the nervous system.

Thus, we find that there are various types of involvement. Among these are meningovascular neurosyphilis, tabetic neurosyphilis, and parietic neurosyphilis. Syphilitic meningitis may be either of the base or of the convexity of the brain. Vascular cerebral syphilis usually involves the arteries of the circle of Willis and other large vessels. At times, however, the finer vessels are affected. The meningeal involvements give but few manifestations of psychiatric interest. Neurologic manifestations are common, depending upon the infiltrative process surrounding the various cranial nerves. Vascular cerebral syphilis may produce symptoms of a focal character depending upon obliteration, thrombosis, or hemorrhage into brain substance. Since general paresis is the disease of greatest interest psychiatrically, it merits particular attention.

General paresis is the most important of the neurosyphilitic psychoses. It has been estimated that from 4 to 10 per cent of the major personality disorders are accounted for by this psychosis, and that it occurs in from 2 to 4 per cent of those suffering from syphilis. In the past few years, however, the incidence of syphilis has decreased due to earlier diagnosis and more adequate treatment in the initial stages.

As a rule neurosyphilis appears most often in males between the ages of forty and fifty. Occasionally, it develops before the twentieth year, when it is known as juvenile paresis. It generally develops within ten to fifteen years after the primary infection, and most of the cases that develop general paresis give a history of little or no treatment during the early stages of syphilis.

The earliest symptoms are usually related to somatic complaints such as headache, loss of weight, and a tired feeling. There is a noticeable personality change including irritability, sleeplessness, slowness in mental grasp, and poor judgment. Subsequently, a decline in memory, retention, and judgment becomes apparent. The mood is labile, alternating from de-

pression with hypochondriacal or nihilistic delusions to elation with grandiose ideas, or there may be marked irritability. The patient may be subject to periods of amnesia of varying duration—often of several hours. Convulsions are more pronounced in the congenital form of paresis, but they are not uncommon in the adult whose paresis is due to acquired syphilis. A convulsion or transient paralysis of unknown origin in a middle-aged person should lead the physician to examine the patient for syphilis.

The neurologic signs are typical. The pupils may be small and fixed so that they do not react to a bright light but constrict with attempts at near vision (Argyll-Robertson pupils). There are gross tremors of the face, tongue, and hands. Speech is slurred and the patient stumbles over such test words and phrases as "electricity," "liquid linoleum," or "Round the rugged rock the ragged rascal ran." The reflexes, especially the knee jerks, may be hyperactive. Spinal fluid and blood Wassermann tests usually confirm the diagnosis. In almost all untreated cases the spinal fluid shows a positive Wassermann reaction with an increase in the normal protein content (over 40 mgm. per cent) and the presence of many lymphocytic cells. The colloidal gold test (in which varying dilutions of spinal fluid from 1:10 to 1:5120 are added to ten tubes containing a suspension of gold chloride) shows precipitation reactions that are characteristic, i. e., 5555543211. The higher numbers indicate more complete precipitation. The amount of precipitation and the dilution in which it occurs are related to the globulin content of the fluid, but the exact mechanism of precipitation is unknown.

Course and Prognosis

The attitude of hopelessness which led to statements like "paresis leads irrevocably to death" is no longer justified. The prognosis remains serious and unless early and intensive treat-

ment is undertaken, there may be a rapid progression toward paralysis and mental deterioration with death following within three years. With fever and tryparsamide therapy approximately two thirds of the paretics are greatly or moderately improved. The other one third show no improvement, but the downhill course of the disease may be slowed or even halted. The prognosis is poor in the juvenile type of paresis.

If the patient dies, post-mortem examination shows brain atrophy most marked in the frontal lobes, with thickened, adherent membranes. On microscopic examination of tissues subjected to special staining procedures, it is possible to demonstrate the spirochetes within the brain in some cases. There is a decrease in cortical cells with a disorganization of the normal cell arrangement in the brain cortex. Small round cells (plasma cells) infiltrate the meninges and form collars around the blood vessels. The supporting or glial cells are markedly increased in number.

Treatment

The results of treatment were uniformly unsuccessful until the institution of tryparsamide injections and fever therapy. Tryparsamide is given intravenously starting with 1 gm. and increasing to 3 gm. once a week, if well tolerated. There is danger of blindness with tryparsamide when precautions are not taken. Therefore, a doctor should always give the intravenous injection or at least should be present. The patient should be urged to report if his vision becomes fuzzy, or is not as clear as usual, or if he sees occasional flashes of light. Such symptoms, if they occur, are usually observed between the third and tenth injections, rarely later. The area of visual acuity (visual fields) must be checked at intervals and medication is to be stopped immediately if there is any indication of impairment of vision, either subjectively or objectively, or if there is any constriction in the fields of vision. A total of

fifteen to twenty doses is given, usually followed by the intramuscular injection of bismuth salicylate (0.2 gm.) at weekly intervals for eight to twelve doses. This alternation is kept up for two years or longer if the spinal fluid continues to be markedly positive. In cases where the spinal fluid Wassermann becomes negative, treatment is discontinued at the end of the two-year period.

B.D. was arrested for passing worthless checks. While in confinement he complained persistently of severe headache and dizzy spells and so was referred to a neuropsychiatrist.

B.D. was forty-two years old, had been married for ten years but had no children. There was no history of nervous or mental disease in the family although his parents had died of unknown causes. The patient disclosed that he had a penile chancre fourteen years before and received very little treatment because he was annoyed by the injections and did not think it important enough to return each week for treatment.

The story elicited from the wife was that four years before he had begun to act strangely. He wet the bed occasionally, was irritable, and hit his wife on the head causing a laceration of the scalp. He refused to follow his usual occupation of bricklayer and accepted a job as janitor. His wife tolerated his behavior because she was afraid of him—he threatened to beat her if she complained. Half a year before his arrest he started the habit of awakening his wife during the night to talk about trivial matters. He said he did not like her clothes and told her to go out and buy herself expensive ones. He told her the house they cared for belonged to him and that he was the richest man in the country. On other occasions he remarked that he had money in a trunk buried in the earth and that he had gold and diamond mines. Although he had known for many years that his mother-in-law was dead, he suggested that his wife go home to visit her. At times, for no apparent reason, he tore all the buttons off his clothes.

On further examination the patient said that he had millions of dollars, that he would buy the doctor Lincoln and Cadillac cars, that he was a doctor, lawyer, and minister. He remarked nonchalantly that he was a Harvard graduate and had ten degrees.

His memory was defective and he thought the hospital was an exclusive hotel. Judgment was especially poor. General information was meager. His speech was thick and slurred and he was unable to enumerate the test phrases.

The neurologic findings included Argyll-Robertson pupils, gross tremors of the hands and face, and hyperactive patellar (knee) reflexes. The Wassermann tests of the blood and spinal fluid were 4+ each. The spinal fluid showed 35 cells (lymphocytes) per cubic mm., an increased protein content and a colloidal gold reaction of the parietic type—555443210.

The court recognized that the passing of worthless checks for which B.D. was arrested was a part of his grandiose delusions and related to the disease. He was declared mentally ill and sent to a state hospital for malaria and tryparsamide therapy.

In the use of fever therapy, there are a number of ways by which fever may be induced: malaria, typhoid vaccines, artificially. With the malaria method, the patient is inoculated intravenously with 2 to 5 c.c. of blood infected with the tertian type of malaria organism, and after an incubation period of one to two weeks paroxysms of chill and fever appear. The patient is given twelve or more chills so that he will experience a temperature of more than 104° F. for at least fifty hours. The malaria is then cured with quinine (0.3 to 0.6 gm.) given three times a day for two weeks or longer. The blood of the patient is examined to confirm the disappearance of the malaria plasmodia, and if they have not disappeared, he is given more quinine.

When it is desired to produce fever by the intravenous injection of vaccine, the typhoid-paratyphoid type is the one

commonly employed. This causes a chill within one half to two hours after the injection, the temperature rising to 40° or 41° C. (104° to 105.8° F.) lasting about an hour. The severity of the chill and the rise of temperature will depend on the amount of vaccine injected. The initial dose is small: fifty million organisms. Each succeeding dose is doubled for about five injections and then it is increased by four hundred million organisms per dose, depending on the patient's temperature. Paroxysms (chills) are given every day or every second day for a total of twelve to twenty-four treatments. Typhoid fever is not as beneficial in the treatment of general paresis as is the fever caused by malaria.

On the basis of experimental work which demonstrated the destructive effects of relatively low temperatures (42° C.— 107.6° F.) on the *treponema pallida*, other fever-producing methods have been developed for treating neurosyphilis. Electrically induced fever especially has become popular because of the belief that it allows more accurate temperature control. While this may be so, deaths from exhaustion and burns have occurred.

In the diathermy method (Burdick Fever Cabinet) large, pliable, metal electrodes are applied to the patient, back and front, and held in place by a canvas jacket. The patient is then placed in an air-conditioned cabinet and covered by blankets. The temperature is recorded by a rectal thermocouple; the extent of the fever is controlled by varying the current (usually between 3,000 and 4,000 milliamperes and 35 to 100 volts with a frequency of 500 to 1,500 kilocycles).

The body temperature may also be elevated by short radio waves with equipment similar to that of a radio transmitter. Instead of the energy waves being sent out through an aerial they are concentrated between two condenser plates where the patient lies covered by blankets.

One of the simplest fever cabinets is the Kettering hyper-

therm. The cabinet is heated by a small electric element with simple controls for humidity and air temperature.

In all these methods the patient's temperature must never be allowed to go above 42.5°C . (108.5°F .) because of the danger of irreversible brain damage. Ordinarily, a maximum temperature of 41.5°C . (106.7°F .) should suffice. Treatment is usually given at weekly intervals for periods of approximately five hours each at an average temperature of 41°C . A total of five to twelve treatments may be administered. The duration, number, and intensity of the treatments vary with different physicians. Most doctors still prefer malaria treatment.

Fever therapy is an exhausting physical strain. Patients with serious heart disease, tuberculosis, or marked impairment of kidney function are ordinarily not subjected to this form of treatment. About half of the patients who undergo fever therapy (especially the early cases) show enough improvement to be able to work again under supervision. A serious defect of judgment may persist so that measures to protect the patient's financial resources and personal reputation must be continued.

The management of the advanced case of paresis involves the prevention of bed sores, supervision of eating habits and eliminative functions, and the avoidance of contractures in paralyzed extremities by the use of physiotherapy.

KORSAKOFF'S PSYCHOSIS

Korsakoff's psychosis is an organic brain condition that may develop with chronic alcoholism, pellagra, typhoid fever, the vomiting of pregnancy, and lead poisoning. It results most often from chronic alcoholism.

The psychosis consists of retention difficulty, confabulation, and disorientation for time, and it is frequently accompanied by polyneuritis. The patient seems to be able to appreciate his immediate surroundings but fails to grasp situations re-

quiring memory. The mood varies from one of seeming indifference with euphoria to irritability and suspiciousness. Visual and auditory hallucinations occur in advanced cases.

Korsakoff's psychosis may be ushered in by a typical delirium tremens. Physically, the outstanding signs are those of polyneuritis with decreased tendon reflexes; weakness, numbness, and tingling in the extremities; spontaneous pain in the calves of the legs or pain on slight pressure, and eventual atrophy of the leg muscles with foot drop and difficulty in walking. Pathologic examination of patients who have died has revealed degenerative changes in the peripheral nerves and an accumulation of fat in the nerve cells of the cortex of the brain.

It is believed that this syndrome is due not so much to the direct toxic effect of the alcohol or the other conditions enumerated above as it is to an associated vitamin deficiency, especially of the vitamin B complex.

R.H. is a forty-eight-year-old attorney who had drunk alcohol in excessive quantities for more than ten years. On one occasion, four years before his present hospital admission, he was hospitalized for delirium tremens. When marital (he is now divorced) and financial problems became acute, he averaged a quart of whiskey daily. Six months prior to this admission, he noticed a decreasing tolerance to alcohol, difficulty in concentration, and unsteadiness in walking. His appetite was poor and he indulged in drinking early in the morning to "settle" his stomach. When admitted, he complained of weakness in the arms and legs, numbness, and tingling. He also suffered from "viselike aching pains" in both calves. Psychiatric examination disclosed that he was correctly oriented as to the name of the hospital, but he gave an involved and untrue story of what he had been doing the previous week. He heard voices making derogatory remarks about him, could not recall more than four digits in a series, and was unable to recall the details of a short story that was told him. He filled in the gaps with fabrications.

The neurologic examination showed generalized atro-

phy of the muscles of both lower extremities and a pathologic plantar reflex response (Babinski reaction) on the right side.

R.H. was put on a high-caloric, high-vitamin diet containing large doses of thiamin chloride (vitamin B₁) and nicotinic acid. He was also given liver extract by injection. The pains in his legs diminished until he was able to walk without difficulty. His confabulation and retention defects have not improved.

Course and Prognosis

Persons suffering from Korsakoff's psychosis have a poor prognosis unless treatment is started early. The course is a prolonged one, but with large doses of vitamin B₁ (30 to 50 mgm. daily) and nicotinic acid (100 mgm. daily) improvement may be apparent within a few weeks. The physical symptoms, like neuritis, disappear earlier than the mental difficulties do. In fact, the memory loss usually persists with a residual loss in emotional control. Many patients suffering from the psychosis that results from chronic alcoholism require permanent hospitalization because of their intellectual deficiencies. Needless to say, no alcoholic beverages should be allowed.

ENCEPHALITIS AND SEQUELAE

Encephalitis is an inflammation of the brain caused by a filterable virus. During the first World War there was an epidemic of influenza, in the wake of which came an epidemic of encephalitis. The disease caused fever and an increasing sleepiness, thus giving it the name lethargic encephalitis. Paralysis of the eye muscles is a striking feature of many cases. The acute, widespread inflammation of the brain causes more or less permanent damage in about two thirds of the cases and leads to various sequelae of a physical and mental nature. The most common sequel is Parkinsonism in which the patient is bent forward and walks with a shuffling gait, appearing at times as though he

were going to fall forward. The face is masklike and greasy. Salivation is excessive and there are coarse tremors and rigidity of the extremities. These patients readily become depressed.

Postencephalitic sequelae in young individuals appear more often in the form of behavior disorders. There is a complete personality change. Children who were formerly quiet and obedient become aggressive, cruel, dishonest, destructive, and often resort to stealing and other forms of delinquent behavior. Although intellectual functioning may suffer only moderately, these children readily become intractable behavior problems. There is a constant push of motor activity which is poorly directed and there is marked emotional lability. These cases are easily recognized as being related to encephalitis when there is a history of the acute attack. When this is not available diagnosis is very difficult except in cases that present the tremors or facies of Parkinsonism.

Course and Prognosis

The immediate mortality rate during the acute stage of encephalitis is between 20 and 40 per cent. Even though the patient survives, the outlook is not promising. Parkinsonism and depressive reactions in adults and behavior disorders in children are observed as sequelae in the majority of patients.

With Parkinsonism many individuals show increasing rigidity of the muscles, fatigability, loss of interest, and slight memory impairment. The realization of the disabling and chronic nature of his disease often causes a mental depression. Some of the children with behavior disorders may develop neurologic signs of Parkinsonism and go on to mental deterioration. Early institutionalization with special training in children under twelve years of age may lead to some improvement. However, in most of the children the emotional instability tends to persist so that supervision is necessary.

Treatment

The management of postencephalitic conditions is especially difficult. Emotional factors have a tendency to increase the tremors and muscle rigidity. Thus, suggestion and constant reassurance are necessary if a complete invalidlike reaction is to be averted. Heat, massage, and mild sedation are helpful. Scopolamine hydrobromide (0.0004 to 0.0008 gm. two to four times a day) or stramonium (0.2 to 0.5 gm. two to three times a day) may be prescribed. A routine program including recreation, physical exercise, and a satisfying occupation is an essential part of treatment by helping the patient to maintain a constructive attitude toward his illness.

Postencephalitic children who present serious behavior problems in association with restlessness, lack of inhibition, and impulsiveness require a long-term re-educational plan. Patient and repeated correction of asocial behavior patterns is indicated; firm but sympathetic management is necessary. This may be carried out in a suitable foster home under the guidance of a psychiatrist, or, preferably, in special hospital schools.

POST-TRAUMATIC STATES

Severe injury to the head may result in a skull fracture, brain hemorrhage, or concussion with unconsciousness. Edema and many small hemorrhages diffused throughout the brain are common. Following the accident, there are usually neurologic signs that will indicate the brain area that has been damaged. In some cases, trauma to the head results in a delirious picture, followed by amnesia for the events leading up to, and even including, the injury. Not uncommonly, various personality changes follow such an experience. These may include a general intellectual defect, vasomotor instability, sensitivity to stimuli, a persistent headache, and emotional instability. Many of the

patients develop neurotic traits and some even become paranoid. Aphasic disorders and epileptic convulsions may be sequelae of head injury. Generally speaking, there is an accentuation of latent personality tendencies. Occasionally, head trauma will stir up a latent organic process such as syphilis or cerebral arteriosclerosis. Epilepsy, too, may follow trauma to the brain.

Treatment

Where a localized brain injury is present in addition to the more diffuse traumatic changes, the treatment is primarily surgical. Blood clots may have to be removed, depressed fractures elevated, and so on. Further treatment is directed toward individual symptoms and efforts at a personality readjustment, in addition to symptomatologic treatment such as phenobarbital for convulsions, or aspirin for headaches. The psychotherapeutic approach should not be neglected. The persistence of certain symptoms may exist on the basis of tension, anxiety, or a desire for compensation. Thus, reassurance and suggestion as well as a settlement of just claims may favorably influence the course of the posttraumatic state. A program involving physiotherapy, physical exercise, and a gradual return to duties will be helpful.

CEREBRAL ARTERIOSCLEROSIS

The clinical picture of cerebral arteriosclerosis is similar to that of the senile psychoses with intellectual and memory defects and poor judgment. In addition there may be complaints of headache, dizziness, tinnitus, and focal neurologic signs referable to involvement of specific brain areas. Hemiplegias, apraxias, and aphasias of all types may occur as well as fainting and convulsive seizures. There are arteriosclerotic changes in the large blood vessels at the base of the brain, often accompanied by hardening of the smaller arteries of the brain cortex.

Hemorrhage from these sclerotic arteries may occur and give more permanent focal paralyses.

In psychoses associated with cerebral arteriosclerosis there is a caricature of the personality with an accentuation of previous traits. Thus, neurotic tendencies that were present previously, such as hypochondriacal attitudes, obsessive-compulsive behavior, stuttering, tics, and so on, may reappear.

Outstanding manifestations of psychosis associated with cerebral arteriosclerosis are a blunting of ethical sentiments, loss of control of the emotions, confusion, difficulty in concentration and in keeping a goal in mind, aphasia, apraxia, fatigability, suspiciousness, loss of initiative, and ideas of a paranoid character. In certain cases there are ideas of infidelity, anxious states, outbursts of temper, and even a tendency toward combativeness. In other cases we find depression with ideas of suicide, perseveration, obstinacy, and memory defects which vary from one time to another. Orientation may be poor one day and fair another. Speech may become indistinct, and the patient may become dirty and even filthy.

Course and Prognosis

Progressive deterioration is the rule and the patient becomes bedridden and may die of bronchopneumonia. In some cases, a convulsion, a cerebral vascular accident, or a fall causing severe injuries may be the terminal incident. Occasionally, the doctor is agreeably surprised to see the patient make a fair recovery with the simple institution of general health measures. However, the recovery is usually of a transitory nature.

M.C., a fifty-six-year-old housewife previously well adjusted, became suddenly excited and confused. For the past three years she had had to curtail her activities because of arteriosclerotic heart disease and it was noticed that she often forgot things while shopping. One after-

noon her speech became unintelligible and she started to cry and yell. There were no paralyses, but the lower right side of her face twitched. While being examined she repeated that she could not seem to get the right words. She had difficulty in naming simple objects and her answers to questions were often irrelevant, but she knew that this was so. In talking she showed perseveration, repeating the same phrase again and again. Neurologic examination was negative except for the speech difficulty.

Over a period of eight weeks the patient slowly improved, although she continued to have difficulty in expressing herself. When reviewing her history at this time, it was apparent that she had been a much less efficient housekeeper in the previous year and had forgotten many important engagements. The acute episode was thought to have been due to a thrombus (clot) involving the speech area (Broca's area) in the left frontal lobe of the brain.

Treatment

The general care of the patient with cerebral arteriosclerosis is essentially that previously outlined under the senile psychoses. Avoidance of fatigue, ample rest, nourishing food and additional vitamins often lead to improvement. Analgesics such as aspirin (0.6 gm.) or codeine (0.06 gm.) every four hours if necessary will relieve the severe headache. If convulsions occur they may be controlled by phenobarbital in small doses (0.015 to 0.030 gm. three times a day). Increased sexual desire may occur making it necessary to protect the patient against his own impulses which usually are directed toward younger people.

BRAIN TUMORS

The behavior changes and neurologic signs that result from a brain tumor depend upon the location, size, and type of tumor and upon the individual's personality. Mental symptoms are present in at least half the cases. In the early stages there

may be restlessness, irritability, and vague aches and pains in the head. As the intracranial pressure increases, the headache becomes greater in severity leading to excitement, or the patient may lapse into a stupor.

Among the most common symptoms are headache, nausea, vomiting, dizziness, convulsive seizures, and papilledema. Other symptoms noted are somnolence, attacks of fainting, localized weakness or paralyses, memory disturbances with retention defect and disorientation, perseveration, incontinence of urine and soiling, speech disturbances, and visual defects. The patient may keep his head in peculiar positions, or he may rub it frequently. Localization on the basis of mental symptoms alone is very difficult.

The patient's mood is usually one of seriousness, apprehension, and depression. Euphoria is uncommon except in the case of frontal lobe tumor. Inherent personality tendencies may become manifest with hypochondriacal or hysterical tendencies coming to the fore. As the tumor grows the patient becomes more and more anxious and may become delirious.

Many symptoms are directly determined by the location of the tumor.

Frontal Lobe: Tumors of the frontal lobe of the brain may result in emotional lability often accompanied by mild euphoria and crude joking. There is a loss of the previously existing social and moral standards. Synthesizing powers are decreased so that complex concepts cannot be built up from simpler ones. The ability to think abstractly is deficient, but the person is able to deal with more concrete problems. With the involvement of the motor area, paralysis dependent on the specific part damaged will be observed. A motor or expressive type of aphasia (loss of ability to express oneself in language) is a symptom of injury to Broca's area in the frontal lobe—usually on the left side in right-handed persons.

Parietal Lobe: A tumor of the parietal lobe causes astereognosis, which is the inability to recognize the shape and nature of familiar objects. Alexia, or word blindness, in which there is a loss of power to understand written or printed language, is related to parietal-lobe damage although usually the lesion involves the contiguous temporal lobe of the brain. Difficulty in performing complicated or skilled movements (apraxia) may also be a symptom.

Temporal Lobe: A tumor of the temporal lobe usually gives rise to unpleasant hallucinations of smell and taste. Visual and auditory hallucinations are frequent; epileptiform attacks occur.

Occipital: A tumor of the occipital region results in visual defects and hallucinations and may lead to blindness.

Cerebellar: Cerebellar tumors cause an unsteady gait and staggering (ataxia) with a tendency to fall toward the side of the lesion. Many of the symptoms (headache, vomiting, and dizziness) are due to increased intracranial pressure because this type of tumor readily produces a block in the cerebrospinal fluid circulation.

Course and Prognosis

Rapidly developing tumors bring about striking psychiatric manifestations of the nature of delirium with rapid deterioration and dementia. They usually result in death within a few months. On the other hand, slowly developing tumors lead to a gradual deterioration and may run a course of several years.

The prognosis in all cases is grave. Early operation and removal of the tumor may save the patient's life, but even then the tumor may recur. The picture is complicated by the fact that many tumors are inaccessible to surgery. These and the

malignant types are impossible of prognosis unless they are radiosensitive and thus permitting their growth to be influenced by X-ray therapy.

Treatment

Treatment is essentially neurosurgical. Following operation a program of re-education designed to overcome any specific defects incidental to the surgical procedure is necessary.

Occupational training based upon the patient's interests and limitations will lead to a more satisfactory adjustment to life.

THE EPILEPSIES

The term epilepsy simply means a fit or seizure and originally included all those individuals who were subject to convulsions. Today we recognize many closely allied conditions which are best considered as a group and referred to as the epilepsies.

The nature of epilepsy is still unclear. Essentially it may be defined as a nervous disorder characterized by a recurrent alteration in the stream of consciousness with evidence of abnormal electrical brain activity. It may be associated with convulsions but this need not be so. Indicative of our lack of knowledge concerning these disorders is the classification of the epilepsies into *essential (idiopathic) epilepsy*, where there is no known cause for the fits, and *symptomatic epilepsy*, in which the seizures represent a symptom of an underlying disease process. Anything that produces an irritative process may bring on a convulsion. In order to be considered significant, the frequency of fits in the particular disease must be definitely greater than that in the general population (average 0.5 per cent).

GRAND MAL

A grand mal attack is frequently ushered in by an aura, which is a premonitory sensation indicating the imminence of

the seizure. Patients describe it as a feeling of dizziness and numbness, or they complain of fears, peculiar smells or tastes, or flashes of light. Sometimes a sensation of heat or cold is experienced, or there may be shooting pains in an arm or leg. In other cases, the individual may suddenly start to run. Auras occur in about 50 per cent of the cases of grand mal. As a rule, the aura lasts only a few minutes.

The actual convulsion follows upon the aura, or the convulsion may come on without an aura, that is, without warning. The patient becomes unconscious and there is a tonic spasm of the voluntary muscles of the body which causes the individual to drop to the ground. In falling, he may sustain severe injuries to the head or other parts of the body. The convulsion may be preceded by a cry or a moan. The contractions are at first tonic and later become clonic, or tetanylike. The tonic stage lasts for about thirty seconds, during which time the body is stretched out stiff, or it may be arched (hyperextended). The jaws are clenched and the tongue may be bitten with resulting injury and bleeding. The eyes are either open or shut. If open, the pupils may be invisible due to the rolling back of the eyeballs. If the pupils are visible, they are usually dilated with a loss of reaction to light. Cyanosis (blueness) of the face occurs due to a temporary cessation of respiration. A sudden, deep inspiration restores the normal color.

With the beginning of the clonic stage, which lasts from one to five minutes, there is repeated jerking of the body. The patient's limbs and head are rapidly flexed and extended. Blood-tinged saliva froths about the mouth if the tongue is bitten. Breathing becomes noisy and may even be stertorous. The afflicted person may wet or soil his clothes. Stimuli such as pinching or pinpricks have little effect during this clonic stage. The corneal reflex is absent and the pulse is rapid. With the cessation of convulsive movements an abnormal plantar reflex (Babinski reaction, in which a stroking of the sole of the foot

causes an upward extension of the big toe and a fanning of the other toes) may be elicited. The return to consciousness may be rapid and complete, or it may be gradual. The person may sleep deeply for hours. On waking he usually complains of sore muscles and fatigue, or he may have an amnesia for the entire episode.

A period of clouded consciousness may follow a grand mal attack and last for several hours or even days. A knowledge of the behavior during the seizure, including movements of the head, eyes, and extremities, may aid in localizing the part of the brain involved.

In status epilepticus one epileptic seizure follows closely upon another with practically no free interval. The individual remains unconscious, his pulse rate is rapid and thready, his temperature may rise to an unusual degree (106° F.), and the heart action may become weaker even to the point of cardiac collapse or respiratory failure, resulting in death.

PETIT MAL

With petit mal there are no convulsive seizures and loss of consciousness is of short duration, usually lasting less than a minute. The patient may continue what he was doing but without an awareness of his action. During the attack, pallor, weak pulse, and dilatation of the pupils, which react sluggishly to light, may be noted. The patient may stare, yawn, blink his eyes, or laugh for no apparent reason. He may mumble words without meaning and not understand what is being said to him. Petit mal may coexist with, or precede for years, or entirely replace grand mal attacks.

EPILEPTIC EQUIVALENT

Instead of a convulsive seizure the patient may go into what is known as an epileptic equivalent state. Such states usually last a few minutes but may continue for hours or even days.

During this period the patient may show symptoms resembling a twilight or dreamy state, pursuing his accustomed duties in an automatic fashion. At other times he may get into a fight, indulge in exhibitionism, or even commit a crime. He may pass friends on the street and be entirely unresponsive. In epilepsy procursiva the patient may whirl about, run in a circle, walk or run back and forth, and then suddenly stop and ask what happened. Amnesia for the period of the equivalent state and the acts committed during it is either complete or else the patient has only a fragmentary recollection of whatever occurred. Amnesia for the period of equivalence is of tremendous importance in legal medicine.

It is not uncommon for the person in an epileptic equivalent state to continue whatever act he was carrying out when the seizure overtook him. For example, if he was using a knife, cutting some object, he may continue the cutting operation and cut some person.

Epilepsy per se is not a psychosis, but the defense of epilepsy is often raised in criminal cases by counsel who would like to give it the importance of a psychosis.

ETIOLOGY

The term idiopathic (essential) epilepsy is a cloak for our ignorance concerning the actual causes of certain characteristic periodic attacks. Yet when one considers that in essence epilepsy is a symptom and not a disease, this is not surprising. The epileptic fit is merely the bodily expression of explosive electric discharges from the neurons of the central nervous system.

Heredity plays an important, but not an exclusive, role in the etiology of epilepsy. Comparative statistics on the incidence of epilepsy among close relatives of normal individuals and epileptics show an incidence of 2.6 per 1,000 for the control group whereas those with fits have 21 per 1,000 near relatives subject to epileptic attacks. The persons with epilepsy follow-

ing head trauma average 14 per 10,000 epileptic relatives.

More significant information concerning heredity is obtained from a study of brain-wave patterns. Cerebral dysrhythmias (abnormal brain waves seen in electroencephalograms) have been observed in 60 per cent of the patients, brothers, sisters, and children of epileptic patients, of whom only about 4 per cent are subject to clinically observable fits. This is to be contrasted with an incidence of approximately 10 per cent of abnormal rhythms in the so-called normal population.

A study of numerous pathologic states in which symptomatic seizures recur has yielded enlightening information regarding contributory factors. Inherited or congenital defects in the brain, tumors, trauma with brain injury, and inflammation of the brain can predispose an individual to epilepsy, and edema of the brain tissue ("wet brain") due to alcoholism, trauma, or uremia, will precipitate major convulsive seizures. In some patients with edema of the brain, restriction of the water intake seems to be beneficial.

Dr. Stanley Cobb has classified symptomatic fits as occurring where there are:

- a) Congenital defects of the brain tissue
- b) Trauma, including intracranial hemorrhages
- c) Infections such as meningitis, encephalitis, cerebral abscess
- d) Degenerative changes in the brain: senile degeneration, cerebral arteriosclerosis
- e) Various medical conditions such as uremia, hypoglycemia, and pernicious anemia
- f) Intoxications and effects of drugs, such as alcoholic intoxication, carbon monoxide poisoning, large doses of cocaine, strychnine, nicotine, or rapid withdrawal of the barbiturates.

Any condition causing anoxemia (lack of oxygen) of the brain will almost always produce convulsions whether that

condition be a temporary stoppage of heart action (for seventeen seconds or more), poisoning from an automobile exhaust (carbon monoxide), or strangulation. Hyperventilation (breathing deeply for five minutes) also may precipitate seizures in epileptic persons. This is explained by a disturbance in the acid-base equilibrium of the blood and tissues toward an alkalosis which presumably causes the fit.

Severe emotional reactions like fright with its resultant constriction of the blood vessels (pallor of the face) may cause a brief, sudden reduction in the brain's oxygen supply. Dr. Cobb has described a boy who had epileptic attacks with classical neurologic signs of changes in the brain when he was frightened by a dog's bark. Unusual physical stress, menstruation, and overindulgence in alcohol are other factors commonly increasing the frequency of attacks.

An epileptic temperament, sometimes termed the epileptic personality, is characteristic of the greater number of those persons who suffer from idiopathic epilepsy. Some clinicians believe that this type of personality is the result of repeated convulsive seizures. It is characterized by irritability, stubbornness, emotional instability, impulsiveness, asocial tendencies, moroseness, cruelty, maliciousness, and egotism. There may be a slowing of the thought processes and an exhibition of insincere religious fervor. Hypochondriacal manifestations are common. The person with an epileptic temperament is upset by trifles and resents authority and criticism.

Individuals who have suffered from epilepsy for many years may undergo mental deterioration. The factors influencing deterioration are the personality pattern, the age at the onset, and the frequency of the attacks. Mental deterioration is less frequent among those who develop the manifestations of epilepsy at about the twentieth year of life than it is among those who are afflicted at a much earlier age. If the attacks are few, that

is, if there are long remissions, there may be no mental impairment. When mental impairment does occur, however, there is a slowing of the thought process, disturbance of orientation, faulty comprehension, and defective memory. The speech may be disturbed. Some individuals manifest a tendency toward criminal behavior; they are impulsive, threatening, and indulge in pathologic lying. The condition may terminate in dementia. Deterioration is especially apt to occur in patients who have their seizures during sleep, a condition known as nocturnal epilepsy.

The encephalogram is of great aid in the diagnosis of epilepsy because of the characteristic abnormal brain-wave patterns frequently disclosed.

TREATMENT

In the treatment of patients with epileptic disorders a complete history and medical and neurologic work-up are indicated to discover its possible association with other disease processes. X-rays of the skull, blood sugar studies, an electroencephalogram, spinal fluid examination (if not contraindicated by evidences of increased intracranial pressure), air encephalogram, and determination of blood metabolites (as urea for evidence of uremia) are some of the usual procedures performed in an effort to determine etiologic factors. In children, convulsions may occur during the first few years of life and then entirely disappear. Other cases may go on to a lifelong pattern of repeated attacks resulting in mental deterioration.

Specific medication may decrease the frequency and severity of the attacks. Bromides (0.5 to 1.0 gm. three times a day), phenobarbital (0.03 to 0.06 gm. three times a day), and dilantin, which is phenytoin sodium (0.1 gm. one to three times a day) are effective drugs. In some individuals, especially children, restriction of fluids and a ketogenic diet (an acidosis-

producing diet consisting of a minimal carbohydrate content) help to decrease the number of convulsive seizures.

In the management of the individual attack the main objective is to avoid trauma. If the clonic convulsive movements have started, there is little anyone can do and the best policy is to let the patient alone except for placing a pad under his head to prevent skull-injury. If the individual can foretell the attack because of the aura, he should be placed on a bed or floor with a rolled handkerchief or some other object between his teeth to guard against biting his tongue or cheek. After the fit, he should be encouraged to rest and sleep. If he is confused or disoriented after the attack, he should be carefully watched to forestall injury to himself and others.

The general management of epileptics requires the abstinence from alcohol, avoidance of excessive stimulation, regulation of sleeping, eating, and eliminative functions, and the planning of life so that there is protection from danger. Individuals with epilepsy should not drive automobiles, swim alone, or work in a factory where the type of machinery is a distinct hazard. Raising a family is not advisable, although marriage may be undertaken if the intended partner is informed of the possible difficulties and problems and is willing to undertake the responsibility.

In the treatment of the epileptic child, a calm, stable, and secure home environment with the avoidance of an oversolicitous attitude is essential. This gives the child a sense of responsibility and encourages an adequate social adjustment. If the seizures are infrequent, and the child's intellectual capacity is good, and if teachers understand the problem and how to manage an attack, he may attend public school. If not, a special school or a visiting teacher may be required. Occupational training should take account of the patient's intelligence and freedom from danger. A simple, supervised type of work on a farm is advised for the less able patient. If there is advanced

mental deterioration with an associated impulsive menacing tendency and frequent outbursts of anger, permanent hospitalization may be necessary.

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General Principles of Psychiatric Therapy

THE previous chapters have discussed specific therapeutic suggestions in relation to each group of reaction types or diseases. This alone is insufficient where therapy aims most efficiently to restore and maintain the good health of the individual. The interplay of forces between the patient and his environment, including the various persons who enter into the treatment, is of the utmost significance. In this chapter the personal interrelationships that occur in the therapeutic situation and certain aspects of supportive and protective care will be discussed.

Whoever takes care of the psychiatric patient plays a definite role as a model for the patient and should behave accordingly. The psychiatric aide and the nurse should try to work on their own personality traits so that their attitudes will be of most benefit to the patient. A conscious awareness and control of emotional reactions build strength of character, and when the nurse and the aide understand their own usual reactions and natural attitudes they can foster and display the right attitudes in different situations. Emotional composure as well as flexibility toward undeserved criticism and abuse are necessary at all times.

Those who care for psychiatric patients should also inspire confidence by showing an understanding of the patient's illness. Some patients may calmly accept the simple skin blemish as an incidental occurrence; others may without justification take it for an indication of syphilis and worry about it. It is

wise for the nurse to acquire some idea of what the patient thinks or fears about his symptoms so that she will have a basis for reassurance when talking to him.

There is a wide variation in the way individuals react to difficult situations. This is true not only for the patient with mental disease, but for any patient suffering from structural damage to the body. Irritability is a reaction which not infrequently is misunderstood by those caring for a patient. Without realizing that it may be his particular way of protesting against the fate that has incapacitated him, the nurse may be led into arguments with him. This brings about additional complaints and an increase in irritability. Listening to the patient in a sympathetic, composed manner, though catering to his needs only in so far as is medically wise, is usually the best way of managing such problems. With the patient who is depressed or anxious, encouragement and reassurance both by facts and attitude will go far in developing a feeling of optimism for the future. However, where the patient is already excessively happy or elated and overactive, avoidance of undue stimulation is required. An honest and sincere attitude will help in allaying the suspicions of the patient who tends to read meanings into situations.

A willingness to listen without adopting a critical or superior attitude helps in gaining rapport. Confidence in one's self and a friendly, trustful attitude prompt similar responses on the part of the ill person. With potentially homicidal patients, anticipating likely behavior patterns enables the nurse to be in readiness for adequate management.

The nurse or physician's aide should pass on all information to the physician even though the patient may have given his information in confidence. An intimate relationship with the patient is to be discouraged, but friendliness and mutual trust are desirable goals. Discussion of the illness, symptoms, and their significance is to be avoided; the patient should be referred

to the physician, for it is he who integrates the total treatment plan. Careful attention should be paid to questions, for these often provide valuable leads for the physician in determining his future course.

If given simple and concise explanations the patient will often co-operate better in treatment procedures ordered by the physician. The use of force or coercion is to be avoided since it tends to produce resentments that interfere with improvement and the desirability of a harmonious relationship with the patient. Gentle urging and encouragement to co-operate will save time in the long run.

The patient's needs are also to be considered when working out a regime for the twenty-four-hour day. A routine should take into account physical requirements, with proper allowances for day to day variation, work of a constructive nature, recreation in the form of games and intellectual activities, and the necessity for adequate rest and sleep.

The psychiatric nurse should have outside social and cultural interests in order to maintain her objectivity with the patient and avoid becoming emotionally involved. Varied pursuits will enable her to bring into play a refreshingly healthful attitude and a personality that has a broad range of interests.

The physician has definite duties in regard to giving his assistant a formulation concerning the patient and his illness which the assistant can understand and make use of in management. The physician should point out the patient's abilities, talents, and personality assets so that these may be utilized in the daily routine in a way that will give satisfaction to the patient. Certain traits such as undue suspiciousness may be a liability. Minimizing personality liabilities can be carried out when the physician's aide has a knowledge of them. Topics about which the patient is known to be sensitive should be avoided or the assistant should be told how to manage them when they do come up for consideration. The doctor can stimu-

late the aide's interest by discussing the progress the patient is making and so avert boredom or monotony.

The nurse or psychiatric aide for her part must realize that even though psychiatric treatment appears simple, it has many pitfalls. Suggestions to the physician are important and oftentimes are most helpful since the doctor is only with the patient for a short time. This fact further indicates the necessity for careful observation so that the individual's behavior and special incidents may be described to the physician. Careful notes replete with verbatim facts are most helpful to the doctor in his treatment of the patient.

SUPPORTIVE CARE

Proper care depends upon an understanding of the patient's personality reactions and the characteristic symptoms of the particular illness. There are a number of problems in supportive care that arise with all patients whether they are at home or in a hospital.

PERSONAL HYGIENE

Personal hygiene represents a problem with most patients. Individuals who were formerly quite careful about such matters may show a tendency to pay less attention to their clothing and personal appearance. Some are indifferent because of loss of contact with reality; others because they are too retarded to attend to their own needs or because they are too preoccupied with other matters. In some individuals, there may be an overemphasis on the need for cleanliness, as in the case of patients who have fears of dirt or handwashing compulsions. Daily bathing, attention to the care of the mouth, hair, and nails, upkeep of personal appearance, and proper care of clothing are problems that require attention in the majority of patients. The particular approach will depend upon the cause for neglect of hygiene. During menstruation and in postpartum cases

special hygienic precautions are necessary, for the patient may not recognize the need for them.

FOOD INTAKE

Food should be presented in pleasant surroundings and in an appetizing way at definite times with sufficient variation to avoid monotony. Eating together in small groups is to be encouraged because of the helpful effect on one another through stimulation to eat. Patients with poor eating habits should be separated from the group and served a tray so that they may receive special attention and encouragement. Personality disorders may find expression in eating habits which interfere with proper nutrition. In such cases extra vitamins and calories may be given in supplementary nourishment between meals. If the patient refuses to eat adequately for sufficiently long periods resulting in a marked loss of weight, dehydration, and acidosis, spoon feeding by the nurse, or as a last resort tube feeding, must be undertaken.

When food is consistently refused, an effort must be made to find out the reasons. A knowledge of the patient's distorted religious ideas, delusions, or previous eating habits enables the aide or nurse to attack the problem intelligently and with some chance of success.

Nasal or Oral Gavage

Nasal or oral gavage, generally known as tube feeding, is used with patients who refuse adequate nourishment. A patient may feel he is too unworthy to eat, or he may think the food is poisoned, or that he no longer has a stomach and cannot eat. The reasons for the refusal of food are many and tube feeding aims at supplying a patient with an adequate diet in terms of calories, vitamins, minerals, and fluid content.

A gavage is given only after the patient has been urged to eat, that is, only after suggestion, persuasion, and attempts at

spoon feeding have failed. The patient should never be threatened with a tube feeding as a punishment. The necessity for adequate food intake for medical reasons must always be explained. If the patient voluntarily eats a minimum of food so that it is doubtful whether gavage is necessary, certain signs will provide the answer: the appearance of acetone in the urine or its detection in the patient's breath, marked weight loss, and dehydration. In such cases, tube feeding is essential.

The tube may be passed orally or nasally. The nasal route is used with the patient who refuses to open his mouth and is preferred by most physicians. When the oral passage is used, it is wise to insert a wedge between the molar teeth so that the tube cannot be bitten. With the co-operative patient, the feeding may be given in the sitting position. Generally, however, it is necessary to use a dry pack and administer the feeding with the patient lying in bed.

Equipment: The equipment necessary for tube feeding is the following:

Stomach tube with a funnel-type end in a large enamel basin surrounded by ice cubes. The nasal tube should be #22 French; oral tube #28 French. The tube should be marked at twenty-four inches from the tip.

Three glass pitchers to contain the feeding mixture and water.

Lubricating jelly or mineral oil.

Large rubber square folded in a sheet.

Mouth gags (metal protected with rubber tip).

Tablespoon to stir the feeding mixture.

Small enamel basin one quarter filled with tap water. This is used to test if the tube is in the trachea.

Two face towels, treatment towels, and an emesis basin.

All of the above placed on a large enamel tray and covered with a towel.

Preparation: If necessary, the patient is placed in a dry pack (see Chapter Sixteen). The feeding formula is prepared, placed

in the pitchers, and brought to body temperature by standing in a pan of hot water. The stomach tube is cooled by surrounding it with ice. When the doctor is ready, the pitchers are removed, dried, and brought to the bedside along with the rest of the equipment on the large tray. Any medication that is ordered is also brought so that it may be given with the feeding. The procedure and the need for it are explained to the patient. The physician then passes the tube which has been lubricated with jelly or mineral oil. *A doctor must administer the tube feeding.*

After the tube has been passed, it is tested by placing the funnel end in the small basin of water and watching for air bubbles. If the tube is in the trachea, the patient usually coughs a good deal; if the tube is pinched, he becomes cyanotic and air bubbles can be seen coming from the tube. Regurgitation of stomach contents through the tube is positive proof that it has been passed properly.

The feeding is then begun, starting with warm water, followed by tomato or orange juice, the formula, and concluding with water. The tube is then pinched and rapidly withdrawn. After the gavage the patient is encouraged to rest for twenty minutes.

Tube-feeding Mixture: Each feeding should contain the following ingredients:

Milk	500 c.c.
Eggs	3
Sugar	4 tsp. (30 gm.)
Lactose	2 tsp. (15 gm.)
Salt	1/2 tsp. (5 gm.)
Cod liver oil	15 c.c.
Olive oil	45 c.c.
Brewer's yeast	2 tsp.
Tomato or orange juice	250 c.c.
Water	250 c.c.

The eggs are beaten until well mixed, the oil is added and then the dry ingredients, followed by the milk. The mixture is then beaten until homogenous and strained.

This mixture may be given twice a day, to give the patient approximately 2,200 c.c. fluid volume and about 3,000 calories per day. If a smaller volume is desired for each feeding, twice the tabulated amount may be made and divided in three parts for three feedings a day.

If it is desired to increase the fat content, and incidentally the vitamin A intake, cream (20 per cent) may replace some of the milk.

The protein content is increased by adding milk and decreasing the water volume by a like amount.

Viosterol, ascorbic acid, thiamin chloride, nicotinic acid, and other vitamins may be added as medically indicated.

ELIMINATIVE FUNCTIONS

Constipation is frequently a problem with patients who are depressed, anxious, or in the later-life period. In anxious patients, constipation is of the spastic type, due to the increased tension of the smooth muscle of the intestinal wall. Cathartics that irritate the large intestine will increase the tension; therefore, mineral oils, warm fluids, atropine (usually given as tincture of belladonna 0.6 to 1.0 c.c. one to three times a day), warm baths, and sedatives are desirable because of their relaxing effects.

The atonic type of sluggish intestine, most often seen in depressed patients, is to be treated by a cathartic that increases tone; for example, cascara sagrada (0.3 to 0.6 gm.) or milk of magnesia (20 to 30 c.c.) or a mixture of the two at night before retiring will be beneficial.

The danger of fecal impaction with subsequent intestinal obstruction is to be anticipated in older patients. An oil-retention enema (60 to 120 c.c. of oil or 2 to 4 ounces) fol-

lowed by a cleaning soap-suds enema may be required. Negativistic patients who retain feces may become severely constipated so that enemas are required almost daily.

Incontinence and smearing are observed in patients who are excited and confused. These may be regarded as regressive habits of defecation and should be managed not by scolding, but by watching the patient closely and leading him to the lavatory whenever he gives indications of beginning a bowel movement.

Urinary incontinence and retention also may occur. If the patient has had an adequate fluid intake but has not urinated in eight to twelve hours, or if the bladder appears to be distended, a warm tub bath may induce elimination. If necessary, catheterization is done. Since this is attended by a risk of infection, and possible emotional trauma, it should be carried out only as a last resort.

SLEEP AND REST

The need for rest varies with the individual's activity, age, and condition. Hydrotherapy in the form of prolonged baths and wet sheet packs, as described in the next chapter, are sedative measures for the hyperactive patient. It is important to keep a night sleep chart for each patient. A day sleep chart is also desirable for the patient with a mental illness due to an organic disease, so that the total amount of sleep or rest in the twenty-four-hour period can be ascertained.

Patients who are tense and anxious not only have difficulty in falling asleep but they may be awakened during the night by anxiety dreams, remaining awake for as long as two hours because of their thoughts.

Depressed individuals have a tendency toward early-morning awakening and present a decrease in total hours of sleep. This is true, also, of the elated, overactive patient.

Schizophrenics show a variable sleep pattern. They may not

sleep at all during one night, and the following night sleep right through until morning despite the persistence of delusions and hallucinations.

The delirious patient is especially fearful at night and so sleeps during the day, in this way resembling the patient with organic brain disease who catnaps during the entire twenty-four-hour day.

The nurse can promote sleep and relaxation by avoiding excessive stimulation at bedtime and by reassuring anxious individuals that someone will be present at all times to attend to any needs they may have. Chemical sedation (barbital 0.6 to 0.9 gm. or sodium amytal 0.4 gm. if the patient complains of a hangover effect the next morning from barbital) is of value, particularly in agitated patients. Chemical sedation must be used judiciously with neurotics, however, because of the danger of their becoming excessively dependent upon them.

Arguments should be avoided with patients who claim they do not sleep, even though they sleep fairly well. The value of resting in bed should be stressed, as well as the fact that sleeplessness in itself produces no known harmful effects.

OCCUPATION, SOCIALIZATION, RECREATION

Patients should be kept occupied on the floor doing creative work such as embroidery, knitting, needlepoint, and so on. Simple tasks such as helping to roll bandages or fold linen may be assigned to patients incapable of engaging in more complex activities. Mildly overactive patients may help in drawing schedule outlines, making beds, or in other work that provides an energy outlet. *The need for a reasonable adherence to a simple activity schedule is important.*

Socialization is to be encouraged for all patients, but the particular difficulties of certain individuals must be borne in mind. The seclusive, sensitive person must be introduced gradually to social contacts; some urging and encouragement are re-

quired of the nurse. At first the patient may accept only passive participation in the social group, such as listening to conversation or watching games. Then as time goes on it is suggested that he take a more active part.

Exercise and recreation are necessary for all patients. Anxious patients and those with more energy available usually do well in noncompetitive games in the gymnasium. Card games, jigsaw puzzles, pitching horseshoes (with rubber horseshoes), and word games are some of the activities that may be carried out. Calisthenics in the morning and walks in the garden are appreciated by many patients.

PROTECTIVE CARE

Adequate protection for patients with tendencies to harm others or themselves is best provided in a psychiatric hospital. Hospitalization removes the individual from the environment where he is not well understood and in which he became ill to a situation where treatment and relative safety are combined. In general, the individual who tries to commit suicide is most likely mentally ill and is, therefore, a medical problem.

PREVENTION OF SUICIDE

During the years 1920 to 1938 inclusive, there were 300,580 suicidal deaths in this country. In 1938 alone there were 19,802 such fatalities. In 1920 the suicide rate per 100,000 estimated population was 10.2. In 1938 it was 15.2 with the highest rate (17.4) being reached in 1932, during the financial crisis.

As a cause of death suicide rates eleventh, causing more deaths than appendicitis. In addition to successful attempts, probably 100,000 additional persons try to kill themselves each year but are unsuccessful. Many attempted suicides, of course, are not listed as such for obvious reasons.

Many individuals think of suicide particularly when the

future appears to be hopeless, but relatively few carry their thoughts into action. The motives behind suicidal drives are varied, depending to some extent upon the philosophy, cultural background, and religious factors in a given group. The Japanese have a ritual form of disemboweling themselves (*hara-kiri*) to atone for a failure or for a committed sin. Oftentimes the psychopath or the hysterical person makes a suicidal gesture without the intention of killing himself but to attract attention and sympathy. However, such attempts are serious for many die in such situations by accidentally going too far with the gesture. Reactions of resentment and spite, the need to escape unbearable situations, atonement, the wish to join a loved one who has died, and the desire to hurt others are among the more important psychologic motivations. Many workers have emphasized the importance of strong aggressions that cannot be externalized or directed onto others and are turned back upon the self, leading to self-aggression.

Depressed patients, especially those who are extremely tense and agitated, constitute the greatest suicidal risks, and we reiterate that every person who talks about committing suicide must be watched closely. Most patients who successfully commit suicide have previously shown suicidal tendencies either in their actions or their talk. As they become more active and appear to be improving, the danger becomes greater. An unexplained cheerfulness in an otherwise depressed patient may be an indication that he has finally solved his problem by deciding on suicide.

Patients who are confused, as when in a delirium or in a state of severe excitement, may hurt themselves while trying to escape from their delusional fears or hallucinations.

Individuals who express nihilistic delusions, exaggerated fears of insanity, ideas of persecution and torture, or hypochondriacal delusions show a high incidence of suicide. Those who have made previous attempts or with a family history of

suicidal attempts are particularly serious risks. Most of these attempts occur in the early morning or evening hours. Thus, individuals with suicidal tendencies should be observed constantly during these periods and when they are not occupied by a regular routine.

The relief of tension by means of prolonged baths, wet sheet packs, and chemical sedation may decrease the self-destructive urge. When medication is given to suicidally inclined individuals, they may attempt to hide the pills or capsules until they can take a large dose at once. A careful check to see that the person has actually swallowed the medicine should be made.

GUARDING AGAINST HOMICIDE

Certain individuals become combative and attack others during the stress of mental illness. Patients who express delusions of persecution and reference are dangerous, particularly when their accusations are directed against people in their immediate environment. Oftentimes verbal threats, pushing, pinching, or other minor indications of resentment and aggression precede the actual major assault and these actions should constitute a warning.

With combative patients, it is advisable always to have additional help immediately available. The precautions of always facing and noting a patient's actions and removing objects that may be used in an assault must always be observed.

A shoe may be used as a dangerous weapon during an attack either by kicking with it or using it as a cudgel. It may be advisable to have the patient wear rubber-soled shoes or sneakers.

Hostile impulses may be sublimated in certain recreational activities such as the punching bag, a vigorous game of tennis or badminton, or in a tug of war. The reasons for combative tendencies must be worked out by the physician in order to modify the environment and eliminate precipitating factors.

Many times minor concessions, instead of peremptory commands, to diminish the irritations that precede the attack, may abort the attack. Sedatives may have a similar effect, but are contraindicated in certain manic or schizophrenic patients because of their releasing effect upon certain social inhibitions.

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Therapeutic Aids

IN the treatment of personality disorders, the psychiatrist utilizes various facilities or therapeutic aids. Even when he sees the patient daily, there are still many hours of the patient's day to be accounted for; hence an effort is made to organize a routine which the patient can follow with interest and satisfaction. Needs are peculiar to the individual and to the stage of his illness and the routine may require frequent modification. The proper co-ordination of all therapeutic facilities and their integration with psychotherapeutic interviews will give the best results.

OCCUPATIONAL THERAPY

While it has been recognized for centuries that "occupation is nature's best physician and essential to human happiness," occupational therapy was not utilized to any great extent until the nineteenth century. Today its value as a general medical therapeutic aid and its great usefulness in the psychiatric case is well recognized.

The value of occupational therapy results from the expenditure of time and energy in an interesting and constructive manner and the satisfaction felt by the patient in achievement. It provides, also, an emotional outlet and a healthful sublimation of personality needs. The crafts offered the individual for his occupation must, however, be attractive and within his range of abilities. The finished product is not the main goal:

the actual occupation and manual activity involved are more important. Interests may be awakened and hobbies cultivated which the patient will persist in after he is well, thus exerting a future prophylactic effect.

Overactive and excited patients can work off a great deal of energy, but these patients should not be unduly stimulated by many small jobs but rather with only one that requires persistence and full attention.

Depressed patients may become less self-depreciatory by virtue of their achievements and feel that they can still do something worth while. Certain ones of these can alleviate their guilt feelings by helping the nurses make the beds, and maternal instincts may find expression in the knitting of baby sweaters and the like.

With patients who tend to become preoccupied and who resort to a world of fancy, work that requires much thinking and planning, and little action, is undesirable because it fosters absorption with the self.

Oftentimes feelings of resentment are relieved by banging out a metal tray on a form. The preservation of older patients may be utilized by having them do a repetitive type of work. If certain muscle groups require exercise, a craft utilizing these should be prescribed by the physician with the helpful advice of the occupational therapist. If the patient is a serious suicidal risk, prescription of a craft will depend upon whether adequate supervision can be given when potentially dangerous tools are used.

Among the more common crafts used with psychiatric patients are knitting, crocheting, embroidery, needlepoint, weaving, basketry, designing, sketching, sculpturing, wood-working, metalworking, linoleum blocking and printing, book-binding, pottery, and gardening. At first the work should be relatively simple, leading to a satisfying accomplishment within

a reasonably short period. Intricate types of work are best postponed.

When inspecting articles made by patients, the therapist should be encouraging and not judge the product by its outward appearance. The effort that the patient has made is most important and he should be complimented on good points. Suggestions may be made for improving subsequent work, but unless they are offered in an optimistic and stimulating way the patient may become discouraged and refuse to undertake further projects.

The best therapeutic results are obtained when there is close co-operation between the physician and the occupational therapist so that the craft and type of work best suited for the individual's needs at the moment can be prescribed and the proper attitudes manifested by the occupational therapist.

RECREATIONAL THERAPY

Psychiatric patients benefit from recreational therapy because of the opportunity it provides for pleasing physical exercise and because it distracts them from an unhealthy overconcern with themselves. Calisthenic exercises promote bodily vigor and a healthy muscle tone with some relief from muscle tensions. Ability in the various sports may aid in re-establishing self-confidence and indicate, also, the need for co-operation with others as in group games. In selecting a particular sport for a patient, his age and physical condition must be considered in order to avoid imposing too vigorous a program. Sports like table tennis, billiards, quoits, and pool, and social games like cards, chess, and checkers are preferable for older patients. Younger patients may rediscover an interest in sports in which they have not indulged for some time, or they may find new recreational interests.

Overstimulation, exhaustion, and too great stress on the

competitive aspects of games must be avoided. Social dancing, dramatics, musical concerts, recitations, and the like allow the patient to satisfy particular emotional needs, such as sublimation of sexual tension and the desire to be appreciated.

HYDROTHERAPY

The therapeutic effect of hydrotherapy depends to a certain extent upon its psychologic value as well as the physical changes that are produced in the vasomotor and muscular systems. The procedure should be discussed with the patient before he goes to hydrotherapy and suggestions given for the desired relaxing or stimulating effects. After the patient's first or second treatment, further discussions are advisable in order to discover any objections or delusions that the patient may have in relation to the treatment. Some patients think they are being punished in this way or that the treatment is given because they have body odors or that it is an attempt to drown them.

The patient's peculiar constitutional make-up and personality reaction influence the hydrotherapeutic prescription. For example, some people are more sensitive to temperature and pressure changes than are others. Patients with vasomotor instability may easily faint or collapse, with the danger of self-injury. Individual sensitivity to being nude during the therapy situation and the attitude toward other members of the group require observation and study.

During the treatment, the therapist is careful to avoid stimulating the anal area in patients with a tendency toward homosexual panic reactions. Men who are unusually retarded physically (as in some depressions) are instructed to cover their genitalia with one hand, for it may be painful to have water at a high pressure directed toward that region. The stirring up of unpleasant memories and associations may be another effect of the exposing of the body in a group. Patients with deficient intellectual functioning benefit by simple explanations and

repeated reassurance in the hydrotherapy situation. The personality of the hydrotherapist plays an important role. In general, he should guard against any action or talk which tends toward sexual stimulation, fear, or resentment in the patient. Hydrotherapeutic procedures affect the cardiovascular and muscular systems. So do our emotions. Therefore, no satisfactory result can be expected if emotions are stirred up which counteract the good effects of the therapeutic procedure.

Prolonged warm baths (continuous tubs) and cold wet packs are valuable in personality disorders where emotional tension or excitement is present. They promote relaxation and sleep through their influence on the cardiovascular system; hence these measures are commonly used in the management of insomnia, restlessness, excitement, and delirium.

Prolonged Warm Bath in Hospital

The effects of the prolonged warm bath are sedative, promoting relaxation and sleep. The temperature of the water is kept at from 96° to 98° F.

The equipment for the bath includes the following items:

A large tub with a continuous flow of water and thermostatic control.

A canvas hammock that can be suspended in the tub by means of straps.

Quilted pad or hammock.

Three large sheets.

Rubber pillow with case.

Ice cap and cover.

Bath towel and bath mat.

Bath thermometer.

Cottonseed oil and cotton balls.

Three elastic straps with fasteners on each end.

The canvas hammock is suspended in the tub by means of the straps and the quilted pad or hammock is attached. A large sheet is placed over the entire canvas, securing the excess width

between the canvas hammock and the sides of the tub. The tub is then covered with a second sheet, which is folded back upon itself to allow the patient to enter the tub. The sheet is attached to the tub by means of the elastic straps. The tub is filled halfway with water at 96° F.

The patient is assisted to undress. Toilet facilities are used, oil being applied to the body—especially to the hands, feet, and body creases—and the patient is draped with a sheet. He then enters the tub.

After the patient has been helped into the tub and has been draped with the lower tub sheet, the upper sheet is drawn up to the neck line and the tub is allowed to fill up. An ice cap or a cold cloth is usually applied to the forehead. The room is then darkened and tidied and quiet is observed in order to allow for maximal relaxation.

During treatment, the temperature of the water is checked with the bath thermometer at fifteen-minute intervals to ensure thermostatic control.

A record is kept of the patient's pulse and respirations, and of any unusual reaction or conversation. He is left in the tub for a period of one to six hours, but is removed if there are indications of respiratory or vasomotor collapse. Fluids (water, milk, or juices—if the patient needs nourishment) are offered at regular intervals (three or four times an hour), a cup at a time.

In the presence of a maximal degree of excitement or fear the patient may be unmanageable in the tub. If so, he is given a sedative like barbital (0.6 gm.) about one half hour before the tub. Under no circumstances should the patient be kept in the tub by restraint. With proper protection of the skin by cottonseed oil, the patient may remain in the tub for many hours and, if necessary, practically an entire day, sleeping and being fed while in the tub.

To terminate the bath, the tub is allowed to empty itself

halfway. The patient is removed and draped with a sheet. His body is dried. He is then given an alcohol rub and encouraged to rest in bed for at least half an hour.

The mechanism by which prolonged warm tubs diminish tension and excitement is not too clear, although many therapists have postulated the following: First, the warm water causes hyperemia with dilatation of the peripheral blood vessels and a decrease in the blood flow to the central nervous system. Following this, the muscles relax in response to the warm temperature. This results in a decreased pulse rate and blood pressure, diminished muscle tonus, and a feeling of fatigue with a desire for rest or sleep. Other therapists place more emphasis on the role of decreased stimuli as a result of the darkened room and the uniformity of the surrounding fluid.

Prolonged Warm Bath at Home

A prolonged warm bath may be given at home with beneficial effects in relieving tension and sleeplessness. The bathroom should be warm (78° to 80° F.) so that the naked body will not be chilled.

The tub is filled with water at 100° F. and the patient steps in. The buttocks rest on a rubber mat or a folded Turkish towel, with a similar rest for the head. If the tub is so short that the water does not cover the bent knees, they are covered with a Turkish towel soaked in bath water.

It is important for the patient to feel physically comfortable in the tub. At the end of ten or fifteen minutes the water will have cooled to 90° to 96° F. and more warm water is added to bring it back to approximately 100° F.

The patient remains in the tub for half an hour to one hour, or longer if desired. When he emerges the body is dried by patting (not rubbing which is too stimulating) and the drying of the body folds is completed with the help of bath powder. Chilling is to be avoided. The patient then gets into a warm

bed (a hot water bottle near the feet if necessary) and will usually rest or sleep. A glass of warm milk at this time is helpful in promoting sleep.

Prolonged baths at home may be taken three, four, or more times a day. If taken once, the best hour is at night before retiring, at 9 or 10 P.M.

Wet Packs

Wet packs are used for markedly excited patients who cannot be managed in the tub and for their greater sedative effects. At first the patient feels cold and the superficial blood vessels are constricted, but this is followed in from fifteen to thirty minutes by dilatation which gives a comfortable sensation of warmth and relaxation. Little difference can be found between cold and warm packs except for the initial "hydrotherapeutic shock" with the former. The purpose and desired effect should be explained to the patient before he is given the pack so as to enhance the therapeutic effect by the suggestive influence.

Patients with heart disease or with a temperature elevation should be carefully watched for cyanosis or rapid pulse rate when in a pack. There is great danger from overheating, particularly if the patient continues to struggle. If the patient does not relax after thirty minutes it is advisable to remove the pack and perhaps try another. Some therapists feel that patients who are menstruating or who are in the later months of pregnancy should not as a rule receive wet packs.

The following equipment is used:

Pack tray.

Three gray blankets, a bath blanket, a rubber mackintosh, and a sheet.

Enamel pack basin lined with a bath towel.

Two long pack sheets, one draw sheet, and one large protection sheet.

Hot water bag with cover.

Ice cap with cover.

Rubberized pillow case and plain pillow case.

Face towel.

One nurse helps the patient undress and then drapes him with the bath blanket. The patient is asked to use the toilet and then an emollient (cottonseed oil) is applied to the skin, especially to the hands, feet, and creases of the body. Meanwhile another nurse wrings out the three folded sheets in water as hot as can be easily tolerated (for warm packs) and brings them to the bed wrapped in the bath towel in the enamel pack basin. For cold packs the sheets are wrung out in cold tap water—about 65° F. The nurse then prepares the bed as follows:

The bed clothes are fanned (folded back in creases like a fan) to the foot of the bed and the pillow is removed.

The rubber mackintosh is placed on the bed and covered by the sheet, which is tucked in at the top and sides.

The first blanket is placed crosswise on the bed at about the level of the patient's neck. Two thirds of the blanket is fanned on one side, one third on the other side.

The second blanket is folded in half and placed crosswise one third the distance from the foot of the bed, fanning the excess.

The third blanket is placed like the first, but with two thirds of the blanket fanned on the side opposite the two thirds of the first blanket.

In the same way the first wet pack sheet is placed on the left side of the bed so that two thirds is fanned to the right side and the rest to the left side.

The wet draw sheet is placed in the center of the bed at the level of the patient's armpits and fanned evenly on each side of the bed.

The second wet pack sheet is then placed on the right side of the bed with two thirds fanned on the right side, one third on the left side. A sufficient portion of the sheet is allowed at the bottom so that the feet may be covered.

When wrapping the patient with the various sheets and blankets, the nurse or aide uses them in the reverse order in

which they were laid down on the bed (according to the above directions). Thus, the second sheet, being laid down last, is wrapped around the patient first.

The patient is asked to lie on the bed, the body still covered by the bath blanket. The covering bath blanket is then removed. The left side of the second pack sheet is drawn over the patient's left leg, under the right leg, and the upper part of the sheet is drawn across the body, and the lower end of the sheet is turned up and over the feet.

One side of the draw sheet is now pulled up between the patient's trunk and arm. The arm is placed next to the body with the palm against the thigh. Then the sheet is folded laterally over the arm and under the body on the same side.

This procedure is repeated with the other side of the draw sheet.

The right side of the first pack sheet is brought across the patient, the upper side of the sheet being squared around the shoulders, and the lower half of the sheet being squared around the body in mummy fashion. This procedure is repeated with the left side of the sheet.

The short side of the third blanket is brought up tightly around the patient, squarely around the shoulders, and folded close to the body. The other side, two thirds of which was fanned, is handled likewise.

The second or foot blanket is folded over the feet and legs, with the edges turned up and toward the center.

The first blanket is folded like the third.

The pillow is covered with a rubberized case and then with a plain case. The ice cap is placed under the head and a hot water bag next to the feet.

If the patient is restless, a protection sheet is placed across the bed and over the patient, secured at the sides of the bed.

The bed clothes are drawn over the patient and a towel is

folded under his chin, with the ends tucked inside the blanket around his neck.

The room is darkened and ventilated; material not needed is removed.

During the treatment the pulse is recorded every fifteen minutes and the patient is watched for respiratory difficulties or vascular collapse (flushed face, weak, rapid pulse, or cyanosis). He is encouraged to take fluids and the amount taken is charted. He is left in the pack from one to two hours, but is immediately removed if he shows any untoward reaction such as those just mentioned. After removal from the bath, the patient is rolled in the bath blanket, given an alcohol rub, and encouraged to rest.

PSYCHOANALYTIC THERAPY

The term psychoanalysis refers to both a system of psychopathology and a specific therapeutic procedure. Psychoanalytic theory emphasizes the importance of the unconscious mental forces in determining human behavior. It is exceedingly complex and many technical terms are used. For an elucidation of its principles the reader is referred to special books on the subject. It must be remembered that many of the concepts promulgated by Freud are constantly used in nonpsychoanalytic formulations of causative factors and treatment. The importance of repression, psychic conflict, patient-physician relationship (transference), and the symbolic significance of dreams are generally recognized in psychotherapy.

Although no attempt is made here to present in any detail the intricacies of psychoanalytic therapy, it must be mentioned as an important therapeutic aid. The essence of the procedure is the free-association method. In this method the patient is told to lie on a couch, relax, and allow his thoughts to flow freely. He is instructed to voice any ideas, memories, or thoughts that

come to mind without rejecting any because they are trivial, objectionable, impolite, or involve other people. In short, the patient must think aloud, expressing each association exactly as it presents itself. The analyst sits behind the patient where he can observe without being seen. He may on occasion question the patient, direct his thoughts, or interpret some of the material presented.

The production of free associations is a difficult task. It requires the utmost in co-operation and it may take months to learn to do so without feeling a need to be systematic and coherent. Marked anxiety may be provoked by the necessity of expressing sensitive or painful material. Eventually by means of this method, repressed memories are brought back into consciousness. The symptoms are considered to be the result of repressing mentally traumatic events and desires and their accompanying emotional components. Thus, by recalling these situations, analyzing them, and allowing himself to work off (abreact) the related emotions should relieve the symptoms.

This explanation is superficial and does not try to explain why repression causes a neurosis in some and not in others. It does not do justice to the complexities experienced in actual treatment. To do so would require an extensive exposition of theoretical principles.

Primarily psychoanalytic therapy is used in the treatment of the psychoneuroses. It is an expensive and long procedure often lasting years. The treatment performs a major surgery on the personality and should be considered as a serious undertaking. An individual whose personality structure is loosely integrated is in danger of becoming disorganized by such an intensive procedure. Where short-term methods have failed in an intelligent, fairly stable adult who is personally convinced of the need of treatment, psychoanalysis often succeeds. A simply written book for prospective patients or their advisers that answers the

common questions that arise is *Practical Aspects of Psychoanalysis*, by Dr. Laurence S. Kubie.

PROLONGED NARCOSIS (SLEEP TREATMENT)

General interest in prolonged narcosis or sleep treatment was stimulated by Kläsi's work on schizophrenias published in 1922. Since then there have been many other reports on the use of sleep treatment in excited patients. At present the treatment is recognized to be less successful for schizophrenia than insulin therapy, although it may be used as an aid in managing resistive patients. It is somewhat more helpful and effective in the management of manic excitements.

The patient is kept asleep for sixteen or more hours a day for ten to fourteen days, often being allowed to awaken long enough to be fed with the help of a nurse. To induce sleep various drugs and mixtures have been used such as somnifaine, Cloetta's mixture, and sodium amytal. Most of the medications utilized contain a barbiturate.

The usual contraindications are marked hypertension or cardiac disease, pulmonary infections, and kidney disease in cases where the drug depends on renal elimination. This is not true of sodium amytal which is oxidized by the liver and excreted within thirty hours.

In the United States, sodium amytal has been preferred by many psychiatrists. It is usually given in doses up to 0.5 gm. intravenously, the injection being given slowly because of the danger of an excessive fall in blood pressure or respiratory depression. Oftentimes the drug is given by mouth or rectum and is supplemented by paraldehyde 4 to 8 c.c. if the patient awakens before the next dose of sodium amytal is to be given. No definite dosage is prescribed, but enough sedation is given to keep the patient asleep, perhaps two or three doses a day. The blood pressure, respirations, pulse rate, and temperature are

carefully watched for evidences of overdosage or the onset of an infection. During treatment the patient is kept in bed in a quiet, semidarkened room in order to minimize possible stimuli. This allows the patient to sleep with a lesser amount of drug and renders the treatment safer. Nourishing fluids are given by mouth and often 5 per cent glucose infusions are administered, especially if the patient is dehydrated.

With excessive depression of respiration and blood pressure (below 90 mm. mercury systolic pressure) or with other signs of toxicity such as convulsions and temperature elevation, the treatment should be terminated. Mild degrees of hypotension and respiratory depression may be offset by the use of stimulants like picROTOXIN, benzedrine, ephedrine, or metrazol.

Following treatment the patient is kept in bed for a few days. His surroundings should be pleasant and cheerful. Various suggestions are given designed to facilitate his recovery, and he is gradually permitted to leave his bed. Subsequently the physician undertakes a personality study during which he may discuss material that was brought up during the period of narcosis. Reintroduction into group activities is carefully carried out, concomitant with discussions that emphasize the need to maintain socially acceptable standards.

SHOCK THERAPY

Shocks of one sort or another have been utilized since time immemorial in the treatment of mentally ill individuals. At one time patients were ducked and held under water until they were unconscious, or they were allowed to fall through trap doors into a body of water in an effort to bring them back to reality. More recently, various types of somatic therapy have been evolved in the hope of bringing about some physiologic alteration that would favorably influence the progress of the mental disease. We shall describe only those types of shock treatment that are being used with the greatest frequency,

namely, insulin therapy, metrazol convulsive therapy, and electric shock therapy.

Insulin Therapy

While giving large doses of insulin to drug addicts to relieve them of withdrawal symptoms, Dr. Manfred Sakel unintentionally produced severe hypoglycemic shocks and observed remarkably favorable changes in their mental states. This led him to use hypoglycemic shock in psychotic cases with some gratifying results.

The method consists of injecting (intramuscularly) increasing doses of insulin each day until a state of coma is reached. Shock is considered to be present when the patient cannot be aroused by the usual stimuli of talk or touch. Sometimes convulsions occur during the treatment. After four to six hours, the reaction is terminated by giving glucose orally, by gavage, or, if necessary, intravenously.

The first dose is usually 20 units of insulin. This is increased 5 to 10 units a day up to the onset of coma. This may necessitate doses as high as 200 units or more, although the dosage is usually less than 150 units. Treatment is given for six successive days, followed by a day of rest, and again for six successive days and a day of rest, until perhaps ten weeks have elapsed.

Insulin is the antidiabetes hormone originally obtained by extraction from the endocrine tissue of the pancreas. The original work in preparing this hormone was done by Banting and Best in 1921. Subsequently the hormone was separated in crystalline form. Insulin is essential for the utilization of glucose; hence in diabetes the injection of insulin decreases the blood sugar level. In shock therapy, the level of blood glucose goes far below the normal range of 70 to 100 mgm. per cent (to 25 to 35 mgm. per cent) and the result is coma.

When insulin is given intramuscularly, the symptoms of hypoglycemia begin to appear in about forty-five minutes. The

patient feels drowsy and sleepy. Perspiration and usually excessive salivation occur. These phenomena are followed by tremors and twitches with a clouding of consciousness, disorientation, and motor restlessness. A sucking movement and forced grasping (if a finger is placed in the patient's palm a grasp reflex occurs) then appear, with dilatation of the pupils, tachycardia, and a Babinski type of plantar reflex response (that is, on stimulation of the sole of the foot the big toe goes up and there is a fanning of the small toes). Convulsive seizures may occur after this stage with pin-point pupils that do not react to light, absent corneal reflexes, and a slow pulse rate which indicates a very deep stage of coma often requiring termination of the treatment with glucose. The depth of coma to which the patient is allowed to go depends upon his physical condition and the type of illness. Some physicians feel that they get just as good results where the patient is in a light coma and can be awakened by vigorous stimulation.

The shorter the duration of the illness, the more effective insulin therapy seems to be. In general, it is used in the treatment of acute catatonic and paranoid schizophrenia.

Insulin is best given as a hospital procedure because of the definite risk involved. A complete examination should be given the patient to rule out any cardiovascular involvement such as valvular heart disease, coronary thrombosis, and hypertension. Other generally accepted contraindications are tuberculosis, hyperthyroidism, and kidney disease. Special training is required in the proper medical care of a patient receiving insulin treatment, and the supervision of a psychiatrist is desirable. For details of such treatment the reader is referred to *Shock Treatment in Psychiatry* by Lucie Jessner and V. Gerard Ryan.

Metrazol Convulsive Therapy

Metrazol treatment was introduced by Dr. Ladislaus von Meduna as a result of his observation that epilepsy was rare in

schizophrenics, and that many catatonic schizophrenic patients who experienced spontaneous convulsions improved rapidly. Originally he tried injecting camphor oil intramuscularly but soon substituted metrazol (cardiazol or pentamethylenetetrazol), which is a synthetic drug that acts like camphor but which can be injected intravenously and produces an almost immediate fit.

The patient is given a complete physical examination especially with regard to cardiac function and the presence of fractures or old deformities. No sedation is given for twelve hours prior to treatment; or if this is not possible paraldehyde (8 to 12 c.c.) is used because of its rapid excretion.

A 10 per cent aqueous solution of metrazol is rapidly injected intravenously. The first dose is 3 to 5 c.c. If no convulsion occurs, the dose is increased by 1 c.c. and repeated after a few minutes until a convulsion does occur. Treatments are given approximately every third day, that is, one convulsion every third day, until a total of eight to twenty-five convulsions (depending upon the patient's mental reaction) have occurred. If the mental reaction is favorable, treatment may be curtailed.

The convulsion usually commences within ten seconds of the injection. The patient opens his mouth wide as the convulsion begins and while in this condition a gag is quickly inserted between the molar teeth to avoid tongue biting. The jaw is supported in a forward position by the attendant who presses up under the chin to prevent dislocation. There may also be a cry or a cough at this time. Then a tonic stage occurs in which there is hyperextension of the neck and trunk with marked cyanosis for about one minute. This is followed by a clonic phase which resembles an epileptic fit. Deep inspirations occur during this phase, the alternating contractions and relaxations of all the muscles serving to clear up the cyanosis. During the few minutes of the seizure urination and ejaculation may occur.

After a fit, the patient usually relaxes and falls asleep; or he may go through a period of restlessness and confusion. The attentions of a nurse may be required for a few hours after the seizure, and her attitude should be objective, sympathetic, and gentle.

Metrazol therapy has been used with fair success in schizophrenics, but it is less efficacious than insulin therapy. It has been found useful in agitated depressions, and in depressions during the later-life period (between forty and sixty years of age).

Among the complications are fractures, particularly of the vertebrae, joint dislocations (shoulder and jaw), and marked memory disturbances. To decrease the frequency of back fractures and dislocations, some physicians use positions in which the patient's back is hyperextended at the start. Ordinarily the position of the patient both in insulin and metrazol therapy is that of lying naturally in bed, flat on the back. Other physicians use curare or beta-erythroidin injections; these drugs modify the severity of the convulsion by causing a partial paralysis through interference with the transmission of nerve impulses to the muscle at the neuromuscular junction.

The rationale of the convulsion is the supposed biologic antagonism between epilepsy and schizophrenia. The attempt, therefore, is made to simulate epilepsy by producing its most characteristic feature—the convulsion.

Electric Shock Therapy

The preparation of the patient for electric shock therapy is essentially the same as that for metrazol therapy. No breakfast is allowed before the treatment, which is preferably given in the morning. The patient's body is kept in a position of hyperextension and all hairpins and bobbypins are removed. A mouth gag is used to prevent injury to the tongue and cheeks. An electric current (A.C. usually) is then passed between two elec-

trodes placed over the temporal areas for one second or less. A convulsion or a less severe petit-mal type of response should occur. If it does not, the voltage is increased and the shock is given again in ten to fifteen minutes. The skin resistance is measured beforehand to give the operator some indication of the voltage, milliamperes, and duration of current required.

The advantage of electric shock is its simplicity and the complete amnesia that the patient has for the experience. With insulin or metrazol therapy the patient is often fearful of the injections because there is some recall of a horrible feeling just before the tonic phase set in. Fatalities are extremely rare. However, the complaints of loss of some memory, depending on the depth of coma, are more frequent and last longer after electric shock than after the other shock methods. Good results are obtained in the various kinds of depressive disorders including agitated depressions and depressions (involuntional melancholia) in the later-life period. Treatments may be given in the physician's office two or three times a week for ten or fifteen or more shocks.

In all shock therapy it is most important to follow up the shock treatment with adequate psychotherapy which aims at analyzing the causative factors and giving the patient constructive ideas for future self-management in order to avoid recurrences. Oftentimes, the primary value of shock therapy lies in the fact that it enables the physician to gain a rapport which makes the patient available for psychotherapy.

PSYCHOSURGERY

The development of a more successful neurosurgical technique with increasing knowledge of cerebral functions has led to operations on the intact brain for the purpose of relieving mental abnormalities. This is the field of psychosurgery.

More than fifty years ago such brain operations were performed in Switzerland by Dr. G. Burckhardt. Essentially these

were mutilating operations in which small amounts of brain tissue were removed—without sufficient knowledge of brain functioning. A study of individuals with lesions of the anterior portions of the frontal lobes (prefrontal areas) led to the observation that the frontal lobes were concerned with the more complex intellectual functions (synthesis and abstract thinking) and were essential for satisfactory social adaptation. In view of these findings operations designed to separate the prefrontal areas from the rest of the brain by cutting the association tracts were performed.

Dr. Egas Moniz was the first to conceive and carry out operations on the prefrontal association pathways. The first operation was performed on November 12, 1935, and the following year he reported his results. These indicated special success in chronic cases of agitated depression. The poorest results were in the chronic schizophrenic group. Dr. Moniz used an instrument called a leucotome which consisted of a hollow needle, closed at the tip and with a slit at the side near this end. The needle carried a stylet with a flexible wire at its tip arranged in such a way that pressing on the stylet caused the wire to project from the slit in a semicircular fashion for a distance of about five millimeters. The leucotome was inserted into the subcortical prefrontal white matter, the stylet was pressed to extrude the loop, and by rotating the instrument a core of tissue approximately one centimeter in diameter was cut. Anywhere from four to six such cores were cut on each side and left in the brain to be absorbed.

In the United States, Doctors Walter Freeman and James Watts have been especially active in the field of psychosurgery. They have modified the operative procedure so that a larger proportion of the tracts in the white matter of the frontal lobes are cut (prefrontal lobotomy). These authors state that "partial separation of the frontal lobes from the rest of the brain results in reduction of disagreeable self-consciousness, abolition

of obsessive thinking, and satisfaction with performance, even though the performance is inferior in quality. The emotional nucleus of the psychosis is removed. The 'sting' of the disorder is withdrawn. Even though the fixed ideas persist and the compulsions continue for a while, the fear that disabled the patient is banished."

The operation is a serious procedure and should be undertaken only in cases of prolonged illness where other methods have failed and there is no contraindication to the surgical procedure itself. The mortality rate is between 4 and 5 per cent.

For one or two weeks following prefrontal lobotomy the patient is usually confused and disoriented and may be incontinent of urine. Initiative may be decreased for a month or more, necessitating convalescent care for the period. The operated patients frequently lack tact, are non-co-operative, and argumentative. This may be a great burden on the family at least temporarily, and they should be prepared for it.

Doctors Freeman and Watts obtained their best results in the involutional depressions and obsessive-compulsive tension states. In the former the results are described as "good" in twenty-four out of thirty-eight patients and "fair" in ten more cases. With the obsessive disorder, fourteen out of eighteen patients made a "good" recovery and one patient had a "fair" result.

MENTAL HYGIENE

The principles of mental hygiene are of therapeutic value in helping the patient to return to a healthy, satisfying life and in preventing the development of major personality disorders. The present-day attitude which recognizes a genetic-dynamic etiology leads to interest in the maintenance of health and prevention of mental disease. This is in contrast to the fatalistic attitude engendered by the view that one is predestined to mental illness because of hereditary factors or that such disease

strikes the individual without rhyme or reason. The growing acceptance of personality disorders as belonging in a legitimate medical field brings up the problem of mental health.

Through the efforts of Mr. Clifford Beers, supported by outstanding men in various fields of work, the National Committee for Mental Hygiene was organized and met first in New York City in 1909. The aims included co-operation and assistance to hospitals caring for the mentally ill, study of personal and social factors responsible for the diseases, stimulation of public interest in psychiatric activities, encouragement of research, and instruction of groups and individuals in the personal application of the principles of mental hygiene. Since then the movement has flourished, and there are now similar groups in many other countries as well as an international organization.

Mental hygiene emphasizes an interest in the whole, undivided, live human being. It fosters a pluralistic approach which considers all forces acting on the individual whether they be socio-economic, community, family, or personal. Mental health implies an ability to get along with people without interference by mental conflicts. It further presumes an emotional stability with a feeling of well-being, the capacity to face and accept reality, rational adjustment to vocational life utilizing the whole of one's inherent endowment. A program of hygiene that strives for mental health should work toward creating a harmonious relationship between the individual and his environment. Where the environment is such that the individual cannot reasonably be expected to make adjustments to it, or where some assistance is required, the social worker is of great help. Social service aides, with their background of sociology, economics, and psychology, are in a position to translate the general needs of the patient into a specific, workable life routine. The social worker helps also in facilitating the transition from hospital to home environment. —

A healthy body with the maintenance of physical well-being

is one of the fundamental building blocks in mental health. An individual constantly subjected to the stresses of repeated physical disease has a more difficult time in developing the self-dependence and security that form links in the chain of mental health. Undue dependence brings in its wake loss of initiative, feelings of inferiority, irritability, poor socialization, and an unwholesome need for help and support.

In childhood, training should work toward adequate socialization which in turn hinges on the establishment of attitudes of relative independence, security, and conformity. Overindulgence and oversolicitude ("spoiling") often represent needs based upon the parent's own anxiety and hamper the development of self-dependence, which lack may lead to difficulties in adult life. Inconsistencies in parental attitudes result in the offspring in feelings of confusion, resentment against authority, and insecurity. It is by example and precept that the child can be trained to accept the need for conformity and emotional control.

In adolescence some of the difficulties of early childhood may reappear, resulting in a tendency to retreat from reality and live again in a world of fantasy. While a certain amount of day-dreaming is part of the so-called normal personality, it is usually based upon real possibilities, as differentiated from an unhealthy, frequent preoccupation with what is unattainable and far removed from reality. To these difficulties are sometimes added the experience of sexual development and the personal problems related to it. Menstruation, masturbation, and nocturnal emissions may prove to be serious stumbling blocks to a healthy personality adjustment unless they are successfully dealt with by an adequate explanation of the physiology involved, coupled with a constructive type of reassurance and the instillation of the proper attitude concerning these experiences.

Numerous child guidance clinics have been established to help with the problems of the formative stages of personality

development, but the same interest in mental hygiene has not as yet been sufficiently developed for the adult individual. There is hesitancy even among physicians to advise on problems in mental health even though certain general conditions essential to mental health have been elucidated. Statements made to the patient implying that his trouble is all in his mind or is due to an inherent lack of will power and that consequently his situation is hopeless—these are emotionally traumatizing in themselves and indicate a lack of appreciation of the fact that the doctor is dealing with a living person and not just a functioning body.

Ebaugh has summarized some of the conditions that must be satisfied to assure the development of an effective, normal, adult life: Maintenance of good physical health is the most important. The ability to be objective and approach problems on the basis of facts rather than one's desires, which tends to eliminate personal prejudices and biases. Insight into one's own behavior and conduct, which enables the individual to be more objective and understanding. A confidential relationship with some other person, attention to present problems, planned activities (recreation, etc.), satisfying work, adequate rest, and a normal participation in social activities.

The happiness of the individual depends not only on the factors already discussed but upon other determinants unfortunately not yet clearly understood. However, an understanding of proper mental and physical hygiene will aid materially in leading to a full life.

The beneficial results of treatment in psychiatry have greatly increased in the past quarter of a century. Contributions to the understanding of abnormal behavior and symptomatology by Freud and others have especially aided in the treatment of the psychoneuroses. Schizophrenia (*dementia praecox*) is no longer considered an incurable disease—the majority of patients show improvement with the uses of modern therapy. Where the

illness is of recent onset the newer somatic therapies materially shorten the course and help in the management of the schizophrenic as well as the manic-depressive group of patients. Unfortunately, the treatment of psychopathic personalities has not been attended with much success, and it is in this group that relatively little progress has been made. Yet, the rapid strides of the past few decades augur well for a solution of this major medico-social problem.

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