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Psychiatry for the Lawyer The Principal Psychoses

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PSYCHIATRY FOR THE LAWYER: THE PRINCIPAL PSYCHOSES*

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THE AFFECTIVE DISORDERS

General Characterization

The affective psychoses are mental illnesses characterized by a primary disorder of the mood or feeling tone, either in the form of morbidly sad or depressed spirits (depressive phase) or inordinate elation (manic phase). Morbid mood disturbances tend to come in more or less clear-cut attacks which usually run a benign course ranging roughly from six months to two years, ending in recovery. Occasionally episodes of mood disorder last only a few days or weeks. Some attacks may be uncommonly protracted, persisting from three to six or more years. Recurrences of the disorder may be expected in at least fifty per cent of the patients. Patients may suffer repeated depressions or repeated manic attacks or exhibit illness characterized by alternate phases of the two states.

The cyclic tendency of the illness and the recognition that depressions and elations are manifestations of the same fundamental disorder have led to the adoption of the terms, manic-depressive psychosis or circular insanity. (*Folie circulaire and folie avec double forme.*)

The etiology of manic-depressive insanity has never been elucidated. The role of heredity and constitutional vulnerability, however, is perhaps more important in affective disorders than in any other psychiatric entity.

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*In printing this article, the QUARTERLY is participating in the publication of the National Symposium dealing with "Scientific Proof and Relations of Law and Medicine" (2nd series). The Symposium contains fifty or more studies prepared by legal and medical scholars on problems of joint interest to the two professions. The papers will be published in the pages of participating legal and medical journals during the spring and summer of 1946. The intent of the effort is to muster up legal and scientific learning relevant to various problems which need illumination from both sources for their proper solution. The scientific writers have undertaken, under editorial direction, to prepare their studies in a basic style comprehensible to lawyers, without, however, any sacrifice of scientific authority.

The new Symposium is a continuation of the first series, published by law reviews and medical journals in the spring of 1943. As before, the general editor of the Symposium is Hubert Winston Smith, LL.B., M.D., who holds an appointment, under the Distinguished Professorship Fund, as Professor of Legal Medicine in the University of Illinois affiliated with the College of Law and with the College of Medicine. Readers interested in procuring a master index containing citations to the studies published in both the first and second series of "Scientific Proof and Relations of Law and Medicine," may do so by sending 20 cents in currency or stamps to Professor Smith, College of Law, University of Illinois, Urbana, Illinois. Copies so reserved will be mailed between May 15 and June 1.—ED.

The Affective Disorders: Depressions

Characteristic Symptoms. Depressive attacks are characterized by low spirits and retardation of thinking and action. Patients in the throes of depression generally complain of extreme sadness or blueness. They are profoundly pessimistic, overwhelmed by gloomy forebodings and experience a sense of utter helplessness and hopelessness. Living loses all of its tang and flavor. Life becomes empty and meaningless. Suicide is an almost constant preoccupation and constitutes an outstanding problem in the management of depressed patients.

The depressed spirits of patients are reflected in their outward appearance. Their brows are usually knit and furrowed, and their facial expression suggests great sorrow, resignation, worry, or dread. Their eyes are downcast and lusterless, their heads are bowed and their shoulders are stooped as if bearing some heavy burden.

Voluntary movements are slowed and labored. The simplest action seems to require great effort. There is striking lack of spontaneity and initiative. Some patients are so frozen with melancholy that they are unable to carry out simple acts such as feeding themselves, going to the toilet, and the like.

Thinking also may be retarded to such a degree that it may require fully a half a minute or more for the patient to make reply to the simplest question. His delayed replies are taciturn and often scarcely audible. At times he is unable to mobilize his mental processes sufficiently to make a single intelligible utterance.

Patients not infrequently complain of a poverty of thoughts. They speak of their minds being completely blank or empty. Some depressed patients on the other hand complain that their minds are actually flooded with thoughts which are usually distasteful or terrifying. Such thoughts, which deal with tragic topics, are marshalled for endless review in undirected, uncontrolled fashion. Directed, purposeful thinking, however, such as is required for planning, solving problems, discussing topics logically etc., is almost completely paralyzed.

Depressed patients may be almost wholly preoccupied with painful, guilty ruminations. They frequently mull over all their past mistakes and misdeeds, outlandishly exaggerating former peccadillos or trivial errors. Self-accusation and feelings of unworthiness and remorse may be extreme. The patient may fancy himself to be the greatest sinner in the world and often tries to mutilate or kill himself to pay for his wickedness. He may feel that even hell is too good for him.

Depressed patients often display morbid delusions more or less in keeping

with their tragic feeling tone. They may have the conviction that all the virtue has gone from them and they stand condemned by God and man. They may not only bemoan their own horrible fate but conjure up ghastly ideas relating to the fate of their family and fortune. They may feel their sinfulness will lead to the destruction of the whole world. Delusions concerning bodily contamination and disease are common. The patient may assert that he has no stomach or that his bowels are stopped up. He may feel that his brains have dried up, his blood has turned to water, his food no longer nourishes him, his flesh has rotted, etc. He may be convinced that he has some dread disease such as syphilis, tuberculosis, or cancer. He may feel that his body emits a vile odor. He may insist that he is dead and in urgent need of burial.

Some patients have marked feelings of unreality. People and objects no longer look the same as they used to. People do not appear to be genuine—they seem to be imposters acting some special part to deceive the patient. People sometimes look to the patient as if they are "the walking dead." They seem to lack substance and move about like vague shadowy ghosts. Objects seem somehow to lack depth and solidity. The patient may feel that he himself has no body. He may be convinced that he is a kind of disembodied spirit devoid of feeling.

Classification of Depressions. Depressions may be classified according to severity into *simple depression* (*i.e. simple retardation*), *acute depression,* and *depressive stupor.* Some very mild depressions may not be readily recognized as such. Both patient and physician may fail to appreciate the primary depressive element in the disorder. The mildly depressed person may be so preoccupied with headache, constipation, poor appetite, indigestion, fatigue, weight loss, and other bodily complaints that the significance of the basic morbid affective state is missed entirely. More careful scrutiny of the symptoms, however, will reveal such typical depressive phenomena as dullness, failure to feel refreshed after a night's sleep, a striking lack of energy and courage to face the prospect of the day ahead, a lack of initiative, enthusiasm, and enterprise, the consciousness of extreme effort required to perform the simplest routine functions that are usually accomplished with automatic ease. The day's tasks formerly tackled zestfully and efficiently are now overwhelmingly difficult. There is a barrenness and sterility of thought. The mind seems to have lost its fertility, its creative and imaginative abilities. Life seems empty and devoid of significance. Recreation affords no pleasure; the patient fails to be thrilled by the sight of objects of beauty or other experiences which formerly stirred him deeply.

A definite diurnal variation in spirits is often noted. In early morning the patient tends to be at his worst—despondent and oppressed by feelings of futility. As the day wears on, the patient's spirits may begin to revive to some degree and with the advent of evening he may actually take on new courage and once more feel some satisfaction in living.

From their records of accomplishment it would appear that certain men of genius may have experienced alternate phases of mild mood disturbance. Long periods of inactivity, despondency, and mental sterility are followed by seasons of astounding vigor, brilliance, and originality of thought which lead to almost superhuman accomplishment. The life of Goethe constitutes a striking document of this sort.

The Affective Disorders: Involutional Melancholia

Depressions occurring especially during late middle life are oftentimes quite severe and protracted. Marked agitation, dramatic expressions of anguish and wretchedness, preoccupation with bodily symptoms (often of bizarre nature), and extreme self-accusation are characteristic manifestations. Distressing obsessive thinking is sometimes a prominent symptom.

Kraepelin[1] at first maintained that involutional melancholia was a special entity, quite distinct from manic-depressive insanity. He regarded it as an ominous disorder with downhill course ending in irreversible deterioration in contradistinction to manic-depressive illness. It is true that patients with involutional melancholia may remain profoundly depressed and agitated for many years, and those whose disability is complicated by chronic, progressive physical disease (many types of which tend to develop in late mid-life) seldom ever recover.

Later on, it became clear to Kraepelin that many of the involutional melancholics recovered spontaneously even after five, ten, or more years of illness. He felt forced to revise his original classification and place these patients in the manic-depressive group. He had enlarged his manic-depressive category to include certain so-called "mixed-states" which combined features of both the manic and the depressive phases. He placed the involutional melancholics in this group of mixed states under the sub-heading of *agitated depression.*

The causative factors of agitated depression are obscure. Involutional changes of the endocrine system[2] were once thought to play a major role—

[1]KRAEPELIN, PSYCHIATRIE (8th ed., Ambrosius, Barth, Keipzig, 1899).

[2]Degenerative changes occurring in the glands of internal secretion as a part of the aging process.

as the term, involutional melancholia, implies. Agitated depression, however, is not necessarily limited to the involutional or middle-age period. It may come at almost any phase of adult life. Some psychiatrists have called attention to a rigid, hyperconscientious, perfectionistic type of personality which predisposes to the disorder.

The Affective Disorders: The Manic Reaction

Classification. Manic illness may be classified on the basis of severity into *hypomania, acute mania,* and *delirious mania.*

Characteristic Symptoms. The manic phase of affective illness presents a symptom picture which in many respects is diametrically opposite to that of morbid depression. The manic patient has predominantly an elated mood, is overactive and given to keenness and mental alacrity. He is zestful, optimistic, good humored, merry, and boisterous. His elation, however, gives way quickly to irritability and anger if he is thwarted. He is restless, overactive, enterprising, domineering and aggressive. He tends to be "on the go" until long into the night and has such an uninterrupted supply of energy and enthusiasm that he is reluctant to sleep. He is sparkling and alert and a wealth of thoughts rush through his head so rapidly that he has a veritable flight of ideas. He displays fleeting attention and marked distractibility. His train of thought is continually sidetracked by casual sights and sounds. At times he is distracted by the sound of his own words so that he may break off in the midst of a sentence to pursue an entirely new line of thought suggested by the clang of his utterances. He, therefore, is often incoherent and unable to stick to the main goal idea in his communications.

The brilliance and alertness of the manic is such that he is quick to see the many relationships and associations in conjunction with words and objects. Thus he is given to a profusion of rhyming and punning. He is quick to note similarities and often playfully misidentifies people on the basis of superficial resemblances.

The great enterprise, aggression, exuberance, and unbridled optimism of the manic patient often lead to his engaging in very imprudent business ventures and promotion schemes into which he may rapidly sink a fortune. He becomes embroiled in various rows and altercations. His frivolity and gay abandon often lead to intemperance and dissipation. He may desert his family and launch out upon a season of uninhibited, madcap behavior characterized by extravagance and phliandering which soon wreck his home and reputation.

Some Legal Aspects of Manic-Depressive Insanity

Persons Suffering from Depression. Patients suffering from morbid depression seldom present criminal problems. At times, however, the underactivity, dullness, lack of initiative, and sustained effort which are characteristic signs of depression may be misinterpreted by others as signs of inexcusable laziness. The family bread-winner, disabled by depression, may be mistakenly blamed for willful procrastination and idleness and be hailed into court on a charge of non-support. A mother, similarly afflicted and misunderstood, may be charged with neglect of minor children.

Occasionally a despondent individual, intent on suicide, may have the morbid conviction that it would be desirable and fitting to take certain loved ones along to limbo with him. Desperate, depressed men have been known to kill their entire family before committing suicide. Depressed mothers have killed their newborn infants.

A sensitive, dutiful woman in the thirties became despondent a few days after the birth of her son. It was her first infant. She had always loved children and was thrilled to learn after several years of married life that she was pregnant. She took the new responsibility of caring for her baby very seriously. In the hospital she fretted because of her physical weakness. Her task as a mother seemed very formidable.

On returning home she was obliged to remain alone with the infant most of each day. Her strength was slow in returning, her discouragement mounted and she began to be haunted by the morbid fear that she would never be well enough to give her child proper attention. She was deeply depressed and wanted to die, but could not bear the thought of her son's being motherless.

She accordingly shot her infant through the abdomen with her husband's service revolver and started to turn the weapon on herself when she became unnerved by the whimpering of the mortally wounded child and rushed for aid.

Authorities sent her immediately to a psychopathic hospital where she recovered in about three months and was returned to the community after a grand jury had found "no true bill" by reason of insanity at the time of her murderous assault.

Persons Suffering from Manic Illness. The fractious, uninhibited "playboy" manic may come to the attention of the courts because of minor infringements of the law such as drunkenness, brawling, disturbing the peace, failure to pay cab fare, assault and battery, threats, fornication, and lewdness.

A woman in the early twenties gave up her job as bookkeeper and sat about the house, dull, taciturn and brooding, for three months. She complained of being unable to think and described her mind as being completely blank or like a vacuum. She wanted to be left absolutely alone. Rather suddenly she passed into a state of restlessness, overactivity, and elation and rushed around in a harum-scarum, frivolous fashion. She was the life of every party she attended and made a repeated spectacle of herself with her flirtatiousness and uninhibited behavior. She would remain away from home several days at a time. At last, following a long absence of the girl, her parents requested the police to find her. She was discovered in a disreputable neighborhood cohabiting with a dubious young man very much her inferior intellectually and socially.

Her boldness, impudence, loquacity, and inappropriate jocularity in court led to her commitment to a mental hospital for a period of observation.

Her obvious manic illness, which followed in the wake of a depression, was complicated by a pregnancy.

Prognosis and Treatment of the Affective Disorders

General Statement. The affective or mood disorders are usually self-limited, benign illnesses, running courses which in the main vary from six months to two years. Some mood disturbances are very short lived, lasting only a few days or weeks; others, especially the agitated depressions of mid-life, may persist as long as three or more years. Whereas patients with affective psychoses generally recover without residual defect, and are able to resume their former mode of living, at least half of them have recurrences of morbid mood disturbance. At times attacks may succeed one another so rapidly that the patient's career is seriously crippled. Occasionally patients may suffer rapidly alternating episodes of depression and elation without sufficient lucid intervals to permit even temporary reëstablishment of life in the community.

Two Phases in Treatment of Manic-Depressive Psychosis. Treatment of manic-depressive insanity may be roughly divided into two phases, that which relates to the management of the psychotic attack *per se,* and that which is attempted during the lucid interval in order to fortify against repetition of the illness.

1. *First Phase in Treatment of Manic-Depressive Psychoses*

Morbidly Depressed Patients: Need for Admission to Mental Hospital. Morbidly depressed patients require care in a mental hospital for definite,

compelling reasons. Their almost constant suicidal propensities necessitate their receiving an especially diligent supervision, which can be provided only in an institution organized for the management of psychotic patients. The retardation, lack of initiative, inability to look after simple body needs, sleep disturbances, and helplessness to make even the simplest decisions, etc. which depressed patients characteristically exhibit constitute specific nursing problems which are best handled in a mental hospital. The hospital serves to supply him with a respite from the insistent responsibilities which are bound to attend even the simplest program of living at home. In a hospital ward the patient's life is well ordered in accord with a simple hygienic regime in which his basic needs are met with minimal demands upon himself.

Depressed people often display great dependency and are in need of constant reassurance. They are less likely to make serious suicidal attempts if they feel that someone is taking a genuine interest in them and is sympathetic with their plight.

Convulsive Shock Therapy in Treatment of Depressions. Recently, convulsive shock therapy has been introduced in the treatment of depressions. Results have been extremely gratifying. Most depressions clear up completely after six or eight shock treatments given at the rate of two or three per week, and although relapses may at times occur, the returned illness usually yields rapidly to further convulsive treatment. The severe, agitated depressions, which characteristically persist for many months or years, are especially alleviated by shock therapy. Electric shock therapy, a technique introduced by Cerletti and Bini in 1938, is evidently the treatment of choice for depressed patients who have no severe physical disorders. Its true evaluation, however, must await several more years of observation and study.

The Manic Patient: Reasons Why He Should Be Hospitalized. The manic patient must be kept in a mental hospital in order to protect him from his own folly and aggressive impulses. If allowed to remain at large, his overactivity and exuberance increase rapidly from the constant stimulation afforded by his environment. His inordinate optimism and poor judgment constitute an especial hazard if he continues to play an active role in any position of responsibility in a business or professional field. His tendencies to be domineering, quarrelsome, and aggressive lead to marked friction and fracases with his associates or with total strangers. He tends to make a spectacle of himself.

In the hospital he is largely insulated. He is protected from the many stimulating and aggravating factors present in his home, his business, and

his community which act as lashes to whip up his excitement. Stimuli are minimal in the hospital. The simple, quiet, regular daily regime of the ward undoubtedly hastens recovery. The use of sedative baths and other quieting hydrotherapeutic treatments as well as hypnotic drugs to facilitate regular sleep may produce a decidedly favorable effect. Shock therapy has not proven as helpful in manic illness as in depressions, but occasional gratifying results are obtained.

2. *Second Phase in Treatment of Manic-Depressive Psychoses*

Appraisal of Contributory Factors. The second phase of treatment of the depressive or manic patient is that which is attempted following the subsidence of his psychosis and his return to the community. Such treatment consists, first, of making a thorough appraisal of all the factors that may have contributed to his disorder with a view to effecting helpful changes wherever possible.

Inherent Susceptibility and Environmental Stress. There is common agreement that constitutional factors play a prominent part in the etiology of affective disorders. The manic-depressive patient is said to possess an inherent susceptibility to the disorder. Certain individuals, who have such vulnerablity, may conceivably be fortunate enough to avoid an actual psychotic attack. They presumably inherit the tendency to mental disorder but never experience overt manifestations of illness because of the absence of aggravating factors in their actual life situation. Others with a specific constitutional weakness finally develop an affective psychosis as the result of the added handicap of environmental stress, discordant relationships with family and fellow associates, and inner disharmonies. Whereas a fundamental vulnerability is immutable, it may be possible to influence the patient to develop a more robust, mature personality capable of withstanding the ordinary shocks and strains of daily living thus materially reducing the likelihood of another breakdown.

A parallel exists with respect to the manic-depressive patient and the victim of tuberculosis. The tuberculous patient is known to have a decided susceptibility deeply rooted in his constitution. Whether or not he succumbs to the disease will depend in no small measure upon the level of physical hygiene which he maintains. If he lives by a wisely ordered, healthful program which fosters a rugged physical condition, he may never develop active tuberculosis despite innate vulnerability. If, however, he becomes chronically fatigued, undernourished and dissipated, he can hardly expect to escape the ravages of the disease. His recovery from active tuberculosis and the

prevention of further break-down will be dependent upon his establishment of suitable physical hygiene. Similarly, the manic-depressive patient who has recovered from one attack may avoid another break in equilibrium by a reassessment of his personal problems, a reorientation, and the adoption of a more mature way of life. Thus the psychiatrist may carry out an extended personality review with the patient in an effort to trace with him the development of his attitudes, values, and habits, and the effect they have had upon his life adjustment. The psychiatrist may guide the patient to more mature views, more suitable habits and modes of living which will promote stability. A study of the patient's life situation may disclose many elements in his milieu which may be altered favorably. Community resources should be exploited to the full to enrich his life. A better balance of the day's activities should be established for the patient with emphasis on a more hygienic schedule assuring equitable amounts of recreation and relaxation.

DEMENTIA PRAECOX OR SCHIZOPHRENIA

Historical Development of the Concept

Dementia praecox is not a clear-cut disease entity. It is a label customarily applied to a bewildering variety of clinical pictures and courses.

Morel's Concept. Morel[3] of Paris first applied the term *demence precoce,* in 1860 to the tragic mental illness of a studious, model boy of thirteen years whose character underwent a profound change of unfavorable nature. The boy became somber, taciturn, and withdrawn. He lost all interest in his school work and appeared to forget everything he had learned. His former plastic obedience and gentleness of manner gave way to marked antagonism and angry outbursts in which he threatened to kill his father. He ultimately displayed "a kind of inactivity bordering on 'stupidite'." Morel was convinced that the boy's intellectual, moral, and physical progress had been arrested by an hereditary, irreversible, degenerative process.

Hecker's Description of Hebephrenia. In 1871 Kahlbaum permitted his pupil, Hecker,[4] to publish the description of a mental disorder, *hebephrenia,* the symptoms of which were reminiscent of those in Morel's "demence precoce." Hecker emphasized the tendency of hebephrenia to develop at puberty. He pointed out the silliness, awkwardness, odd grimaces and gestures, disorganized behavior, moodiness, emotional outbursts, incoherent utterances, hallucinations, and exaggerated, bizarre, childish ideas reaching

[3]MOREL, TRAITÉ DES MALADIES MENTALES (1860).
[4]HECKER, DIE HEBEPHRENIE (1871).

delusional proportion which characterized the disorder. He called attention to its ". . . very quick termination in a state of mental enfeeblement, the evidence of which can be seen in the first stages of the disease."

Kahlbaum's Description of Catatonia. Kahlbaum[5] in 1874 published his observations on *catatonia,* a mental illness in which a variety of strange motor disturbances[6] exist in association with successive phases of melancholia, mania, ecstasy, confusion, stupor, and dementia.[7] Motility or muscular disturbances characterize the disorder. There is an unusual involuntary tension of the extremities which offers resistance to passive movements. Odd, stereotyped movements, queer postures, distorted grimaces, a great variety of mannerisms and chorea-like motions[8] are often observed. Patients may be mute, immobile, expressionless, unaware of sensory impressions and given to catalepsy or waxen flexibility. A dramatic exaltation or religious ecstasy may be noted. There may be tendencies to declamatory recitation, lively gesticulation, pretentious, high-sounding phraseology, repetitiousness, whisperings, and the odd use of diminutives. There may be a distressing absence or cessation of thoughts. Religious and erotic preoccupations are common. Tendencies to negativism are strong, reaching their fullest expression in the refusal of food and the development of stupor.

Unification by Kraepelin. Kraepelin in 1893 recognized the identity of Morel's "demence precoce" and Hecker's "hebephrenia" and used "dementia praecox" as a synonym of hebephrenia. In 1898 at the Heidelberg Congress, Kraepelin expressed the conviction that hebephrenia, catatonia, and dementia paranoides[9] were all manifestations of the same underlying process of deterioration and hence were different forms of a single disease which he called *dementia praecox.* Thus he came to recognize three main varieties of dementia praecox, the hebephrenic, catatonic, and paranoid types respectively, classifications still adhered to in present day nosology.

Kraepelin sought on the basis of its outcome to establish that dementia praecox was a disease entity. He was convinced that it was a progressive,

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[5]KAHLBAUM, DIE KATATONIE ODER DAS SPANNUNGSIRRESEIN (1874).

[6]Such as special disturbances of muscle tone or other disorders of the motor or muscular system.

[7]Dementia refers simply to the deterioration of intellectual functioning.

[8]Involuntary jerky muscular movements or twitching similar to those observed in chorea or St. Vitus's dance.

[9]Dementia paranoides had for some time been regarded as a disease entity consisting of a delusional state in which more or less poorly systematized morbid beliefs, with or without hallucinations, are the central finding. Although gross behavior changes tend to be minimal at first, mental enfeeblement and dilapidation became pronounced in later stages.

deteriorating condition terminating inexorably in a characteristic state of dementia. His chief nosological criterion, therefore, was terminal dementia.

Many psychiatrists have questioned Kraepelin's concept of dementia. The "dementia" of dementia praecox patients proved at times to be more apparent than real. Patients seemingly in the throes of long continued, irreversible deterioration and dementia would on occasion suddenly regain their former alertness and social responsiveness. It was questionable whether the dementia was anything other than a deception, a psychological reaction in response to asylum isolation and the surrender of the patient to his own disturbed inner life.

Bleuler's Concept. Bleuler[10] attempted to find some psychological uniformity or common mechanisms on which to base the concept of dementia praecox. In 1911 he published his *Dementia Praecox oder Gruppe der Schizophrenien* in which he endeavored to bring order and unity into the dementia praecox group by demonstrating the presence of a common underlying psychological disorder—a well-defined "splitting" of the psychic functions caused by a fundamental loosening of the associative machinery of the mind. He proposed the term, *schizophrenia,* to replace that of dementia praecox which had given rise to so much unproductive discussion. "With the name, dementia praecox or schizophrenia, we designate a group of psychoses, chronic or progressing in episodes which may come to a standstill in any stage, or even regress, but which allows of no complete 'restitutio ad integrum'." He further stated that the disorder was characterized "by specific alterations of thinking, feeling and relation to the outer world not found elsewhere." Its essential symptoms he listed as emotional deterioration, "autism" and incoherence of thought.

Bleuler, like Kraepelin, held the view that this disorder was the result of organic disturbance, but his concept of schizophrenia was based on the common denominator of a special psychological symptomatology irrespective of etiology, course, and end-stage, whereas Kraepelin's dementia praecox comprised a narrower group based on the nosological criteria of uniform etiology, deteriorating course, and terminal condition of characteristic dementia with the terminal dementia being the most essential criterion. Although there is a tendency for psychiatrists to use the terms schizophrenia and dementia praecox interchangeably, it is obvious that such usage is not altogether justified.

Freud's Concept. Freud,[11] as early as 1896, published an article on the

[10]BLEULER, DEMENTIA PRAECOX ODER GRUPPE DER SCHIZOPHRENEN (1911).

[11]FREUD, FURTHER REMARKS ON THE DEFENCE NEURO-PSYCHOSES (1896), I COLLECTED PAPERS 155-182 (1924).

"Abwehrneuropsychosen" in which he analyzed psychologically the symptoms of a patient whom Kraepelin clearly would have recognized as suffering from paranoid dementia praecox. The word, dementia, was not once mentioned by Freud in conjunction with the case. Freud, ignoring any consideration of nosology, traced the development of the patient's various mental symptoms step by step demonstrating their highly personal significance which was intelligible in the light of certain early experiences of the patient, the subsequent evolution of her personality and the various pertinent factors in her actual life situation. Freudian doctrine has, no doubt, influenced many modern psychiatrists to place special importance upon psychological factors as primary etiological agents in so-called dementia praecox or schizophrenia and to regard the concept of organic deterioration and dementia as more or less fictional.

Jung's Concept. C. G. Jung,[12] inspired by Freud, with whom he had been closely associated in early investigative work relative to hysteria, threw special light upon the psychogenic aspects[13] of schizophrenia in his book, *Psychology of Dementia Praecox,* published in 1907. He presented case histories in which he felt he was able to demonstrate that the strange, perplexing behavior and utterances of schizophrenic patients were more or less meaningful as symbolic expressions of their inner needs, strivings, preoccupations, and underlying conflicts.

Meyer's Concept. Adolf Meyer,[14] while recognizing possible organic factors in dementia praecox, emphasized the importance of careful reconstruction of the particular patient's life history in throwing light on the development of his disorder. He looked upon dementia praecox as an expression of extreme maladaptation engendered by long standing faulty habits in the patient and an undermining of his instincts by their persistent misapplication. Meyer conceived of mental illness not in terms of clear-cut nosological groups but as "reaction types."

Hoch's Concept. Hoch[15] pointed to the importance of the prepsychotic personality as a factor in the development of the schizophrenic type of reaction. He looked upon schizophrenia as the end phase of a gradual,

[12]Jung, *The Psychology of Dementia Praecox,* 3 NERVOUS AND MENTAL DISORDER MONOGRAPH SERIES (1909).

[13]Psychogenic may be defined as arising from psychological causes as distinguished from organic or physiological causation.

[14]Meyer, *Fundamental Conceptions of Dementia Praecox,* BRIT. MED. J., Sept. 29, 1906.

[15]Hoch, *Constitutional Factors in the Dementia Praecox Group,* REV. OF NEUROLOGY AND PSYCHIATRY, Aug., 1910.

continuous evolution of an inadequate, ill-balanced, "shut-in" personality. According to Hoch, the innately shy, sensitive, seclusive, stubborn, "shut-in" person tends in virtue of these attributes to become increasingly withdrawn and alienated from his fellows until he finally forsakes the world of reality entirely and derives his satisfactions solely from his own subjective experiences. His detachment leads to increasing social deterioration and dilapidation.

Partly because specific pathological changes[16] have never been clearly demonstrated in schizophrenia, the tendency of most present day psychiatrists has been to seek for psychogenic factors in the development of the schizophrenic disorders. The patient is studied in relation to his social setting, and the complex interplay between his life situation and his personality is analyzed. His illness is looked upon as reflecting a serious failure on his part to adapt to the ordinary demands of life. Many of his mental symptoms are viewed as stemming from more or less ineffectual gropings to attain some measure of salvation, some degree of satisfaction of vital inner needs and strivings. Though the patient may in this way find a partial solution to his personal problems, his new equilibrium is usually gained at the price of alienation from the social group and commitment to a mental hospital.

Symptomatology

Emotional Changes. Schizophrenic patients characteristically display a striking emotional shallowness and indifference. Their lack of warmth and genuineness of feeling makes the establishment of any rapport with them difficult or impossible. They appear to be more or less anaesthetic to ordinary social values, frequently exhibiting a singularly inappropriate blandness and superficial attitude with reference to topics of the utmost gravity. They may talk about tragic personal problems without displaying the slightest stirring of emotions.

Their emotional reactions at times, however, are intense and explosive. Violent outbursts of anger with assaultive and destructive conduct may occur unexpectedly. Unexplained laughter or weeping, unprovoked fear or frenzy, and strange unnatural states of ecstasy may manifest themselves in a sudden, incongruous manner which is quite out of keeping with the real situation at hand and is indicative of profound disorganization of the emotional life.

The feelings and responses of schizophrenic patients toward other individuals are strikingly inconsistent and poorly integrated. At one moment

[16]Pathological changes are unhealthy structural alterations of the bodily organism.

they may display seeming consideration and friendliness with respect to their fellows, and, then, in a twinkling they may flare in unbridled rage, making unreasonable threats and assaults. Their capricious, incoherent, uncontrolled feelings and attitudes are motivated by forces that spring from deep-seated, unrecognized complexes which are expressed in rapidly shifting, haphazard, unpredictable fashion.

Schizophrenic patients tend to be seclusive, suspicious, stubborn and antagonistic. Not uncommonly they turn against members of the family for whom formerly they may have exhibited tender regard. They withdraw increasingly from social contacts, display marked reduction of interest and grow untidy and careless in personal habits. They may litter their rooms until they resemble pigsties. They may disregard household schedules, refusing to take meals with the family. Many of them lie abed much of the day, often masturbating excessively and daydreaming extensively. They forsake their jobs, productive activities, and recreational pursuits. Their lives become barren and devoid of purpose. Such courses of action as they may take appear pointless and unreasoned. Their erratic, poorly organized undertakings are evidently carried out in response to drifting, unrealistic thinking and phantasy which so dominate their lives that they are quite unable to adjust to the pragmatic demands of the world. They proffer very superficial, inadequate motives in explanation of their perplexing actions.

A schizophrenic colored man of twenty-five, caught up in the meshes of phantasy, traveled on a bus from New York to Boston with little more provision than his bus fare. He had previously been poring over college catalogues and had let his imagination run riot. The avowed object of his trip was to have a look around Harvard College to see what it was like in case he were to decide one day in the vague future to pursue an academic career. He strolled into one of the Harvard dormitories (which was plainly posted as a restricted military area), pottered about the corridors and finally seated himself at the piano in the drawing room. When he commenced to play the instrument, he was arrested for trespassing. His history disclosed that he, like many other schizophrenics, had adopted an aimless, nomadic way of life, drifting from city to city, seldom remaining more than a few days or weeks in one place. Such disorganized individuals may work at odd jobs just long enough to accumulate funds to permit travel to another destination, but their improvidence and itinerate propensities often lead to their arrest for vagrancy, trespassing, soliciting alms, prostitution, or petty larceny.

The odd, ineffectual, poorly organized behavior and unrealistic thinking of

the schizophrenic patient may be further illustrated by the case of a lad who, in his eagerness to join the army, sought to prove his great bravery to the authorities by suddenly seizing the pistol from the holster of a guard and firing it in the air. He had also sought out a naval research chief in the radar division and had given him a pretentious account of his amateur knowledge and inventive ideas relative to electronics, hoping thereby to facilitate his plan to become a naval air cadet.

Catatonic Symptoms. The behavior of schizophrenic patients at times is characterized by strange disorders of motility. The muscles of their extremities may manifest a peculiar rigidity or tenseness. Attempts to produce passive motion of the limbs of such patients meet with considerable resistance. Patients may maintain fixed, rigid postures for hours, days, or weeks. Their faces are expressionless and immobile. Usually there is accompanying mutism. They stand about, motionless and detached, often insensitive to fatigue or pain.

At times their postures are quite grotesque and assume forms which appear to have special symbolic meaning. Thus a patient may assume a pose with arms laterally outstretched as if portraying the crucifixion. Other poses may be reminiscent of Napoleon, the Statue of Liberty, etc. Some patients lie in stupor with little more animation than a mummy and remain at times for months in a withdrawn unresponsive state in which they require all the care of a helpless infant. Some have later confided that they had assumed such a state because of a compelling urge to return to the completely dependent, irresponsible condition of infancy. Such a patient may remain for long periods in extreme flexion with head on chest and knees drawn up to the abdomen in actual foetal position, apparently as a symbolic gesture in response to a strong desire to return to the serene, untroubled milieu of prenatal existence.

Occasionally schizophrenic patients display a curious motility disorder, charaterized by an odd, plastic condition in which the extremities may be passively moved about with little resistance, remaining fixed for extended periods in such position as they are placed. In virtue of this special motility disturbance or "cataleptic state" the patient bears resemblance to a pliable, waxen image; hence this property of the patient is commonly called *cerea flexibilitas.*[17]

Striking states of absurd, automatic obedience as well as automatic mimicry of the speech and actions of others (*echolalia* and *echopraxia*) are occasionally observed in schizophrenic patients.

[17]Waxy flexibility.

Another familiar form of schizophrenic motor disorder consists of queer repetitive movements or "stereotypies"—for example, the classical case described by C. G. Jung. This involved an old woman at Burghölzli who executed a sewing movement with her hand in almost endless, unvaried repetition for more than a quarter of a century whilst the backs of her fingers grew thickly calloused from friction as she lay long years in a secluded corner of the asylum engrossed in her stereotyped, symbolic activity. Before her mental illness she had had a love affair with a youthful village cobbler, but their relationship "had come to naught." She straightway went into a decline and renounced all further interest in the outer world, necessitating the protracted hospital care that followed. She remained unresponsive and seemed in her ceaseless pantomime of sewing to identify herself with her lost cobbler sweetheart. Evidently she was striving in her distraught, disorganized way to work out some solution which would afford at least a small measure of inner peace. She was apparently able to attain partial satisfaction by holding fast to some little fragment of her earlier happy life.

Other patients, instead of fixing upon a simple repetitive movement may act out a more elaborate drama in response to some vital inner need. Thus one man carried out a dramatic portrayal of the life of St. Francis. Another schizophrenic person, imbued with the conviction that he was Almighty God, dramatized this morbid belief by performing fancied miracles. On one occasion he furnished proof of his exalted state by defiantly uprooting a U. S. mail box and destroying its contents.

At times patients exhibit completely disorganized, crude, uninhibited behavior to which no adaptive significance whatever can possibly be attached unless it be that the total picture is essentially a blanket declaration of irresponsibility, a flagrant flaunting of independence, a wholesale abandonment of ordinary proprieties. In such an excited, chaotic state patients may display blind aggression, destructiveness, and unbridled assaultive conduct. They may destroy their clothing, walk about in the nude, masturbate openly and shamelessly, smear themselves with feces, and display all manner of crude, instinctive, infantile, pleasure-seeking tendencies. Perverse sexual drives, incestuous advances, and other forms of lewdness are manifested unrestrainedly. Incredible acts of self-mutilation and violent suicidal or homicidal attempts may be perpetrated.

Occasionally a patient may react to repeated thwarting and disappointment by simply withdrawing from all human relationships. He may become a recluse who has lost every vestige of interest in worldly affairs. He may slump deeply into a stuporous state in which he appears to strive to shut himself off from all external stimuli.

Attitude of Surrender. Other schizophrenic patients, who at one time seemed to give promise of a career of notable achievement, may grow disinterested, lose former ambition and sag down into a state of sluggishness and apathy. They exhibit no bizarre conduct, no profound disorganization or distorted view of the world. They merely drop to a simpler level of existence, displaying an attitude of surrender. (These patients fall into Kraepelin's category of *dementia simplex.*)

Schizophrenic Thinking. The thought and speech of the schizophrenic are quite characteristic and often provide a very important clue to diagnosis. There is a lack of mental alertness with a tendency to drifting thought and speech. His utterances are vague and elusive and he manifests a looseness of expression which is indicative of lessened intellectual control. He fails to couch his statements in clear-cut propositional form. He is simply unable to think or talk in terms which make plain common sense. His speech may grow increasingly incoherent and fragmentary until at times it becomes a mere salad of words or gibberish. New words are sometimes coined (neologisms), and there may be queer, stilted, affected habits of speech.

The loosely knit, jumbled thought of the schizophrenic individual is akin to that observed in dreams. There is a regression to archaic, symbolic levels of thinking. The ability of abstraction gives way to more primitive concrete attitudes of thought in both the schizophrenic and the dreamer. Jung once said, "If we allowed a dreamer to go round among waking men, we would have the classical picture of schizophrenia."

The utterances of schizophrenics express the subjective trends which prevail in the disorder. One of the outstanding features of schizophrenic thinking is the proclivity of the patient to construct a profoundly distorted world picture with the formation of delusions.

Delusions. A delusion is a false belief which is quite out of keeping with the individual's cultural background, experience and education. It is a morbid conviction from which the individual cannot be dissuaded no matter how much logical argument is brought to bear. Our beliefs or convictions in general are not necessarily based on logical considerations but frequently develop in response to vital inner needs. It is perhaps for this reason that morbid beliefs or delusions are held so tenaciously and are so impervious to argument.

Certain convictions might be normal for one individual and morbid for another depending upon his culture and education. A simple Italian peasant might speak with some justification about being under the spell of "the evil eye"; an ignorant negro from the deep South might quite naturally tell of

visitations from the spirit world; a rural Irishman, though sober, might tell of being harrassed by leprechauns and banshees. These are legitimate folk beliefs, appropriate to the cultural setting and background of the respective believers. If, however, a Beacon Hill judge or a Princeton professor should be discovered muttering about an evil eye or diving under the bed to escape the banshees, the symptoms would be ominous.

Delusions, as observed in schizophrenia, most frequently deal with the topic of personal value, the sexual appetites, deep-rooted aggression and hatred, and fall roughly into three categories.

The Wish-Fulfilment Form of Delusion. The simplest, most intelligible form of delusion would seem to be explicable on the basis of ingenuous wish-fulfilment. Individuals, repeatedly deprived, thwarted and given to mounting inner dissatisfaction, may fall back increasingly upon a facile phantasy life instead of meeting obstacles with vigorous, realistic attitudes and behavor. As they draw more and more satisfaction from inner subjective experiences, they grow inefficient, less interested in the issues of the real world, more detached and alienated from their fellows. Those who adopt a way of life of excessive temporizing, withdrawal, and day-dreaming, may at times reach a critical point at which the check of logical faculties disappears, and fact and fancy become inextricably tangled and confused. Thus their dreams become realities for them and they create a twisted picture in which they see themselves and the world about them in the light of their own special cravings.

A man with vain hopes and lofty pretentious yearnings, but downtrodden and helplessly mired because of underprivilege and his own inadequacy, may finally sustain a break in inner equilibrium in which he throws off the fetters of reality and astounds his fellows by announcing that he is Napoleon, the King of England, a divine prophet, the Holy Ghost, Christ or God. He may experience some heavenly revelation and gain special prestige through his close communion with the Deity. His personal value is bolstered by the conviction that he has some great mission to perform. A woman may fancy herself to be the wife of some great celebrity or she may talk of being "the Holy Virgin with Christ in her stomach."

A romantically inclined widow in her fifties, estranged from her only daughter and deeply disappointed and impoverished following an adverse court decision in the case of a contested will, was unutterably lonely and desolate when her only intimate friend, a physician, left for military duty in the Pacific. He had promised to write to her, but weeks passed without word from him. She was beside herself with anxiety and disappointment

when suddenly she began to get mysterious, telepathic messages from him. She received daily revelations concerning the personal experiences of her beloved physician. Although she was perplexed by her strange experiences, she accepted them eagerly and uncritically. Her previous drab, isolated existence was transformed into a life of high adventure. The distress and barrenness of her days and her feelings of rejection and inferiority were further assuaged by the conviction that God had entrusted her with the important mission of effecting sweeping changes in the Roman Catholic Church. It became her official duty to revise religious practices of the church in order to foster brotherly love in the world.

After this woman was taken into a hospital where she was able to find companionship and sympathetic interest, her morbid convictions and telepathic experiences vanished in a week's time. Her mental symptoms may be understood as expressions of simple wish-fulfilment in response to intolerable loneliness and urgent need for affection.

Some patients with somewhat more prosaic morbid convictions will tell of inheriting a fortune, of creating a wondrous invention or of devising a marvelous cure. Others talk boastfully of being "groomed for the presidency," for example, or of being sought by the New York Yankees because of phenomenal pitching prowess.

More Complex Delusions of Schizophrenic Patients. The bulk of delusions expressed by schizophrenic patients are more complex and puzzling than those of the naive wish-fulfilling variety just described. Many morbid beliefs are persecutory in nature and seem to represent unconscious, crude sex wishes or hostile feelings which have broken through in disguised form. Thus a schizophrenic woman spoke of an animal "like a gorilla" that crawled into bed with her at night. Others speak of being raped, or of being drugged and kidnapped. One lonely woman told of mysterious persecutors who played electrical waves upon her genitals causing her to have exciting sexual feelings "to tempt her." Still another female patient was harrassed by unseen hands that seemed to clutch at her legs. Lips of an elusive pursuer repeatedly touched the back of her neck. Such delusions appear to be disguised expressions of unconscious erotic preoccupations.

A young man studied himself in the mirror. He thought he looked haggard and dissipated. He grew increasingly preoccupied concerning his sister's virginity. He expressed the morbid conviction that she had been raped or soon would be. He couldn't sleep; he bolted the door between their rooms. This man's morbid ideas would seem to be a disguised expression of his own unrecognized incestuous interests. Another man with similar strong, re-

pressed incestuous urges claimed that his mother had been raped. He threatened to murder his mother. He also accused a friend of perverted sexual practices without any basis.

Delusions often possess a bizarre, incongruous quality difficult to fathom. The distressing, jumbled morbid beliefs of many schizophrenic patients would seem intelligible as a disguised expression of their own inner struggles and turmoil. They create a distorted picture of the world about them, a world which becomes a reflecting screen upon which is projected their inner personal discord, their repressed, unacceptable preoccupations and cravings. Through the mechanism of "projection" they endow the outer world with the discordant elements of their own personality.

The Phenomenon of Projection. Projection is a mental mechanism or dynamism commonly observed to a greater or lesser degree in everyone. It is the property of disowning one's own personal shortcomings and endowing others with them. This faulty proclivity, which evidently aims at the maintenance of high self-regard and serenity, commonly manifests itself even at a tender age. The mere toddler, who clumsily spills his mug of milk, may point angrily to his mother and say, "You did that."

The deluded schizophrenic patient may in the same way deny the responsibility and guilt attendant upon his intense internal conflicts and disturbing instinctive drives, and look out upon a world shot through with the components of hostility, strife, depravity, and confusion which actually lie unrecognized in himself. Thus patients with intense hatred and bitterness in their own hearts may see marked hostility everywhere they look, and speak of being plotted against and tortured by fancied persecutors.

Patients with profound inner discord may complain of outer conflict where none exists. They may insist, for example, that Masons and Catholics have broken out in bloody battle, that Jews and Gentiles clash openly in the streets. They may even pass through wild, seemingly delirious episodes in which they witness the whole world in awful turmoil and disintegration. Vast hordes are envisioned falling upon one another in mortal combat. The elements seem to be whipped into almost unimaginable fury. Lightning flashes, volcanos spew, conflagration flares throughout the landscape, the heavens fall and the end of the world appears at hand. Such a wild, catastrophic delirium ("Welt-untergang Erlebnis") is a common experience in schizophrenic patients and portrays the tremendous struggles in their nature and the disintegration that threatens their mental life.

Patients, perplexed and confused, may make accusations that others have lost their reason. A crazed wife may show great concern over her perfectly

normal husband and drag him off to a psychiatric clinic. Individuals, who have suppressed intense, romantic, sexual yearnings, may see undue sexuality in the outer world. They disown their disturbing sexual interests and cravings and unjustly accuse others of lewd and lascivious behavior. A prudish maiden lady with repressed but insistent sexual drive may misinterpret innocent gestures or gallantry and charge a harmless gentleman with offensive flirtatiousness or indecent advances, mistakenly endowing him with her own repressed erotism.

Crude, infantile pleasure-seeking trends may be projected in disguised, symbolic form, giving rise to very bizarre, jumbled delusions. There is a close resemblance of the delusional content of these patients to the stuff of dreams. In both dreamer and schizophrenic patient there exists a "manifest content" of thought, shot through with symbolism and distortion, which is elaborated from crude, unconscious preoccupations and urges. The same fragmentary, jumbled, incongruous content of topics with strong sexual and hostile coloring may be observed both in dreams and in delusions.

Hostile and erotic components of delusions are often blended with religious elements, the latter apparently lending a certain sanction to the former. A young man spoke of having sex relations by radio rays. He also told of having perverted sexual relations with the Pope and claimed to have "the sacred heart of Christ."

There are certain delusions and morbid misinterpretations which apparently arise on the basis of intense feelings of guilt. Sensitive persons, laden with guilt and feelings of inferiority, tend to look out upon a distorted, accusatory world. They see the world peopled by scornful, disapproving individuals. They fancy that strangers have somehow discovered their guilt and stare at them in a knowing manner, make derisive gestures, gossip about them, etc. They continually mistake the casual actions and remarks of others as having special reference to them. Newspaper articles and radio broadcasts appear to have a double meaning with subtle allusion to them. Their friends make statements with veiled hints concerning their evil-doing. Detectives seem to be following them.

Fear that others may learn of their guilty secrets may cause sensitive individuals to fancy that their thoughts are being read or broadcast to the world. They may entertain the morbid belief that dictaphones are hidden in the walls and that specially constructed cameras record their private activities.

Some express beliefs that they are contaminated, emit bad odors, are

rotting away or being ravaged by loathesome diseases such as leprosy, cancer, etc.

Masturbation, perverted sexual activities, and illicit sexual relations are the varieties of misconduct which most commonly produce the intolerable guilt of the patients referred to above. The following case history is illustrative of such a "guilt psychosis."

A seventeen year old boy talked to his uncle, a priest, about masturbation. He was greatly perturbed concerning his wickedness. He felt people on the street knew of his habit and hooted auto horns to display their scorn. When a laundry truck chanced to pass him, he believed it constituted a special indication of his need for spiritual cleanliness. An undertaker's wagon passed him purposely to suggest that he should die. He imagined that certain "To Let" and "For Sale" signs in dwellings disclosed that people were actually vacating the neighborhood because of him. He spoke of a pain through his heart and was preoccupied with suicidal thoughts. In the hospital he confided to the doctor, "My private parts bother me most; I think they are the source of my trouble."

Hallucinations. Hallucinatory experiences are frequent in schizophrenic patients. Hallucinations are false sensory impressions for which there are no external stimuli. A patient, for example, hears a voice, but no one is speaking; he sees animals or experiences special religious visions which have no real basis. Hallucinations may occur with relation to any of the special senses. Auditory and visual hallucinations are especially common in schizophrenics. The attention of some patients is almost wholly monopolized by imaginary voices. Close questioning of patients often elicits the statement that their hallucinatory voices do not have the same sensory quality that we experience when hearing the spoken voice. Their hallucinatory experiences are often not heard in the ears but seem to be perceived inwardly and give the impression of being more like thoughts or strange telepathic messages than voices. They seldom turn round to see where the voices are coming from. Sometimes the voices seem to come from their own internal organs (heart, stomach, etc.). One patient told of having a "receiving set" in his back. Sometimes patients refer to their imaginary voices in strange unnatural terms. One schizophrenic patient spoke of hearing "wallflower voices"; another patient told of hearing the voice of a horse-fly.

Auditory hallucinations like delusions may have a content of wish-fulfilling character. Voices may make friendly conversation for the lonely or give comfort and reassurance. Voices from imaginary lovers may satisfy

romantic yearnings. Communications from the Deity or from great celebrities may bolster feelings of prestige and enhance personal value.

Other voices are hostile, accusatory, frightening, and perplexing and would appear to arise from repressed preoccupations and discordant elements of the personality which break through in disguised form, perceived by the patient as alien voices. Often the voices present a senseless, jumbled, fragmentary character. Thus one patient continually heard a voice asking him if he were "Jo-Jo the dog-faced boy." Another patient heard a voice which made various inquiries about pasteurized milk and called him a damned fool.

Intellectual Disturbances. The gross intellectual functions (memory, orientation, apperception, etc.) are comparatively little impaired in schizophrenic patients although there is definite defect in the associative processes of the mind manifesting itself in marked incoherence of thinking. The seeming dementia would appear to be an expression of social deterioration, withdrawal, and apathy rather than actual mental enfeeblement.

Prognosis and Treatment in Schizophrenia

Schizophrenia is an ominous condition. Not more than fifteen per cent of patients with this disorder are able spontaneously to readjust to community life. There is little definite knowledge concerning factors which influence prognosis although it is quite generally agreed that patients who break down in settings of great stress seem to have a more favorable chance of regaining their equilibrium than those who break down with little obvious provocation, for the latter would seem to be less robust, less able to withstand the ordinary shocks and strains of life. The fact that schizophrenia generally has a poor prognosis is largely due to the insidious growth of the condition and the inaccessibility of the patient. Efforts to raise the level of adaptation of the schizophrenic patient to a point permitting even simple productive activity and harmonious life in the community are bound to be arduous and protracted if any measure of success is to be achieved. The patient must be lured from his inner world, led back to realistic interests and social contacts, spurred on to practical action, thrust forcibly into the stream of life.

In accord with such a concept of treatment, a technique called "total push therapy" is often used. It consists of an organized scheme to exteriorize the patient or draw him from the prison of himself so to speak, by forcing him into numerous productive activities and social relationships by means of

cajolery and a well planned system of rewards and penalties. Occupational therapy is a very important aspect of such a program.

Little is gained by attempting to change the patient's attitudes by mere talk. He will not be influenced to give up delusions by arguing or reasoning with him. Stimulation of the schizophrenic to action with flesh and bone is the most effective means of redirecting his interest and restoring good social habits. When he begins to experience the satisfaction which comes from simple concrete achievement, he will begin more and more to abandon his morbid interests and twisted views. The treatment of the schizophrenic consists basically in redirecting his interest.

Some schizophrenic patients are less obdurate, their morbid interests less fixed, their return to adequate social adjustment more certain. They may suffer severe disorganization of emotional life and behavior, but their disturbance of inner equilibrium has usually been forced by intense inner turmoil and outer stress producing temporary chaos. Their personalities are basically more robust, more capable of reintegration.

In general those schizophrenics who have broken down acutely in settings of definite severe stress, and who show evidences of considerable inner tension, are the individuals most likely to improve or recover.

There are studies which indicate that improvement or recovery in schizophrenics is greater if some form of shock therapy is administered within six months to one year of the onset of the disorder. Insulin shock treatment or electric convulsive therapy are recommended. The former method of treatment would appear to be more effective than the latter. Probably twenty shocks are the minimal number needed for the schizophrenic if the electric convulsive treatment is used. Shock therapy is still in an experimental or trial state. The nature of the physiological reactions, and the reasons for the mental changes which occur, are not clearly understood. There are definite indications, however, that there is a significantly greater immediate recovery rate in schizophrenics who are treated by shock therapy than exists in those who do not receive it.

Some Legal Aspects of Schizophrenia

From the foregoing description of the behavior and thinking of schizophrenic patients it is evident that there are many ways in which they may come in conflict with the law.

Certain patients may at first exhibit only mild disorganization with failure to meet the challenge of social and occupational maturity. They fail to establish closely knit bonds with the social group or to organize their lives

according to an accepted system and code. They exhibit an anaesthesia to ordinary social values and a tendency to pretentious day-dreaming and empty rumination. With continued inability to achieve a responsible adult status and to establish solidarity with the group, such individuals may become nomadic and increasingly seclusive, suspicious, antagonistic, and alien. They find their way into courtrooms as vagrants, trespassers, beggars, petty thieves, and prostitutes. The case of the improvident negro man, arrested for trespassing in a Harvard dormitory, is an example in point.

The delinquency of a schizophrenic girl in her "teens" may also be cited. She shirked her school work, grew antagonistic, refused to help with household duties, displayed outbursts of profanity, ran away from home several times and indulged in sexual promiscuity. During the course of her wanderings she was arrested for shoplifting. Her theft consisted of taking a lorgnette which was of no earthly use to her. Her feeling-tone was superficial, bland, and inappropriate. She was devoid of shame and discussed her problems in vague elusive terms which disclosed silliness, emotional dullness, and marked looseness of thinking.

An intelligent boy failed in his studies and gave up school. He worked at various odd jobs but never remained longer than two weeks in any place of employment. At last he gave up work entirely, secluded himself for hours each day writing worthless poetry and reading books on philosophy and psychology. He repeatedly stole large sums of money from members of the household in order to buy more books until he had collected three hundred dollars' worth. He felt no twinge of conscience relative to his thievery. He was unmoved by the distress of his parents. He explained in an unabashed manner that he wanted the books so he simply stole the money as the most expeditious way to gain his end. He talked vaguely of one day being a great writer like Jack London but there was no indication that he ever made a really constructive effort toward this end. Rather, he resorted to compensatory day-dreaming and failed utterly to meet the challenge of pragmatic adult responsibility.

The boy's father, a "tough-minded" plumber, locked him out-of-doors, hoping in this way to force him to cease his procrastination, but he merely wandered idly about the streets, slept with a disreputable acquaintance, and grew increasingly unkempt and filthy. Convinced at last that the boy was an incorrigible wastrel and common thief, the father had him arrested.

Schizophrenic patients with markedly disorganized emotional life may suddenly display unexplained destructiveness and assaultiveness.

A patient in the late twenties discharged from the navy because of

"psychoneurosis," failed to make a suitable occupational adjustment in civil life. He was tense, restless, and irritable and had repeated altercations with his wife from whom he finally separated. He visited his invalid mother to whom he was closely attached. He complained of "painfully acute hearing" and insomnia. Late one night he entered his mother's bedroom and beat her viciously with a smoking stand. Her screams brought aid just in the nick of time. She lay critically ill in a hospital while her son was under observation in a psychopathic ward. He did not show the slightest distress or concern with regard to his mother's condition or his own predicament. He discussed the whole affair in the most casual manner. He stated that he loved his mother but that she had been ill with a persistent cough which got on his nerves so he struck her. He often smiled or laughed inappropriately. His answers to questions were vague and elusive. He talked in a jumbled manner about not being able to take up life in the community because clothing and food were rationed.

Catatonic schizophrenics whose special form of disorder is characterized by marked excitement, turmoil, and profound disorganization of thought and behavior may indulge in conduct of a serious criminal nature. They display a sweeping abandonment of conventional behavior with the breaking through of deeply repressed crude factors. Indecent exposure, outrageous sexual proposals or attacks, brutal assaultiveness, gross destructiveness, threats, murder, etc. may be carried out with reckless abandon.

Paranoid schizophrenic patients, though preoccupied with a wealth of delusional topics, seldom come into direct conflict with the criminal law. Though they often entertain many fantastic persecutory ideas, their emotions suffer such extreme deterioration that they seldom take active steps to protect themselves or to seek redress. Occasionally, however, paranoid schizophrenic patients manifest serious threatening or assaultive behavior motivated by their morbid beliefs.

A schizophrenic woman in the late forties had hallucinatory experiences over a period of six years. She had repeated visions of angels and heard the voice of God. She went to church several times each day and entertained the idea that she should become as good as God. She finally developed the morbid conviction that it was her duty to kill all sinners. With this idea in mind she made a violent assault upon a small boy in the neighborhood who she felt had been molesting her pet cat.

A forty-seven year old intemperate Italian laborer, married to a sickly wife who had undergone many abdominal operations and had borne no children, fell ill and remained in bed for three months. He complained of weakness,

dizziness, poor appetite, and insomnia. He had distressing auditory hallucinations, expressed delusions of jealousy concerning his wife and talked of suicide. He was admitted to a psychopathic hospital where he remained a week during which time he improved rapidly. He was removed by his family against the advice of physicians and was able to work a little on his brother's farm. He continued to suspect his wife of infidelity and one day imagined he heard an acquaintance, Mr. M——, say, "I don't get married because I can take your wife." He brooded over this till some days later when he saw Mr. M—— in a grocery store and attacked him with a razor. Later in a hospital the patient displayed a bland inappropriate mood and expressed many bizarre delusions relative to the fancied infidelity of his wife.

Patients with delusions of jealousy frequently give a history of chronic excessive indulgence in alcohol. Some psychiatrists have looked upon alcoholism as playing a primary part in the production of such conditions although delusions of jealousy often exist in paranoid schizophrenics who are not addicted to alcohol.

Paranoia and Paranoid Conditions

General Characterization. True paranoia is a delusional state in which the morbid beliefs are well systematized and the personality of the patient tends to be preserved until late in the disease. Many psychiatrists believe that constitutional factors play an important role in the production of the disorder. Sensitiveness, stubbornness, suspiciousness, egocentricity, rigid, uncompromising attitudes, and a passion for justice are often noted as prepsychotic attributes.

Contrast of Paranoia and Schizophrenia. True paranoiacs do not display the marked disorganization of the emotional life and behavior nor the rapid deterioration of social habits commonly seen in schizophrenic patients. The paranoiac still displays the niceties of social response and his ability to think logically is undiminished except in relation to his special delusional topics. Even these are expressed by him in a well organized, direct, matter of fact manner in contrast to the jumbled, fragmentary, bizarre, shifting presentations of delusional material of the paranoid schizophrenic. The delusions of the paranoiac are usually persecutory, but grandiose delusions appear and may even predominate in later phases of the disorder. At times there is some slight basis in fact from which the persecutory ideas arise, but the exaggerated and elaborate delusions as well as the marked bitterness and eagerness to seek redress are utterly disproportionate.

Whereas schizophrenics often treat fancied persecutors with strange, in-

appropriate indifference, indicative of marked incongruity between emotions and content of thought, the paranoiac usually feels righteous indignation and takes immediate, determined, vengeful steps against his imagined persecutors. The quest for redress becomes the ruling passion of his life. All activities and interests pertaining to daily living are sidetracked for the overvalued aim of squaring accounts and getting justice.

Such profound embitterment and such zeal and pertinacity of attack make paranoiacs an especial source of danger in the community.

Paranoiacs tend to engage in all sorts of legal disputes ranging from altercations concerning property rights to complaints relative to libel, slander, etc. Their litigious activities are usually unsuccessful and they soon gain the reputation of being cranks.

True paranoia is exceedingly rare. Many patients, however, present delusional states which constitute transition forms between true paranoia on the one hand and paranoid schizophrenia on the other hand. These transition forms are referred to as *paraphrenia* or *paranoid condition.*

A rare case, approximating true paranoia, is presented below:

A salesman was arrested for peddling neckties without a hawker's license. He had been unable to obtain such a license because he was an alien. He became an ardent student of international law and discovered certain existing treaties between his country and the United States containing passages which he interpreted as giving him a right to a hawker's license. He flaunted his neckties in the faces of the local constabulary, hoping, thereby, to be arrested and to obtain a jury trial wherein he would present his legal arguments, expose to the public the unfair treatment he had been accorded and enjoy the satisfaction of having justice meted out to him.

He never succeeded in having a jury trial, though his dogged efforts to obtain one resulted in his being arrested no less than forty times. He was usually made to pay a fine of ten or fifteen dollars or was sent to jail for a like number of days but was invariably denied his trial by jury. He became increasingly embittered and grew certain that he was the object of outrageous persecution by the government authorities. To seek redress became his sole purpose for existing. He hired the services of a tailor to make a striped prisoner's suit. He journeyed to Washington, D. C., donned his prisoner's costume and paraded about the streets in demonstration against governmental persecution. He spent several days under observation in St. Elizabeth's Hospital as a result of this eccentric behavior.

He lost all interest in the welfare of his wife and children in his zeal to obtain justice. While his family's impoverishment increased, he spent most

of his money to purchase an elaborate printing press so that he could print a profusion of handbills setting forth his grievances. At first the bills were given local distribution. Later, as he became more grandiose, he began to have the conviction that his mistreatment was a matter of international significance so he began mailing his printed documents all over the world. At last, after many years the messages which he printed grew less coherent and he displayed increasing grandiosity culminating in his extending to himself the title of "Supreme Dictator of the Universe."

The disgruntled and aggrieved necktie hawker described above provides an interesting example of the litigious propensities which characterize the paranoiac. Fortunately he was not given to acts of violence and pursued a course marked by persistent but more or less harmless protest with a decidedly spectacular or clownish stamp at times.

Certain other paranoaics are far more aggressive and ruthless and given to murderous assaults.

Mental Disorder Associated with Organic Brain Disease

Chronic Organic Reaction Type

The mental reactions observed in conditions of extensive brain destruction are much the same regardless of the particular agent or disease responsible. One may refer, therefore, to a more or less typical mental picture or "chronic organic reaction type" which is manifested commonly by patients with any one of various disorders of the central nervous system. A few of the more familiar brain disorders giving rise to the special mental symptomatology of the chronic organic reaction type are cerebral arteriosclerosis,[18] senile dementia,[19] various forms of degeneration and atrophy (Alzheimer's disease,[20] Pick's disease,[21] Huntington's chorea,[22] Wilson's disease,[23] etc.), neuro-

[18]A chronic progressive disease in which hardening and other changes of the artery walls interfere with the proper blood supply to the cerebral hemispheres of the brain.

[19]Senile dementia is a progressive deterioration of the intellectual functions developing in the course of a degenerative condition of the brain associated with old age.

[20]Alzheimer's disease is a mental disorder generally developing in middle life and running a rapidly progressive course with final dementia. The disorder depends upon a characteristic extensive, degenerative process in the cerebral tissues.

[21]Pick's disease is a mental disorder characterized by progressive dementia in many respects similar to that of Alzheimer's disease, but with its own special underlying brain pathology.

[22]Huntington's chorea is a hereditary disorder of adult life, often middle life, characterized by irregular, involuntary, jerking movements of groups of muscles, speech disturbance, and gradual dementia.

[23]Wilson's disease is characterized by degenerative changes in the brain and liver accompanied by progressive dementia.

syphilis (meningo-vascular,[24] general paresis,[25] etc.), virus diseases (epidemic encephalitis,[26] etc.), multiple sclerosis,[27] tumors, vitamin deficiencies, and injuries.

The mental symptoms consistent with extensive pathological alteration[28] of the brain may be divided into three main categories: (1) impairment of the intellectual functions; (2) emotional disturbances; (3) character changes.

Impairment of Intellectual Functions

Patients with chronic organic brain disease commonly suffer varying degrees of defective attention, disorientation, disturbed apperception, impaired memory, faulty judgment, and poor insight.

Attention. Attention is poorly sustained. There is a lack of endurance and perseverance in performance of any mental task. Often the patient is readily distracted.

Disorientation. Individuals with organic brain disease may be disoriented as to time, place, or person. Disorientation relative to time, observed most frequently, is mainly dependent upon marked defect of memory, the patient being unable to retain impressions long enough to keep in mind such items as dates or the approximate time of day.

Disorientation relative to place may result from memory defect and defective apperception. Disorientation with respect to person is usually indicative of very marked confusion.

Defective Grasp or Apperception. Extensive destruction of the cerebral cortex may lead to serious difficulty on the part of the patient in grasping any situation in its entirety, in solving new problems or in appreciating the nature and significance of his environment. Old knowledge may be retained and problems of a simple, familiar, concrete nature may be mastered whereas new challenges requiring abstract attitudes of thought for their solution are managed badly.

Memory Impairment. It is helpful to consider memory under two headings—memory of recent events and memory of remote happenings. Although

[24]Meningovascular syphilis is a syphilitic infection involving the membranous coverings of the brain and the blood vessels of the brain.

[25]A syphilitic infection of the central nervous system in which the cellular structure of the brain is extensively damaged.

[26]Epidemic encephalitis is a special virus infection of the brain often occurring in epidemic form.

[27]Multiple sclerosis is a progressive neurological disorder in the course of which remissions may occur. Its underlying pathology is characterized by sclerotic patches disseminated throughout the central nervous system.

[28]See note 16 *supra*.

remote memory grows quite hazy as the result of widespread *brain damage,* the function of recall of recent impressions suffers relatively greater disturbance. Some patients may be able to recollect childhood experiences with fair accuracy and vividness and yet exhibit such marked impairment with respect to immediate recall that they are unable to retain new impressions for scarcely more than a few seconds. Their minds are like slates which are almost instantly wiped clean after each impression. Such extreme retentive defects of memory are especially characteristic of *Korsakow's psychosis,* a disorder with sweeping, progressive brain changes due usually to alcoholic excess in combination with grave vitamin deficiency.

Compensatory confabulation is a frequent accompaniment of gross impairment of memory of recent events. This phenomenon consists of an attempt on the patient's part to fill in the gaps of his memory with various fanciful tales. A patient who has lain in a hospital bed for weeks may insist that he has just returned from a walk in the park, a shopping expedition and so on.

Judgment. Judgment may be defined as the ability to evaluate contrasting propositions with a view to selecting the one most suitable and appropriate to act upon. For example, one may be faced with the contrasting propositions, "Shall I, or shall I not, buy a grand piano for every room in the house?" These propositions were weighed by a certain man who, after consideration, chose to act upon the former course. General paresis accounted for his exceptional decision.

Insight. Patients with organic brain disorder generally have little appreciation of the extent of their disability. Though severely handicapped, a patient will often insist that he is exceedingly fit. Not infrequently he will manifest a carefree, euphoric attitude utterly inappropriate to his pitiable predicament.

Emotional Disturbances

The emotional reactions of patients with organic brain disorders tend to be easily aroused, markedly exaggerated, labile, and poorly controlled. Storms of anger or unrestrained weeping may occur with little provocation. A state of euphoria,[29] accompanied by varying degrees of loquacity frequently prevails. Inappropriate jocularity is often observed. Rarely, despondency and inaccessibility may supervene. The sudden, explosive, emotional outbursts of such patients, often touched off by trifling annoyances, may lead to impulsive crimes of violence.

[29]Euphoria is an emotional state characterized by a feeling of well-being or elation.

Changes of Character

The character of patients with lesions of the brain undergoes profound alteration. Marked deterioration of social habits and lack of restraint are outstanding attributes. There is a loss of the niceties of social response, the patient becoming increasingly self-centered, inconsiderate, dull, and disinterested. He shows a lack of initiative and spontaneity (*Mangel an Antrieb*). Former ambitions dwindle. He dawdles and procrastinates. He often refuses to bathe or change his underwear, and ceases to have pride in his appearance. His sloppiness of dress and general ill-groomed, unkempt, dirty condition may contrast sharply with former meticulosity. He is content with inaccuracy and is given to carelessness in whatever tasks he performs.

He displays great impatience of restraint, exhibits crude uninhibited behavior, and emotional outbursts. His irreverence, profanity, obscenity, and inappropriate jocularity astound and profoundly shock his friends. His judgment is very defective. He may be given to crude sexual advances or other indecent, lewd or unnatural behavior, including improper fondling of small children.

The frequent tendency of patients with brain disease to commit asocial acts has led psychiatrists to refer to a *medicolegal phase* of organic psychoses. A very correct, law-abiding citizen who has a high moral code may, in the throes of organic brain disorder, develop an astonishing anaesthesia to ordinary social values and commence to lie, steal, and defraud in an unconscionable fashion at complete variance with former propriety. His unexpected arrest for pilfering, shoplifting, or some other equally crude gaucherie, so alien to his established code, may constitute the first indication of his serious pathological condition.

As the disorder progresses, odd, puzzling, outlandish conduct may be noted. A dignified old professor, for example, insisted on wearing his dinner jacket on a morning's shopping tour. A certain lady perplexed members of the family by scattering grapenuts over the floor throughout the house. This same lady attended the same cinema program each afternoon for a week and was once observed sitting on a curbstone munching a raw frankfurter.

Delusions which at times are quite bizarre, may be expressed by the individual in question. One man made the startling pronouncement that his lungs had turned to glass. Frequently the delusions are absurdly grandiose. An alcoholic railroad brakeman, with no literary or artistic talent, became convinced of his great skill as a novelist, playwright, and actor after sus-

taining a severe head injury, and envisioned himself as soon taking a top-flight position in Hollywood as a writer and movie star. Delusions of superhuman prowess, regal power, and fabulous wealth are quite familiar, especially in advanced forms of general paresis.

Common Legal Aspects of Organic Brain Disease

The following cases illustrate some of the common legal aspects of organic brain disease:

A mild mannered, soft spoken, fifty-seven year old bachelor, wrote an incoherent, profane, obscene, threatening letter to a fellow workman who had annoyed him. He was arrested and sent to a mental hospital where he was euphoric, jocular, loquacious, and given to marked emotional lability. He boasted of his maturity of thought and his admirable poise and control. At one moment he would display great remorse concerning the letter he had sent, deploring it as a childish, impulsive, outrageous act completely alien to his established propriety. Immediately afterward he would break out anew into a towering rage and express great regret at not having beaten his adversary "to a pulp" or "chopped him in two."

There were signs of failing memory and other evidences of intellectual deterioration. His blood pressure was elevated and there were signs of generalized arteriosclerosis. His impaired intellectual functions, labile, unbridled emotions, and ill-considered, unrestrained, puerile conduct were explicable on the basis of his *cerebral arteriosclerosis.*[30]

Another man fifty-seven years of age lived for some years with his daughter and her family following the death of his wife. He had been a law-abiding, morally straight individual. He continued to work as a night watchman and gave no indication of mental disorder until it was discovered that he had been giving his seven-year-old granddaughter various unexplained sums of money. Close questioning of the little girl disclosed that he had been handling her indecently and carrying out other lewd practices upon her over a period of months.

In a mental hospital he readily admitted his irregular behavior without shame or embarrassment. He displayed inappropriate euphoria and moderate memory defect. Special X-ray study (pneumoencephalogram) disclosed extensive atrophy of the brain cortex, evidently the result of a progressive, degenerative disease process.

[30]See note 18 *supra.*

Acute Organic Reaction Type or Delirium

A delirium is a clouded mental state characterized by fleeting attention, disorientation, impaired retention and comprehension, vivid hallucinatory experiences, restlessness, excitement, and fear. Delirious reactions are a manifestation of acute, overwhelming toxic conditions such as may arise from infectious diseases, the ingestion of poisonous substances or the elaboration and retention of toxic substances in the body associated with cardio-renal disease,[31] metabolic disorders,[32] deficiency diseases,[33] various forms of anaemia,[34] marked exhaustion, debilitation, etc.

Children and women are more susceptible to delirium than men. Also emotionally unstable individuals are especially prone to develop delirious reactions.

Delirium develops most frequently in conjunction with rise of fever in infectious disorders although, at times, it may precede the fever by several days (*prefebrile delirium*) or occur after the fever has subsided and the patient is in the convalescent period (*postfebrile or exhaustive delirium*). Prefebrile delirium usually presages an exceedingly severe illness; postfebrile delirium is indicative of an extremely exhausted state possibly complicated with marked vitamin deficiency.

The onset of delirium may be sudden or gradual. Often it is ushered in by a prodromal period of two or three days in which the patient continues to be clear but exhibits restlessness, is easily startled, apprehensive, distractible, and unable to sleep because of terrifying dreams. As the delirium takes more definite form the patient becomes increasingly unable to fix his attention, and he rapidly drifts away from the main goal idea which he tries to express when speaking to others. He becomes mildly confused and presents changing levels of consciousness with intermittent disorientation. He begins to have great difficulty synthesizing sensory impressions into their true significance. Wallpaper designs, shadows, doorknobs, etc. are often elaborated by the patient into weird frightening objects (morbid illusions). As his delirium deepens, his mind becomes increasingly clouded so that he no longer understands what is said to him. He may be quite unresponsive

[31]Chronic disease of heart and kidneys.

[32]Metabolic disorder is a disturbance of the body's function of transforming food-stuff into complex tissue elements; also an inability on the part of the body to break down complex substances into simple ones in the production of energy. In diabetes mellitus, for example, the diabetic cannot make proper utilization of sugar.

[33]Deficiency diseases are nutritional disturbances resulting from lack of vitamins or other essential food elements.

[34]Anaemia is a deficiency of blood as a whole or a deficiency of the number or quality of red blood corpuscles or of haemoglobin.

to questioning and unaware of those around him. He mutters incoherently, evidently in response to hallucinations. He may be very fearful, tremulous, and restless. His extremities may twitch convulsively. At times a delirious person may display fragments of the activities associated with his regular job. Thus a cobbler may sit on the edge of the bed and pound on an imaginary last; a teamster may crawl to the foot of the bed and shout at imaginary horses, etc. (*occupational delirium*). Wild, exhausting overactivity with many symptoms of manic excitement, or epileptic convulsive episodes may supervene. The delirious patient may slump into coma soon followed by death.

There is an occasional instance in which a delirious patient, confused and frightened, may commit a serious assault upon some nearby person whose motives he has misinterpreted. A patient with *delirium tremens*,[35] seized a knife and slashed a member of the household. His assault occurred in a setting of panic and confusion and was committed as a frantic measure of self-protection. A patient, suffering from a delirious episode associated with lead poisoning, suddenly gripped a porcelain pitcher and broke it over the head of a nurse and then jumped through a window in response to muddled ideas that he was in deadly peril.

Some patients, ill with toxic-infectious states, or other somatic disorders, may not display customary delirium, but exhibit schizophrenic or manic-depressive reactions instead, especially if they are predisposed to such disorders. There are records of patients, for example, who, in the throes of final illness, became increasingly irritable, unreasonably accusatory and suspicious, ultimately developing definite delusions of persecutions with respect to near relatives. In consequence of such morbid attitudes and beliefs, patients of this sort have been known to change their wills shortly before death, causing perfectly innocent, kindly relatives to lose deserved inheritances. Certain patients with pernicious anaemia,[36] in particular have been cited in this connection. Such instances present nice legal problems.

[35]Delirium tremens is a tremulous delirious state occurring in the course of chronic alcoholism.

[36]Pernicious anaemia (see note 34 *supra*) is a special type of primary anaemia of grave sort.