A Study of Desirable Procedures For Administering The Work Experience Phase of The Practical Arts Program In Selected Kansas High Schools

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A REVIEW OF TEXTBOOK LITERATURE ON SCHIZOPHRENIA

being

A Master's Report presented to the Graduate Faculty of the Fort Hays Kansas State College in partial fulfillment of the requirements for the Degree of Master of Science

by

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INTRODUCTION

The purpose of this study is three-fold. First, to prepare a background for research in the field. Second, to provide a review of some of the available literature for others interested in the field, particularly in this institution. Third, to discover what some of the present problems are in regard to schizophrenia and the extent to which solutions have been found.

There have been no previous investigations similar to this at Fort Hays Kansas State College. The sources of my data are listed in the bibliography. This material was made available to me by the Fort Hays Kansas State College Library and the Fort Hays Kansas State College Psychological clinic, with the exception of case studies which were obtained at the Kansas State Hospital at Larned, Kansas.

The method of procedure was essentially to review the disease from the available literature. I consider the data significant to the extent that it fulfills the three purposes given above. The limitations of the report arise out of the nature of the study. Certain aspects of schizophrenia are unknown to us at the present time. Also in reviewing the literature, data were selected by the author and some had to be omitted. However, in this study, the advantages outweigh the limitations. It is my hope that this report may help others as it has helped me, in understanding schizophrenia.
PROBLEM

It is the problem of this report to discuss one of the major disorders for which no organic lesions and no toxins have been consistently demonstrated. These disorders as a whole are called functional psychoses and include schizophrenia, the topic of this paper, as well as paranoia, manic depressive psychoses, and involutional melancholia. According to Dorcus and Shaffer (3), there is considerable controversy over the use of the term "functional psychoses" and it should be noted that the use of such terminology is common in medical practice, where for example, functional heart disorders are recognized as a group for which neither drugs, toxins, nor lesions are responsible.

Brown (2) says that the symptoms of functional psychoses always show a cause, have a significance, and are economical with regard to the total life history of the individual. Functional psychoses arise on the basis of frustration of basic urges and may also present organic problems. They are of great interest to psychologists because in them the primary etiological factors are psychological and hence belong within the integrated life history. Although the primarily organic psychoses account for nearly one half of all the first admissions to hospitals, the primarily functional psychoses are of greater importance medically and they are of greater interest to psychologists. They represent a more important medical problem because on the whole they are of longer duration, occur earlier in life, and are perhaps even more incapacitating.
Schizophrenia, in its typical form, consists of a slow, steady deterioration of the entire personality, usually showing itself at the period of adolescence. It involves principally the affective life, and expresses itself in disorder of feeling, of conduct, of thought, and in an increasing withdrawal of interest in the environment.

Brown (2) describes schizophrenia as the most frequent of the major psychoses. In the United States about twenty per cent of the first admissions to mental hospitals are diagnosed as schizophrenia. Since the average hospital duration in schizophrenia is sixteen years close to fifty per cent of the resident population is schizophrenic. The incidence of the disease varies sharply with age. Starting in the early teens, the incidence is far the highest between twenty and thirty and falls rapidly thereafter. There are however, first admissions reported as late as the seventies. The disease is slightly more frequent in males than in females and in urban than in rural communities, and its victims tend to come from the lower but not the extremely low cultural and economic levels. Probably it occurs more frequently in some historical epochs than in others. The schizophrenic individual usually becomes sick early in life, is hospitalized and although he has some remissions and discharges he often must return periodically until he dies from some physical cause. Schizophrenia itself does not kill anyone.

Sadler (11) brings out that fifty to sixty per cent of schizophrenics give a family history of mental disorders. There is
usually a hereditary factor; the disorder appears to behave in general like a Mendelian recessive. Birth trauma has been assigned by some writers as a possible predisposing cause.

Sädeln (11) says that the study of a large number of schizophrenics shows very clearly that the tendency to this disorder is partly inborn and partly acquired. These individuals are sometimes dull, sometimes bright, even brilliant. In general, they are shy, sensitive, self-conscious, proud, prudish, determined, lacking in self-confidence, many times the victims of a strong sex urge, while others are deficient in the sex impulse. They usually suffer from marked conflicts. These introverted individuals naturally recoil from the difficulties of real life.

According to Maslow and Mittelmann (9) the type of individual who, under adequate stress, most frequently develops a schizophrenic reaction is the so-called "shut-in" person. These people are disinclined to seek other individuals; they are bad mixers; and when they do make friends, they do not form intimate close friendships. They often have queer habits, are apt to behave in a silly manner and to consider themselves superior to others in a grandiose way. They often show a peculiar lack of appreciation and evaluation of other people's reactions, particularly in connection with social customs. This trait, together with an impulsive urge to make decisions without conscious emotions, may appear in situations which are of extreme importance for the patient, as when he is faced with a difficult situation. Sometimes there is a continuous tenseness in the person who in general is inclined to be "shut-in". When he is with other people his manner is intense, loud,
and awkward, not in harmony with the emotional requirements of the situation. These same patients often have an odd way of thinking; for example, they may approach relatively simple problems in an involved way.

Maslow and Mittelmann (9) say that if the layman feels that he has some understanding of, and perhaps sympathy with the manic-depressive patient, he has no such feeling in regard to the ones suffering from schizophrenia. His behavior lies entirely beyond our usual experience and impresses the observer as so bizarre, that it is easy to see how a more superstitious age could be convinced that such a person was possessed by devils or the victim of witchcraft. Few people who have not had experience with schizophrenia, as doctors, nurses, or social workers, realize the prevalence or the seriousness of this form of mental illness. Every year a great number of persons succumb to this disease, the majority being thereafter totally incapacitated as contributing members of society, it has rightly been said that if a new physical disease appeared which attached so many people, and especially the young, leaving them invalids for life, society would be greatly aroused and every effort made to find its cause and to eradicate it.

Why are people not aroused over schizophrenia? According to Overholser and Richmond (10), there are several reasons. Its victims are withdrawn from society and remain away from society for the rest of their lives. Society often loses interest in these victims. The
attitude of regarding mental illness as a disgrace is still the usual one, and families are prone to hush up the fact that one of their members is affected. There is still a touch of superstition about any kind of mental illness. It is a mysterious matter, with which most of us avoid contact. It is hard to think of it objectively as a sickness.

Summarizing, it may be said that in most instances, schizophrenics are trying to escape from something in the social environment which seems too great a burden to bear. It is altogether true, that in the acute and early manifestations the clinical picture may represent a conflict, a struggle in which the patient may really be putting forth very strenuous efforts to wrestle with the environment, but in its later aspects it is usually the culmination of a flight from reality. Many of these cases are youths who are not disposed to accept the social restrictions and the cultural demands of their environment, they resent situations which interfere with their gratification of natural impulses, or which jeopardize their security and restrict their opportunities for gaining recognition and achieving pleasurable satisfaction. Instead of putting forth intelligent and constructive efforts to unify personality and achieve self-realization in the midst of such difficult situations, they adopt what to them appears to be a more ready avenue of escape and revert to this technique of creating an inner compensatory world of fantasy and romance. They do have some emotion, for they often indulge in violent outbursts of rage.
According to Taylor (13), the schizophrenic group is brought to the attention of the social worker, chiefly, during the early or incipient period of the disease. For months and often for years before a patient has the outstanding symptoms of a psychosis, mental peculiarities, character anomalies, unusual actions, and maladjustments lead to observation by social agencies. Unless an astute psychiatrist sees the patient in this early state, the person is likely to be considered as stubborn, unreliable, delinquent, obtuse, peculiar, or lazy, rather than ill or a proper subject for understanding sympathy, and help. Many are the difficulties, delinquencies, and misfortunes are due to early symptoms of the disease.

Despite the relative difficulty of effecting cures in the disease with our present knowledge, it is surprising how much may often be accomplished to improve the social reactions of these patients by proper social adjustments. Unfortunately much useless effort is expended by social workers in attempts to aid such persons before their disease has been diagnosed.
EARLY CONCEPTS OF SCHIZOPHRENIA

As described by Hunt (6) the early historical concept of schizophrenia is more difficult to identify than are other affective disorders. On the side of classification an important development immediately preceding the contemporary era was that of the isolation and description by various persons of four clinical groupings which Kraepelin then proceeded to fuse into a singly disease entity. One of these resembled paranoia in having delusions as its most prominent constituent; but unlike what was then called "true paranoia", because the delusions in these cases were poorly systematized and there always appeared to be a tendency toward deterioration. This group early received the name dementia paranoides.

Kahlbaum set up another group in 1868 which he called catatonia or tension insanity; he described it as a sort of brain disease in which the clinical pictures of melancholia, mania, stupor, confusion, and dementia were supposed to follow upon one another. But the pathognomonic features were characteristic disturbances of motility; and these were said by Kahlbaum to be just as specific for catatonia as other motility disturbances were for paresis. His assumption of a basic structural brain disease was made upon purely hypothetical grounds and has never been substantiated. A third clinical entity was put forward by Hecker in 1871 and named hebephrenia. According to Hecker, this was a progressive disease of puberty and adolescence which began with a prodromal depressive phase, went over into a silly,
bizarre excitement and then terminated rapidly in a mental decline.

Hecker's hebephrenia was actually quite similar to a much older group first described in England, and a century later in France; it finally got its name in Belgium, and was then adopted in the Latinized form, dementia praecox, by the Germans from whom the English-speaking world received it again. The great British brain anatomist, Willis, in 1674 described "young persons who, lively and spirited and at times even brilliant in their childhood passed unto obtuseness and hebetude during adolescence." In the late eighteenth and early nineteenth centuries Pinel and Esquirol gave similar descriptions, the latter calling the condition "accidental or acquired idiocy", which he ascribed to unwise blood-letting, to head trauma, to masturbation or the suppression of menbes. In 1849 Connolly wrote "Young persons not infrequently fall into a state somewhat resembling melancholia without any discoverable cause of sorrow, and certainly without any specific grief; they become indolent, lose interest in their usual occupations or recreations, intelligence, the affections, the passions, all seem inactive and the patients become utterly apathetical."

It was the Belgian, Morel, who in 1860 introduced the term demence precoce. He, too, emphasized the rapid decline of formerly talented or precocious persons into dementia; but influenced by certain French and Italian traditions he considered this an hereditary degenerative disease. The term gained increasing currency until finally Kraepelin adopted it as dementia praecox. He at first included it among the "degenerative psychoses"; and considered it
to be the same thing as Hecker's hebephrenia, but independent of and coordinate with Kahlbaum's catatonia and the dementia paranoïdes. Later on, in line with contemporary anatomical and metabolic theories, Kraepelin decided that these clinical pictures together constituted a single unitary disease that was endogenous rather than degenerative in nature, and without recognizable environmental cause. To this whole disease entity he applied Morel's terms, dementia praecox, distinguishing hebephrenic, paranoid, and catatonic forms, and eventually adding a simple type also. This represents the official and most widely accepted conception today. Meanwhile there was a growing emphasis in other quarters upon personal and situational factors.

According to Henderson and Gillespie (5) after Kraepelin first made his important and differentiation between the manic depressive psychosis and dementia praecox in 1896, the latter term was more or less generally accepted. The term, however, has two principal drawbacks; first, many so called "dementia praecox" patients do not show a permanent dementia; and second, many of them have developed outside the adolescent period. These objections are valid, but in spite of them, the term "dementia praecox" has usually implied a rather hopeless prognosis. This is unfortunate, and in too many instances has led to an attitude of therapeutic nihilism.

In 1911 Bleuler introduced the term "schizophrenia" to designate all cases of functional mental disturbance, with the exception of typical
manic-depressive cases. He suggested that all such conditions as dementia praecox, paranoid states, hallucinations, prison psychoses, and conditions which might be referred to as abnormalities of make up were manifestations of one underlying morbid process, which could briefly be thought of as a "splitting of the personality". There is no doubt that Kraepelin’s opinion of the prognosis is in the majority of cases correct, but Bleuler’s wider conception allows for the improvement or arrest, which is not uncommon. "This disease, (schizophrenia) may come to a standstill at any stage, and many of its symptoms may clear up very much, or even altogether, but if it progresses, it leads to a dementia of a definite character."

TYPES OF SCHIZOPHRENIA

Overholzer and Richmond (10) point out that schizophrenia may take several forms. Since Kraepelin’s day it had been customary to speak of simple, hebephrenia, catatonic and paranoid schizophrenia, and the writer shall follow this classification in his review though it must be remembered that there is no hard and fast line between the different forms, that the same symptoms may appear in all the forms of schizophrenia. The diseases may take one form in the earlier stages and later show the typical aspects of quite another form.

Simple Schizophrenia

In accordance with the conception of schizophrenia outlined above which it is primarily a deterioration upon which various psychotic sympotoms may be engrafted, this variety would constitute
the typical fundamental form of the disease. White (15) says that schizophrenia shows the development of the deterioration per se, with few, if any of the extraneous symptoms found in abundance in some of the other forms. According to White the origin of simple schizophrenia is insidious, and it may be quite impossible to fix its date, largely because at first the beginning symptoms were not appreciated at their true value.

The young person, quite commonly was, previous to the onset of symptoms, getting along well in school. He took an active interest in school life, and was going on with the young people in the neighborhood, being in every way considered a bright and normal child. The fire may have burned very brightly, but it was built of straw. At first, the patient begins to show a lack of interest in things, ceases going out, and associates less and less with other children. A general listless, apparently lazy and tired out attitude toward life is assumed. This state of affairs is associated with insomnia and often headaches, sometimes hysteriform attacks, and not infrequently is mistaken for neurasthenia, or, if the patient is quite in-active, is taken to be an expression of the depression of melancholia.

Transitory delusions may occur, which are fully expressed, and fleeting hallucinations may, at times, occupy the field. These manifestations are usually disagreeable. Voices are saying disagreeable or insulting things, visions of the devil occur, and the like.

White (15) also says that not infrequently these patients show themselves to be quite irritable, and partly as a result there may occur transitory excitements. If, in addition, peculiarities of conduct and
strange habits develop, the desire to be alone, some mannerism, or slight evidences of muscular tension, and the simpler manifestations of negativism, the close relation between these and the more frequent and the more fully developed varieties is shown. It is in this group that we find the mild and abortive forms, which when arrested, give one the impression that the peculiarities of the individual are inherent, character anomalies. Not a few criminals, hoboes, prostitutes, pseudo-geniuses, cranks, and eccentries, if their history could be accurately traced, would show an episode of distinct precox coloring which separated a period of relative efficiency in their lives from a following period of inefficiency.

White (15) describes a study in which it was found that quite frequently the patients take on a hobo type of existence as the result of their inability to adapt themselves to the ordinarily complex conditions of social life; in other words that they have slipped from under all responsibilities and all conditions which involved continuity of effort and industry. The patient goes from one position to another, unable to fulfill even the simpler duties because of his lack of continuity and interest. Such cases will show the history of a mild attack, with perhaps the development of a dilapidated and incoherent delusional system which subsides and remains dormant when the patient gets away from stress. Such patients, when they find themselves under conditions of stress from which they cannot escape, as for example, enlistment in the military service, quite frequently break down and have to be sent to a hospital. In the absence of severe or prolonged stress, the milder types of schizophrenic reactions will very often go unrecognized or are put down as inadequate types of personality.
Case Study of a Diagnosis of Simple Schizophrenia (8)

F. H. age 45, white, American born, German descent, male, single, Lutheran, with 8th grade education and occupation of farmer most of his life, residence in Kansas.

The patient was the youngest of a family of nine children, four boys and five girls. One brother is crippled and had been taken care of by his parents until their death, then by the patient. The patient was backward about making friends and about being with people. He never wanted to go with the family, but would remain at home alone. He had stubborn spells and was thought to be lazy. He was humored by his mother. He has had no severe illness and possesses no special skills. His parents told him what to do and what not to do. He never thought for himself, and his freedom was restricted. When his parents passed away he was somewhat lost, but made out all right until he ran out of money. Since that time he was like a canary, out of its cage. He was admitted for the first time to the mental hospital on February 4, 1953, for a ninety day observation period. He had a previous interview at the outpatient department of this institution. The court record states that this man had marked hallucinations, sexual perversions, and inability to handle personal business matters with any degree of normal intelligence. The patient has been in jail for three months pending acceptance to the mental hospital. It is stated that the patient has been exposing himself near church people and has spied on individuals from a nearby bush. He had bothered one woman by watching her and tells others that
she was in love with him, though they had not actually met. He had no previous hospitalization for mental disorder. Suicide and homicide were denied as well as alcoholism and drug addiction. The patient inherited two hundred acres of farm land from his parents, but invested foolishly and last practically everything he had. Six months previous to admission he had become very shiftless about his appearance. He was unkept and dirty. He had been known to sit out on the curb on Main Street all day and night and had refused to talk with anyone when they approached him. He had written several worthless checks and the community had become fearful of him. He talked of hearing voices and said that God was talking to him and told him that a particular widow was his wife. Patient was very religious and went to church every Sunday until due to some sexual exposures, he was called to the attention of his relatives, and since then he has not gone out. The patient had no hobbies and spent most of his time reading and listening to the radio but did not concentrate on what he was doing. Family history is negative for mental illness. He began to visit a widow with three children and said that she was in love with him and wanted to marry him. The lady denied this and believed the patient to be mentally ill. At one time the patient stated that he had been married to this widow for about six years and had been providing for her. The patient's speech is defective but this is probably due to his dental plates. His speech was coherent and relevant when he answered questions but he was very confused when he made the statements about his peculiar behavior such as making love, dreaming of marriage, and poor management. He
The patient shows a lot of incoordination, he is withdrawn from reality and is unable to differentiate right from wrong. The patient does not pay too much attention to the examiner. He is too ignorant to understand that the hospital is trying to help him and he has been adopting a passive resistance against the rules of the institution, although he is cooperative in certain ways. The motor activity is slightly decreased. He spends most of his time in the day hall in a rocking chair, doing nothing. The patient has been peculiar all his life. He shows emotional instability. He seems to be retarded and his low degree of intelligence. He is well oriented as to time but not as to place. His memory is fairly good for a man with such a poor education. Judgment and insight are lacking. His plans for the future do not have any practical value. The physical examination shows no gross physical diseases or abnormality. The staff confirms the diagnosis of schizophrenic reaction, simple type.

Paranoid Reaction

According to Dorcus and Shaffer (3), the literature regarding the classification of paranoid types is particularly confusing. This condition is due primarily to the attempts of the various writers to distinguish between the true paranoia, paranoid types of schizophrenia and paranoid states. When the delusional system stands out prominently and there are no other distinct systems, the disorder is called "true paranoia," but if the delusions appear to be incidental to other symptoms, the condition may be called "paranoid." Many patients do seem
to fall definitely within the schizophrenic classification, and yet show considerable evidence of being deluded. These delusions, however, are unsystematized, fantastic, and transitory in contra-distinction to the fixed delusions of true paranoia. They also are associated with hallucinations, persecutory, and grandiose ideas. In addition, the condition is characterized by the emotional apathy of the schizophrenic, although this may not show up until the later stages of the disorder along with silly mannerisms and dementia. The condition shows a gradual deterioration after a slow onset, which occurs later in life than other forms.

Henderson and Gillespie (5) describe the patients affected as usually between thirty to thirty-five years old. The delusions which are expressed are multiple, unsystematized, changeable, usually of the most fantastic and illogical nature and accompanied by hallucinations.

Maslow and Mittelmann (9) say that the paranoid patient becomes moody, preoccupied, and suspicious. His life becomes disorganized; he does not continue his work; he gets into trouble with other individuals, whom he accuses of persecuting him. He may withdraw; he may want to stay in bed to avoid exposing himself to danger, and he may refuse to eat to escape being poisoned. He may commit a violent act, such as breaking up furniture, at the command of a "voice." His speech may be voluble, excited, rambling, and even incoherent.

Patients of this type require hospitalization. The condition may fluctuate, that is, the patient may eat, speak, and behave better, and
may recover, at least, socially and occupationally. But there is no adequate insight; he remains evasive if asked about his illness, or he may deny that he has ever had hallucinations and delusions. Frequently, however, the condition continues throughout life and may end in a complete deterioration of the emotional and intellectual capacities.

Case Study of a Diagnosis of Paranoid Schizophrenia (8)

This forty six year old white female, married, mother of three children, Protestant, was admitted to the State hospital on December 18, 1952. This is her third admission here. Occupation is housewife, education is college. There is a hereditary predisposition as her sister was known to this staff and her brother is now attending an institute for the feeble-minded. Her mental condition was described four years as characterized by auditory hallucinations and delusions concerning people. At treatment time, she is somewhat uncooperative, obstinate in her suspiciousness, and looks around suspiciously while making statements. She is afraid to say some things because she fears they will commit her for life. She is seclusive, she hears voices constantly and interrupts with the statement: "Do not bother me, I have an interview now." Also her persecutory delusions are that people, especially radio personalities, persecute her and give information and guidance. Test data reveal extreme evasiveness, emotional blocking, and inhibition. She is deteriorating slowly intellectually. The patient is preoccupied with numerous transient somatic symptoms.
and feelings of strangeness that she believes are caused by scientific electric instruments. She believes she is under constant observation by unknown parties. She experiences auditory hallucinations which torment her. Physically, she is healthy and in a good state of nutrition. She is unable to differentiate between her hallucinations and reality, and feels quite confused. She has some insight into her condition at times. Shock treatment and intensive psychotherapy are recommended. The diagnosis confirmed by the staff was schizophrenic reaction, paranoid type.

Hebephrenic Schizophrenic

Dorcus and Shaffer (3) comment that the hebephrenic classification has long been the "dump pile" for schizophrenics that are difficult to place in one of the other three groups. There are many symptoms in the hebephrenic picture that appear also in the catatonic and paranoid reactions, but the distinguishing characteristic of the disorder is silliness of behavior and marked incoherence of thought, speech and action. Hallucinations, particularly of hearing, are also prominent. The symptoms are of an unstable character, the delusions are transient, and superficial. The behavior is fantastic and bizarre, in keeping with silliness of thought, and there is considerable gesturing and posturing. The talk is completely incoherent and seemingly without meaning. The onset of the disorders usually occurs at an earlier age than in the paranoid and catatonic reactions, and
there is often much emotional excitement. In most cases there is an early history of shallow emotional response and considerable childish behavior. The emotional deterioration is much more pronounced than in the simple type, and the individual is indifferent to things that might arouse normal people to emotional extremes.

The hallucinations are usually disagreeable. The patient hears voices accusing him of various things and calling him vile names or he reports unusual cutaneous sensations. The delusions are silly, transient, and often no attempt is made to support them with logic. This is the type of schizophrenia in which many clinicians believe we see real regression. Such clinicians claim that the hebephrenic progresses to a certain level and then when mental conflict makes it impossible for him to go on in personality development, he regresses to a level at which he was happy or able to cope with the situation. Many other clinicians, however, claim that the silly behavior of the hebephrenic bears no resemblance to that of a child.

According to White (15) these patients, like the simple schizophrenics often exhibit peculiar habits and mannerisms, a tendency to repeat certain phases, suggestibility, unusual attitudes, or a certain muscular tension shown by angularity, clumsiness and restraint in movements. Among these symptoms there is often noted a silly laugh which is frequently developed while the patient is talking to himself, but which may occur at any time without any apparent cause. If the patient is asked for an explanation of why
he laughed, he will reply in a characteristic manner, "I don't know," or else give some shallow, wholly inadequate, or manifestly false reason. These various symptoms, with the exception, perhaps, of the silly laugh, all go to show the fundamental alliance between this form of schizophrenia and the catatonic variety next to be described.

In conduct these patients usually exhibit a condition of listlessness, apathy, and disinterestedness, with little tendency to activity or emotional expression.

Alternating conditions of excitement may and often occur and occasionally the disease is ushered in by an excitement which may lead to a diagnosis of mania, as the opposite type of onset may lead to a diagnosis of melancholia.

Case Study of a Diagnosis of Hebephrenic Schizophrenia

This patient was admitted to the mental hospital March 5, 1949 on a thirty day observation period. She is twenty-six years old and unmarried. This was her first admission although she is said to have had three previous attacks. The duration of her mental condition is said to have been four years. No substantial improvement resulted from prolonged treatments. She has had both suicidal and homicidal tendencies. Her religious faith is Protestant. She was in California from 1940 to 1943, where she worked for a year and a half at housework and other jobs. She also ran a drill press one year at an airplane factory. She has had the usual childhood diseases, and is said to have been a good student, took her first year twice, but
otherwise has kept up with her classes, attended regularly, and quit
school in 1938 in the sophomore year.

While she was working at the airplane factory, she had the idea
that different people with whom she had worked in California, were in
Wichita. It was here that she began to imagine rather bizarre things.
Later it was noticed that she would hide things or do some little
mischief and then hide herself. She was found one time under the porch
and at another time in the chicken house, after several hours had
elapsed.

Her physical condition was reported as very good. She was well
nourished and healthy. Her I.Q. was 78 according to the Wechsler-
Bellevue test. She graduated from grade school, the third highest in
a class of eight. It is stated that she had both physical and psychic
trauma in her childhood when she sustained an injury to the face. The
resulting deformity, subjected her to the taunts of her playmates. This
had a rather demoralizing effect on her sensitive nature. She became
more seclusive and reserved after this experience. In 1940, when she
was eighteen years old, she went to a dance with a boy friend who
assaulted her sexually. For a time it was greatly feared by both the
parents and her relatives that she had been impregnated, but exam-
inations proved this premise to be false. However, this experience,
no doubt, influenced the course of her developing tendency towards a
psychosis. It is noticed that she made several attempts to make herself
useful and engaged in occupational pursuits, none of which she was able
to maintain for any great length of time. Her assaultive tendencies and irritability finally made it necessary for the parents to admit her to a mental hospital on a thirty-day observation. On admission, the patient was somewhat suspicious of her surroundings and this suspiciousness has increased since her admission.

She was described, temperamentally as having been jolly, quick tempered, sensitive obstinate, and interested in the opposite sex to an average degree. She was originally left-handed, but in school her teacher was very insistant that she use her right hand, so she changed.

She has shown very poor ability to obtain any mental grasp of her situation, and although she knows where she is, she has shown no ability to orient herself to personalities. She has periods of regression during which she plays with dolls. She has numerous bizarre delusions which indicate marked disintegration of the personality. She is rarely accessible shows considerable flattening of affect, judgment is poor, and there is lack of insight. On occasions, she is euphoric, silly, and in fair humor. She has also, on a few occasions, shown a tendency to be uncooperative and assaultive, however, she has gotten along fairly well since she has been here. The staff confirmed the diagnosis of schizophrenia, hebephrenic type.
Catatonic Schizophrenia

Dorcus and Shaffer (3) say that superficially, at least, the catatonic reaction types are more easily distinguishable than are the other schizophrenic pictures. The cases are sometimes separated into two classes, the first characterized by stupor; the second, by excitement. They are probably more accurately described, however, as alternating states of depression, excitement, and stupor. The onset of the disorder has been described by some authors as gradual, but in comparison with the other reaction types, it is much more acute, the patient going into a deep state of depression and then alternating irregularly between states of stupors and excitement.

The case history of the development of symptoms is somewhat like that of other schizophrenic types. The patient gradually becomes more and more apathetic, losing interest in the various things about him, and retiring into his dreams. This gradual withdrawal from the environment then becomes so complete that the patient refuses to take his food, becomes mute, and makes no attempt to change his position. Such patients frequently go for a month at a time without speaking a word, and refuse to make any movement so that it is necessary to tube feed them as well as move them from place to place. Perseverations and mannerisms are common characteristics of the picture. There is much about the stupor that is artificial. Despite the fact that the patient remains rigid, mute, and apparently takes no interest in his environment, he is conscious of what goes on around him and frequently amazes
those about him by coming out of the stupor to relate in minute detail things that one never dreamed came within the sphere of his attention.

Some of the patients appear to be highly suggestible, obeying automatically every command, while others are so negativistic that they intensely resist any attempt to change them. Waxy flexibility is not uncommon, the patient offering little or no resistance to any change in the position of his body or limbs. Good patients may hold the most awkward and uncomfortable positions for indefinite periods of time. Other patients may assume a definite bodily attitude and resist vigorously any attempt to change it.

The behavior of the catatonic during the excited phase appears senseless and unmotivated. The patient will make fantastic movements, swinging his arms wildly, walk rapidly back and forth, shout the same thing over and over again. In this phase of increased psychomotor activity, the patient may become quite dangerous. In the frenzy of excitement, he might attack attendants, doctors, or other patients, although the assault appears to be unmotivated. Such patients need to be carefully attended because of the dangers that may result from the suddenness of the attack. It is to be noted that the catatonic stupor found in schizophrenia is not like the stupor that occurs in the manic-depressive psychoses. In the circular psychoses the patient alternates between fighting his difficulty and giving up or submitting to defeat. The catatonic, on the other hand, has fled from his difficulties.
The physical symptoms of catatonia are much more prominent than in any other form of schizophrenia. Slight differences in the size of the pupils are quite common. Pupillary unrest is sometimes observed, quite frequently the tendon reflexes are exaggerated. The cutaneous sensibility is lowered in the stuporous cases. Vasomotor disturbances are often seen, giving rise to cold, cyanosed extremities. The secretions are disturbed, the sweat and saliva may be increased, the urine scanty or increased, and constipation may prevail. Loss of weight is common in the active stage of this disease.

Case Study of a Diagnosis of Catatonic Schizophrenic (8)

This is the history of a 23 year old single white girl who was admitted to the mental hospital for 90 days observation. She was later committed by the Probate Court. Her occupation has been housework and she did some cafe work. She has an 8th grade education and no religion. Her circumstances are poor. This is her first admission to the institution and she had shown no suicidal tendencies. She was treated previously in Colorado from December, 1947 to February, 1948. Previous to her commitment here 6 years ago, she was declared to be a case suitable for treatment at this institution, but an uncle intervened and saw that she was sent to a sanitarium in Colorado where she remained a short period of time. Her diagnosis there was Schizophrenia, hebephrenic type. After her stay there she returned home, somewhat improved and took some interest in what was going on around her. She never left home for any length of time. It was stated that she was becoming secluded and withdrawn, has lost weight, and her appearance is very poor and beginning to show neglect. Her sister also reported she was
laughing and talking to herself.

The parents of this patient have not been too progressive. The records of the county show that they received township and county aid for years. Most of the family was belligerent and demanding. It seems that the patient has been unable to reach maturity. In her childhood, she was described as being more or less schizoid, withdrawn and harboring fears of various kinds. She was afraid of people, backward about associations, did not "make up" easily and withdrew to herself, although the report says she was a good worker and did some farm work such as milking cows and pumping water. She seems to have been a problem in school because of her disposition. She couldn't recite but could write an excellent paper. She made average grades. She has had no sexual intercourse. She is said to have had always a fear of the dark. She has never been able to engage in any useful occupation for any length of time.

On admission to the mental hospital, she seemed to have made a complete withdrawal from reality. She was practically inaccessible. Her speech was low and indistinct and hesitant. She walked with a mincing gait with her head bowed, stooped in shoulders, and her eyes generally were cast on the floor. The content of her mind cannot be determined and it is not known whether she has had delusions or not, however, it is believed that she actively hallucinates at times. Her hands and feet, when she is sitting down, go through stereotyped rhythmical movements. First she raises one hand and then the other, moves
her feet, one foot at a time, and then goes back to the hands. She keeps this up almost constantly. She appears to have responded very poorly to any treatment although she has received shock treatment in addition to insulin. She has never given any trouble due to behavior disorder or noisiness. She has required no special sedation or restraint. She is oriented somewhat to time and place. She often sits with her head bowed and pays no attention to her surroundings. Her physical status is regarded as good. She is undernourished, has catatonic reflex symptoms, etc., but appears physically well. The staff confirmed her diagnosis as schizophrenic reaction, catatonic type.

It is not always easy to determine that a given case of schizophrenia falls into one or another of the four principal forms described. Psychologists are constantly meeting with mixed types in which the clinical picture is not clear-cut. For instance, catatonic symptoms may appear in any of the four forms. When one sees a large number of these cases, at least half of them will be difficult to place in either the simple, catatonic, paranoid, or hebephrenic categories.

Nevertheless, according to Sadler (11), psychologists should withstand the tendency to create such a vast and bewildering grouping as to render the clinical classification of a given case increasingly difficult. Far better that clinicians should continue to regard the majority as belonging to one of the four categories now in general
use, and that other cases are recognized as falling into mixed groups, at various times showing definite trends toward one of the four well-recognized types.

Schizophrenia Reaction Acute Undifferentiated (Mixed) Type

The American Psychiatric Association (1) has established this name to include cases exhibiting a wide variety of schizophrenic symptomatology, such as confusion of thinking and turmoil of emotion, manifested by perplexity, ideas of reference, fear and dream states, and dissociative phenomena. These symptoms appear acutely, often without apparent precipitating stress, but exhibiting historical evidence of prodromal symptoms. Very often the reaction is accompanied by a pronounced affective coloring of either excitement or depression. The symptoms often clear in a matter of weeks, although there is a tendency for them to recur. Cases are usually grouped in this type at the first attack. If the reaction subsequently progresses, it ordinarily crystallizes into one of the other definable reaction types.

The chronic schizophrenia reactions exhibit mixed symptomatology, and are often placed in this group. Patients presenting definite schizophrenic thought, affect and behavior beyond that of the schizoid personality, but not classifiable as any other type of schizophrenia reaction will also be placed in this group. This includes the so-called "latent" "incipient" and "pre-psychotic" schizophrenic reaction.
Schizophrenia, Childhood Type

Here will be classified those schizophrenic reactions occurring before puberty. The clinical picture may differ from schizophrenic reactions occurring in the later periods because of the immaturity and plasticity of the patient at the time of onset. Psychotic reactions in children, manifesting primarily autism are classified here. Special symptomology may be added to the diagnosis.

The attempt here is to survey the present situation in understanding childhood schizophrenia on a broad level. First, it must be shown what the situation in general is, and give opportunities to arrive at insight into the different aspects which may help arrive at a clearer, somatic consideration.

The problems confronting psychologists in their attempts to understand better the etiological basis for childhood schizophrenia are truly enormous. Until relatively recent years, efforts along this line have been handicapped by lack of positive diagnostic criteria with consequent uncertainty in diagnosis. There has been a tendency to rule the diagnosis in or out on superficial behavioral manifestations alone. As a result, there is no doubt that this profound disturbance of children has in the past commonly gone unrecognized, unstudied and untreated.

According to a recent publication entitled "The Nervous Child" (14), the evidence available, at the present time seems to suggest the following tentative hypothesis:
1. That there may be an underlying biological defect which is etiologically essential to childhood schizophrenia. If such a defect exists it seems most likely to be determined by genetic factors, although the question remains that an equivalent defect may result from other genetic causes. Adequate scientific validation for the existence of such a biologic defect is lacking to date, however.

2. That the attitudes of the parents particularly the mother and the quality of relationships the child enjoys with his parents play an important role etiologically, at least as precipitating or perpetuating factors. Again there is as yet no scientific validation for a causal relationship between the quality of early mothering and schizophrenia.

3. That childhood schizophrenia may actually represent but a clinical syndrome, and not a definite entity with respect to etiology. The picture may result from largely biological factors in some cases, and purely from unfavorable early emotional experiences in others. Possibly multiple etiological factors are operating in many or all cases.

Research in this area has so far arrived at few definite answers, but has pointed the way to promising future investigations and raised many interesting questions. Psychologists shall be very interested to know more of the nature, structural or physiological, of the biological defect, if any, and its pathogenesis.

It appears that whether psychologists eventually prove or disprove the existence of any organic basis for schizophrenia, their hope
for more successfully helping these children will depend on everyone ultimately being better able to meet their emotional needs.

It seems possible that the development of schizophrenic disorders in young children can best be explained in terms of a morbid interaction of various constitutional, environmental, and possibly organic factors. Possible effects of the disorder itself on the developing organism have been discussed in connection with the course and prognosis for an eventual good adjustment. The fact that damage resulting from the disorder may later be irreversible even under the most benign conditions again underlines the urgency for early recognition of the pathological processes and immediate treatment of both parents and child.

There is much debate about the origin and nature of childhood schizophrenia. Anxiety is certainly an outstanding characteristic in childhood schizophrenia, and this extreme anxiety prevents the individual from venturing into the world, from having healthy experiences, from overcoming hindrances, making contracts, joining others, accepting and absorbing reality as it is.

A survey was made by "The Nervous Child" (4) of forty children and adolescents, diagnosed as potential schizophrenias and handled in private psychotherapy. Ten of these cases developed clearly circumscribed schizophrenia.

Experience showed that in the last of three consecutive phases of psychotherapy the ten psychotic cases took a decisively different turn as compared with the thirty improving cases. Diagnostically this
third phase was found decisive.

The first phase was characterized in all forty cases by a rejecting of the therapy situation and the therapist, by clinging to the parent, and by expressing excessive anxiety and fears.

The second phase always showed a marked improvement. Therapist and therapy situation were accepted, rapport established, material handled so as to provide self expression and expression of hostilities and conflicts. Depending on the age and severity of the case some insight may have been gained. Attempts were made by the patient to make new contacts with others and to venture to participate in group activities.

The third phase segregated the hopeful and hopeless case. The healthier individual progressed more and more independently from the therapist to whom he returned to report new things he tried and did. The truly schizophrenic individual could not progress further in his development. He remained in the new dependency relationship with the therapist, developed his visits into routine and repetitious actions, and was unable to utilize this new relationship for identification purposes or as a support in developing his own initiative. An impasse was reached after which this individual usually regressed and lapsed back into the oblivion of phantasies and delusions.

In reference to dynamics and contributing factors, the evidence was not consistent. Some children whose hereditary background seemed to predispose them more than others, developed unexpectedly well, some children whose mothers were close and warm were unable to respond to this affection and disintegrated in spite of their mother's devotion.
and the psychotherapy.

In view of the diagnostic problems in childhood schizophrenia and the unpredictability of a young individual's development toward health or toward complete disintegration, early systematic psychotherapy is helpful to bring the potentialities of a case into focus, to clarify the picture, and to assist recovery where possible.

Residual Type

This term is applied to those patients, who, after a definite psychotic schizophrenic reaction, have improved sufficiently to be able to get along in the community, but who continue to show recognizable residual disturbance of thinking, affection and behavior.

GENERAL PSYCHOLOGICAL SYMPTOMS

Kraines (7) states that there are many variations in the clinical pictures ranging from that of the catatonic schizophrenia developing at the age of eighteen in the shy, sensitive, phantasizing adolescent to that of the paranoid schizophrenia showing itself for the first time at the age of thirty-five, and arising in the setting of a dominating, aggressive albeit peculiar person, but the usual onset of this disease is gradual and develops insidiously out of the patients usual character.

The onset of the symptoms is gradual and emerges imperceptibly from the patients personality. There may be increased irritability
with outbursts of anger over minor incidents. Suspiciousness develops at first directed toward strangers and then toward members of one's family. Sensitiveness becomes acute. The patient feels that people are looking at him constantly, and believes that remarks made by strangers are intended for him. At the same time the patient becomes preoccupied, sitting for hours staring off into space, and not paying attention to what is said to him until it is repeated two or three times. Habits deteriorate and a once clean and fastidious person becomes slovenly in appearance and eats wolfishly or not at all. Antisocial tendencies develop and the patient refuses to go out or goes into another room when company visits the home. Laughing and talking to themselves are frequent, and the patients seem to have something "on their minds." Mannerisms or peculiar notions and actions are repeated constantly. Sleep is disturbed and these patients may put the radio on full blast at two or three A.M. or disturb the household in some way during the night. Not infrequently masturbation will be practiced several times daily, rarely are attempts made to have normal sex relations. Paranoid ideas may involve the family, patients often accusing them of poisoning the food, wishing to harm them, making a plot to kill the patient, etc. Delusions and hallucinations are common, the patients hearing voices of strangers through the walls, smelling gas which was injected into the room to kill them, seeing strange men signaling at each other, refusing to go out for fear of being spied on and followed, feeling electricity go through their bodies from some infernal machine, etc. Violent temper outbursts are common with shouting, breaking of furniture, and often
with physical violence toward a parent or mate.

As the disease process becomes more firmly established, one finds many disturbances in the process of thinking and of feeling. The disturbances are based on the fact that the patient tends to resort more and more to living, thinking, and feeling in his dream world and to become less and less aware of or interested in the outside world. Ideas are no longer checked by reality. They are elaborated upon, altered, distorted, combined, disassociated, disunited, and finally are incomprehensible to the ordinary person.

According to Kraines (7) whenever ideas are untested by reference to actual situations, they tend to evolve in a distorted fashion. Similarly, the patient's impulses become his master, but instead of seeking the gratification of his impulses in actual real life, he finds it easier to satisfy them by "imagining". Thus, one schizoid young woman found herself greatly aroused sexually whenever she thought of her "boy friend" and was even more so stimulated "sitting beside him in the street car", but the moment "he tried anything", she experienced a feeling of revulsion. The satisfaction of her day dream world was far greater than that of the world of reality.

The emotions expressed toward the outside world are, therefore, rather superficial, for the patient is concerned more about his own feelings in fancy. Occasionally, if the outside world touches too closely upon a topic about which the patient is concerned, he will fly into a terrific rage over some seemingly inconsequential stimulus,
for the stimulus is in some way connected with his concepts. Thus, one young schizophrenic patient, aged twenty-eight years, quiet, seclusive, and never having exhibited any violent behavior, suddenly arose from his bed and attacked the male patient in the next chair so violently as nearly to kill him. When asked for the reason of his attack, he replied that the other patient had "wiggled his toe at him". When he was asked why that sign brought forth the attack, he replied that "obviously the wiggling toe was the same thing as calling him a homosexual". Just how this sign meant homosexuality could not be determined from the patient, but it is not difficult to understand that in his own mind the patient's concern over his own latent homosexuality together with the phantasy built up over it caused him to project his guilt feelings. Or again, a young man, seemingly demure, quiet, polite, yet always daydreaming, made a sexual assault upon a passing girl. In his own mind, he had built up his ideas of sex, his concept of what he would wish from a girl, his fantasy ideas of reciprocation, and his pent up desire accumulated to the point of a sudden and brutal expression. The actual wishes were inhibited in real life, but dwelled upon at great length in the dereistic (fantasy) world. There was no checking of his ideas with reality.

Kraines (7 p. 426) continues by says,

The thinking processes show disturbances in association which at first glance have no understandable basis. The schizophrenic patient starts with one stimulus and emerges with a conclusion which seems entirely irrelevant. Yet, on closer examination, one can see the relation between the "schizophrenic thought" and the primitive kind of thinking evident first in animal 'thinking' in aboriginal tribes and in early childhood.
This type of thinking is widely used by schizophrenic patients. The schizophrenic thought is not identical with primitive man's thought any more than it is identical with the primitivity of a child's thinking; but it assumes that things which are alike superficially, whether it be in sound, form, or 'idea,' are identical. It is this tendency which leads to such peculiarities of schizophrenic thought processes as (1) clang associations (things that sound the same) (2) neologisms (parts of words meaning similar things are combined to form a new word - thus the word 'steamsail' is a combination of the two words which are similar, steamship and sailboat); and (3) mannerisms (for example, walking about with the hand held high and the fingers in a peculiar fashion, is to the patient identical with carrying a scepter, which, in turn, signify that he is a king.) One can see this primitive thinking in the case of the schizophrenic girl who 'thought' that when she looked into the sun she obtained the sun's power, so that she could go into the garden where there were green tomatoes, and make them ripen. The primitive laws of thinking enabled this patient to assume for herself the power of the sun simply by absorbing power through her eyes.

According to Maslow and Mittelmann (9) even though one of the most characteristic features of schizophrenic reactions is the alteration in emotions - the dulling or the unjustified excitement - it must not be assumed that the patient lacks an emotional life. It is more correct to say that his emotional reactions are so intense, so painful, and so fraught with danger that he represses them. This repression is so intense that it affects all his emotional processes in reference both to himself and his environment. The world is so full of danger and pain for him that he withdraws from it emotionally. Withdrawal from the world is particularly marked in catatonic stupor. The "senseless laughter and weeping" are his complicated attempts both to react and at the same time to refrain from reacting to something
emotionally. At times, because he thereby turns something desperate into a joke, his laughter is supercilious and superior, not laughter at something humorous, but at something he enjoys, because of the anticipated rejection and the catastrophic nature of the disappointment, a schizophrenic is afraid to have warm feelings toward others and afraid to form attachments to others. He is even afraid to show any positive emotions.

Vehement excitement occurs when the patient's pain, anxiety and anger get the better of him. This is his re-action to conflicting experiences, from which he tries to escape by apathy, and emotional blunting. Hence, his excitement too, lacks the essential quality of realness and contact with reality. Similar defensive measures, together with conflicting attitudes, are responsible for the fragmentation, the illogicality, and inconsistency of his emotions. In all these phenomena, the patient attempts to deprive his reactions of poignancy, consistency, meaning, because if he did not, they would be catastrophic.

There is still another respect to the psychodynamics of withdrawal. A patient always, to a varying degree, shows a definite self-centring of interest. "The world for me is full of danger, and disappointment, pain, and catastrophe. I will withdraw from this and get consolation, pleasure, and safety from my own excellence." This attitude is particularly manifest in the patients grandiose trends.

Several other processes can be identified in a schizophrenic re-action. The evaluation of reality, as regard both social customs and preceptions, is disturbed partly because of the phenomena just
discussed, but in addition, the patient seems to follow a formula which implies: "Reality does not matter, only what I desire matters."

This results in the absence of shame and the disregard of restrictions common to normal human beings. These phenomena in themselves - exhibitionism, lack of sexual control - also represent the patient's attempts to derive gratification and strength from substitute sources. The delusions of grandeur necessitate an altering of reality, for otherwise they could not occur or serve their purpose. Finally these symptoms also represent a great deal of encouragement and feelings of defeat. This probably explains the frequent apathy.

Some authors go a step further in their construction about the genetic dynamics of schizophrenia. They assume that a severe trauma occurs very early in the individual's life - namely, in early infancy - when the human being is particularly helpless and vulnerable. This trauma sensitizes the individual considerably more toward the frustrations of later life than do later traumatic experiences. What would be a minor trauma to an essentially healthy individual would be a major trauma to one suffering from schizophrenia. Once he reaches his limit of endurance, he escapes the unbearable reality of his present life by attempting to reestablish the autistic delusional world of the infant; but this is impossible because the content of his delusions and hallucinations is naturally colored by the experiences of his whole lifetime.
Maslow and Mittelmann (9) bring out that a considerable amount of investigation has been done on the pathology of the function and anatomy of various schizophrenic patients. Some investigators found changes in the anatomy of the various endocrine glands, in the brain tissue, and in the anatomy of the circulatory system (e.g., narrowness of the aorta) but others were unable to find these changes with the same regularity, or found them as frequently in other patients with organic psychoses, who had had prolonged stays in mental hospitals. One difficulty in the problem of some investigations was that the secondary effects of prolonged or acute starvation, dehydration in sustained excitement, and inactivity, which are frequent occurrences in schizophrenia, lead to microscopic anatomical changes. As a result some of the tissue changes found were due to these factors and not to the disease process. Similar problems arise in connection with certain physical symptoms. Patients are frequently undernourished, and they usually lose weight because of their disturbed appetite and reluctance, or refusal to eat. The extremities and nose and ears may be bluish and cold and clammy. Pupillary reactions may be disturbed. Under normal circumstances, the pupils dilate, in response to pain; in schizophrenia, this reaction may be absent. In women, the menstrual flow may be decreased or disappear.

According to Haskins (4), these symptoms are also difficult to interpret as they may be psychogenically determined. Some investigations
on the somatic functions in schizophrenic patients have been done under careful control, in that the findings were compared with those on "average normals" living under identical conditions. The investigations show that the schizophrenics, as a group have a tendency to respond less adequately to a variety of stimulating agents - eg. the administration of thyroid substance. Seventy-two schizophrenic patients and twenty-four normal controls were given 1 cc. of dilute adrenalin solution intravenously. For the controls, the maximan rise of systolic blood pressure averaged 56 mm. of mercury as against 44 mm. in the patients. The pulse rates increased 16.3 and 13.6 beats as an average respectively. Schizophrenics, as a group, have also shown disturbances in homeostatis - the tendency of the organism to maintain a constant level of functioning - as measured by the ability to maintain equal level of functioning under identical circumstances. Under basal conditions, the standard deviations of the means shown in Table I, were found for some of the functions in the patients as compared with control subjects.
TABLE I

HASKINS: THE BIOLOGY OF SCHIZOPHRENIA (4)

<table>
<thead>
<tr>
<th></th>
<th>Patients</th>
<th>Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood sugar</td>
<td>8.6</td>
<td>5.8</td>
</tr>
<tr>
<td>Arterial oxygen</td>
<td>2.64</td>
<td>1.50</td>
</tr>
<tr>
<td>Venous oxygen</td>
<td>3.06</td>
<td>1.80</td>
</tr>
<tr>
<td>Oxygen consumption</td>
<td>12.0</td>
<td>9.0</td>
</tr>
<tr>
<td>Systolic pressure</td>
<td>14.7</td>
<td>9.9</td>
</tr>
<tr>
<td>Diastolic pressure</td>
<td>12.4</td>
<td>8.7</td>
</tr>
<tr>
<td>Urine volume</td>
<td>1702</td>
<td>629</td>
</tr>
</tbody>
</table>

These authors then advance the theory that the schizophrenia represents an end-result of a generalized failure of adaptation that arises from a defective maturing process. The failure is manifested in an intricate variety of ways, but especially in defective homeostasis (somatic and psychic) and defective empathy, and the final overall disintegration of the personality is manifested in the thinking, acting, (behavior, reacting) and feeling of the patient. The accessory symptomatology, representing mainly re-actions to the feeling of failure, can be regarded as a secondary adaptation to the difficulties arising out of the primary defect.

Before accepting this formulation of the schizophrenic reaction, Maslow and Mittleman (9) approach the problem from a different angle. Certain chemicals are capable of producing symptoms closely resembling those of schizophrenia. Synthetic Mescaline given
intravenously in dosage of 0.4 to 0.6 gm. produces psychotic manifestations in normal individuals in a state of clear consciousness.

Visual hallucinations filled with condensations, symbolizations, and infantile wish-fulfilling fantasies, dominate the individual. Auditory hallucinations usually start as an idea, and then the concept is projected and heard from the outside. The individual has somatic sensations (of alternation or loss of parts of the body, electricity); paranoid, grandiose, or hypochondriacal delusions; misinterpretation of environmental situations, depersonalization experiences, disturbances of thought (incoherence, flight of ideas, blocking, etc.) ambivalence and negativism. The ultimate light such observations will shed on the psychoses is not as yet clear. The psychotic's reaction differs, nevertheless, from that of the "normal."

The method may be used to bring out into the open for the period of the experiment a latent psychotic or neurotic process before and after treatment.

From the discussion of schizophrenia up to this point, it will be seen that it has certain similarities to the organic brain diseases like paresis on the one hand, and to the more purely functional disorders such as hysteria on the other hand. White (15) says that, "it would seem to stand midway between the so-called organic and psychogenic psychoses." There are indications of this all through the symptomatology of the disease. There are also manifest evidences of segmental over-domination, especially marked are the oral zone, in
such symptoms as salivation; the anal zone in such symptoms as the marked interest in the function of their lower bowel and the functional disturbances of the gastroenteric tract; and in skin area, which is so frequently the object of special activities like rubbing, biting, or scratching, as well as disorders of eczema, pigmentation, and secretion. Evidences are also found in the muscle segments in the symptoms of catatonia, as waxy flexibility and in the respiratory zone as seen in the development of pulmonary tuberculosis, various functional disturbances of respiration, and delusions about breath and voice. Such groups of symptoms implicating groups of organs and functions are expressed at all the levels, vegetative, neurologic and psychic, and indicate that the regression has gone deep enough to unloose bits of physiological mechanism.

White (15 p. 248) continues

It is allied to paresis, for example, on the anatomical side by its pathology - the degenerations - and on the clinical side by the underlying progressive deterioration upon which as a basis all manner of psychotic symptoms may be erected. It is allied to hysteria by its frequent, apparent psychogenic origin and by the similarity of the psychic mechanism - the "complex" formation and the symptoms to which it gives rise.

According to White (15) the mental disease with which schizophrenia stands most closely associated, however, is manic-depressive psychosis. White (15) says that a review of the opinions concerning the nature of these two diseases discovers that their differences are fully appreciated yet it is felt that they are held together by strong connecting bonds. Both arise on a constitutional foundation, the
manic-depressive psychosis, of the two, being more deeply rooted in the constitution: the physical condition which is suspected of being at the bottom of the two diseases, the endocrine autointoxication, is similar in both, though here it is in schizophrenia that presents the most severe and distinct signs to such an extent, indeed, that it assumes the character of an organic disease. Both diseases usually originate in an autochthonous manner from the inner make-up of the personality, but in both the participation of psychogenic re-active factors have been observed.

It is to be noted that a disorder which is ultimately organic in nature may take its origin in purely mental factors. Schizophrenia seems to be a type of regression psychosis.

The content of the symptoms is determined by the nature of the complexes, their malignancy by the recuperative powers of the patient. White (15), for example, states that the hebephrenic type indicates a failure to develop any adequate defenses. The patient frankly expresses delusions and hallucinations of the greatest apparent absurdity. If the process comes to a standstill, there is an adjustment at a relatively low level, as for instance, a young woman who made a failure of her love life, marriage, and motherhood, and after passing through a few weeks of confusion and stupor with hallucinations and delusions, settled into a fixed stage of regression to the mental stage of a little girl of about twelve years of age. She acts like a child, has thrown off all the cares of adulthood and all responsibility for her family and the natural obligations of parenthood.
The catatonic endeavors to shut out from consciousness his conflict by a supreme effort at repression. If he gets well, it is often at the expense of a large portion of his personality which he cannot assimilate. A study of the muscular tensions, visceral tonicities, vascular reactions, and glandular activities of this condition, in which such disturbances are so marked, along the lines of their meaning, as being part and parcel of certain instinctive tendencies, would do much to eliminate the meaning of the symptoms and might also equally illuminate the instincts from the physiological side.

The paranoid, White (15) continues, while not so apt to recover, is able to build a more or less elaborate world of phantasy in which he gets along fairly well.

The relation of the delusion to the complex is often obvious if one is familiar with the more important of the infantile material. A man believes himself pregnant, that a child is in his stomach. This is obviously a regression to the period when as an infant he had not understood gestation was a particular function of the female; a homosexual man of the "sissy" type made wild claims of physical prowess, fighting ability, and incessantly swore to demonstrate his toughness, (overcompensation of homosexuality); a woman complains that her sister's husband follows her through underground passages and shoots electricity into her genitalia and anus (oral erotism); an oral erotic woman starves herself in order to be tube fed; oral erotic patients
often cut their throats while under erotic pressure; a young woman says that her real parents are the King and Queen of Norway (Oedipus phantasy). Of course, much of the delusional material is not so obviously related to infantile material and must be worked out at length with the individual to determine its meaning.

TREATMENT

According to White (15) schizophrenia has pretty generally been regarded as quite capable of being influenced by psychotherapeutic procedures. While patients in institutions are able for a period of years to come slowly to a more or less comfortable adjustment with surroundings which do not make any very great demands upon them, still very distinctly directed therapeutic efforts have, for the most part, been of little avail and the cause of the disease has been looked upon, therefore, as beyond control, and tending in the direction of deterioration. A growing dissatisfaction with this fatalistic attitude has resulted in sporadic attempts to deal with this disorder, more especially along psychoanalytic lines, modified to meet the peculiar difficulties of the situation, and here and there favorable reports are being made upon the results. It will probably be some years before any adequate understanding is reached of the therapeutic possibilities of this very malignant reaction.

The fatalistic attitude that has been held regarding schizophrenia for so many years has been largely due to the fact that this disease was thought of only in terms of the malignant types that were seen in public
institutions. Since psychiatry has escaped from the limitations imposed by such hospitals and been practiced in the community like all the other medical specialities, it has come to recognize schizophrenia in its incipient and early stages. Treatment applied to the conditions has by no means been barren of results. To be sure, schizophrenia, as a narcissistic psychosis, presents very difficult therapeutic problems, but a careful selection of cases based upon detailed individual study, will disclose that a number of patients in the early stages of the disease are quite well worth intensive therapeutic efforts, and if these are tried, it will be found that a material proportion of these patients will respond, if not in whole, at least in part, to such efforts.

White (15) states that many cases will of necessity, have to spend most of their lives in a hospital. It is therefore desirable to educate them as early as possible in good habits. They should be encouraged to some form of occupation, preferably out of doors. Under the influence of hospital surroundings and farm life, these cases may get on very comfortably and the deterioration process be considerably retarded.

It seems probable that one of the best methods of approach to the treatment of these cases would be by the method of re-education through the agency of industrial training.

White (15) says that if this is to be done intelligently, however, it is essential that the patient be not merely put to work in a haphazard way, but that a sufficiently careful analysis of the psychology of his particular condition be made so that it will appear what is the
best method of approach to arouse his interests and fix his attentions. It is also necessary to bear in mind the motor disturbances, more especially of the catatonic group, because here the education will have to be addressed more or less to restoring certain motor adjustments. The same principles are involved in treatment of this sort as have been long recognized in dealing with the mentally defective. The avenue of approach to the individual must first be worked out before it can be expected that material results will be obtained. In the few cases that have been worked upon along these lines, the improvement has been prompt, marked, and considerable. Such improvement is, of course, open to the criticism that it might have taken place anyway in the natural course of the disease, and requires further and more elaborate studies to define its possibilities. The principal aim is to work out an adjustment in the environment that will bring it within the powers of the patient to adapt to it. Psychoanalytic investigation is revealing, more and more, how the possibilities for treatment may be defined.

White (15) concludes that one of the most helpful methods of approach to this problem is by a study of the way in which recovery has been brought about in those cases that get spontaneously well. This may teach us how we can help, and also what is of equal importance, teach us to avoid doing what will make matters worse.
Shaffer and Lazarus (12 p. 410) say,

The history of medical psychology records many attempts to treat mental disorders by somatic procedures, and among these efforts were some that depended upon shock. It is only comparatively recently, however, that shock therapy has become well organized and given a prominent place in the treatment of a great variety of mental disorders.

Shaffer and Lazarus (12) present the following discussion of Metrazol, Electro-Shock, and Insulin, which the writer considers valid for this report.

Metrazol. In 1928 Meduna presented the opinion that patients who had convulsions seldom developed schizophrenic symptoms and that those schizophrenics who had convulsions tended to recover. Although this opinion has not been substantiated, Meduna began convulsive treatment of schizophrenia using injections which can be given intravenously and will produce seizures immediately and with great reliability. Before the treatment can proceed, the patient must have a complete physical examination and routine guards must be set up to prevent injury. Since there is danger of fractures and dislocations, the patient is usually placed in a bed which has a flat wooden board under the mattress. Since the convulsion is frequently extreme, it is necessary to station attendants at each side of the bed to apply pressure to the patient's shoulders and thus to keep them firmly in place. Breakfast is omitted on the day of the treatment. The initial dosage usually consists of 3 to 5 cc. of a ten per cent aqueous solution of Metrazol given intravenously.
A convulsion follows the injection almost immediately. Should a convulsion not occur within a minute, the dosage is increased until the convulsion is produced. The convulsion closely resembles the seizure of grand mal epilepsy. There is usually a yawn, followed by twitching of the eyelids and then almost immediately a marked spasm of all the body muscles. This is usually followed by clonic twitchings of the extremities. The pupils are dilated and do not react to light. Following the convulsion the patient is restless and confused and fearful about being left alone. In a large number of patients there is terror, which has been one of the most serious effects of the treatment. Most patients, however, fall asleep within a half hour after the convulsion and upon awakening complain of headache, dizziness, nausea, and fatigue. Some request food and are given something light, such as fruit juices. They are kept in bed under constant supervision for four to six hours, after which they may be given a regular meal. There is no general agreement regarding the number or frequency of convulsions to be prescribed in the treatment. Meduna and many of his followers recommended inducing the convulsions at least twice a week and in some cases, every other day. Others have tended to prescribe no regular sequence and have preferred to say that the frequency of the convulsions should depend upon the mental condition of the patient. The number of convulsions prescribed has also varied considerably, fewer being prescribed for depressed patients than for schizophrenics. The general range is between five and thirty seizures with an average of about eighteen to twenty,
but reports indicate a wide variability in practice.

A large number of patients treated by Metrazol show sudden, startling changes in behavior often after a few treatments. Some patients, however, show no real change until many injections have been given. And still others, especially those who have been ill for a long period of time, and who show a tendency to a more passive and vegetative existence, do not respond to the treatment regardless of the number of injections.

Electro-Shock. Cerletti and Bini in 1938, reported on the treatment of psychotic patients by electrically produced convulsions. Both Metrazol and insulin had already gained popularity as so-called "shock" therapies. The electro-shock therapy is more easily compared with the Metrazol treatment, however, since both of these methods depended upon the production of convulsions and might therefore be considered as convulsive therapies. Electro-shock almost immediately became preferable to Metrazol because, with it, complications and deaths are relatively rare, the patient seldom feels any discomfort, since he becomes unconscious almost immediately, and consequently the terror associated with Metrazol is seldom experienced.

The technique is simple and can be rather quickly developed. The preparation for treatment is rather similar to that for Metrazol. A complete physical examination should precede the treatment, and the guards necessary to insure the safety of the patient within three hours of the treatment. The treatment may be given on any firm surface, preferably on a bed on which a flat wooden board is placed under a firm
inelastic mattress. The treatment may be given by using one of several types of machines designed to produce electrical shock to the brain.

After arrangements for the patient's safety have been made, the shock is administered. There is no general agreement of the dosage. The initial shock may vary from fifty to one hundred volts for one-tenth of a second. Most therapists believe that it is desirable to produce a grand mal convolution with a tonic as well as a clonic phase. If the dose is too small, the patient may not lose consciousness and may suffer severe discomfort. With the smaller dose, also, confusion after treatment is often more severe, and respiratory and cardiac complications are more likely to occur. On the other hand, a very large dose throws the patient almost immediately into a clonic fit, in which case the possibility of fracture is greatly increased. An effort is made, therefore, to give a dose that will produce a brief tonic phase which passes smoothly into a clonic phase. Thus the patient loses consciousness almost immediately and goes into a convolution that lasts thirty seconds to a minute. As in the epileptic convolution, there is usually a cry, the mouth opens, and there is a generalized tonic contraction followed by the clonic phase. The pupils are dilated, the eyeballs are turned up, and the face is cyanotic during the convolution. The patient comes out of the convolution drowsy and confused, and there is amnesia for the event. Turned on one side with the head in a position to promote postural drainage, he is allowed to recuperate in
bed. He should not be moved about unnecessarily since such movements tend to promote motor excitement.

In some instances the patient does not lose consciousness or go into a convulsion when the shock is administered. It may then be necessary to increase the voltage. It is necessary to have in the treatment room facilities for the intravenous and intracardiac injection of adrenalin in the event of circulatory or cardiac arrest. Respiration can be stimulated by turning the patients head to one side or by artificial respiration. Postural drainage will relieve the respiratory difficulties caused by the accumulation of mucus and saliva, and a molded rubber airway is used if undue relaxation of the tongue causes respiratory obstruction. In some cases violent muscular contractions are prevented by the use of curare: Should the curare be used, it is necessary to have the antidote, prostigmin, ready for immediate injection. There is no general agreement on the length of the course or the spacing of the treatments. Most frequently the treatments are given two or three times a week for a period of three weeks. The spacing of the treatment over a three week period permits time for active psychotherapy during the shock treatment. Some therapists, however, prefer daily shocks for three to six days, followed by a short rest period and a repetition of the series, if necessary.

The recovery or improvement of patients by convulsive therapy is extremely difficult to evaluate, and statistics are available for the support of almost any claim. In general, however, it appears, that the
best results have been obtained in the treatment of affective disorders, particularly by those complicated by intense resentment. The involutional melancholias may, therefore, be expected to respond best to the treatment. Paranoid projections and systematizations associated with affective features also yield to convulsive therapy. Anxiety neuroses hysterical and compulsive reactions have not responded well to the treatment. Matrazol has been generally superseded to electro-shock, and the latter is more the method of choice as a convulsive therapy.

Insulin. Dussik and Sakel, in 1936, reported on the use of insulin shock in the treatment of schizophrenic patients. The development of the therapy has evolved from observations by Sakel that accidental insulin shock in drug addicts resulted in the disappearance of schizophrenic-like symptoms. Actually insulin therapy got started in America before the other forms of shock therapy. This method was enthusiastically received and then was for a period of time, superseded by Metrazol. Each of the shock therapies has had its day of popularity, but at present Metrazol is not used so frequently as either insulin or electro-shock.

The objective of the insulin therapy is the induction of coma by the reduction of the sugar content of the blood. This is accomplished by giving the patient sufficient doses of insulin intramuscularly. As with other forms of shock therapy there is no complete agreement with regard to dosage. The greatest difference of opinion exists between those who believe that the best results are obtained by producing a prolonged coma and those who believe that the subcomatose level is most
efficacious in the treatment of the greater number of patients.

In either case, the preparatory measures and safety precautions are essentially the same. As with other forms of shock therapy, a complete physical examination and laboratory tests should precede the treatment. It is desirable to begin the treatment early in the morning and omit breakfast. The beginning dosage varies from ten to twenty-five units of insulin and is ordinarily increased by ten units daily. The amount of insulin given will depend upon the condition and reaction of the patient and upon the degree of shock desired by the therapist. If the subcomatose state is desired, the dosage is increased only to that necessary to induce in the patient a prolonged hypoglycemic reaction of drowsiness or sleep which is terminated after one to two hours. The occurrence of convulsions or marked excitement is an indication for earlier termination.

If the coma is desired, the same procedure may be followed; but after the first signs of hypoglycemia appear, the dosage is increased daily until the coma is induced. The coma does not occur for several days after the initial treatment, and when it does occur, it is usually three to four hours after the insulin has been administered. When the coma has been obtained, the dose of insulin is seldom increased, in some instances it is decreased. An effort is now made to determine the lowest amount of insulin necessary to maintain the coma. The length of the coma may then be increased gradually from a minimum of fifteen minutes to the maximum duration that may be reached without danger. The
shock is terminated by introducing sugar solution into the body. This may be accomplished by mouth, nasal tube or vein. Glucose is kept available for treatment if the patient should suffer a delayed hypoglycemic reaction and careful attention is given to the intake of food for the rest of the day.

Treatments by insulin usually take two to three months. As a rule, treatments are given five days a week and are continued for varying lengths of time. They are seldom terminated until at least fifteen shocks have been applied. The full course of treatments is arbitrarily assumed to be fifty, at which time, if no improvement has been shown, it is unlikely that the patient will receive benefit from further treatments. In some instances, patients who have shown some improvement are given a second course of treatments after a lapse of three to four months.

According to Shaffer and Lazarus (12), effectiveness of shock therapy is difficult to evaluate in view of the large number of conflicting reports. The early claims for improvement and recovery particularly in schizophrenic patients, were very expansive. Some later reports tended to support the early claims, while others were rather discouraging.

Those who have been enthusiastic about the shock treatments have pointed out, perhaps with justification, that the duration of hospital care is materially decreased in the treated cases.

In spite of differences of opinion, as well as the differences in experimental results, the number of patients treated by shock has
continued to increase. The later studies are as confusing as the earlier ones, and it is still possible to get statistics to support almost any point of view.

The wide differences that exist in the reports of experimental studies, make it impossible to state any satisfactory conclusions. There are, however, a few points on which there is a developing general agreement. The affective disorders, and particularly the late life depressions, appear to respond best to the convulsive therapies; and since electro-shock has certain obvious advantages over Metrazol, it is the therapy of choice for such disorders. The course of the involutional psychosis is usually long, and it appears evident that convulsive shock therapy, particularly electro-shock will shorten the length of the illness. The involutional patients are generally at an age period when one could expect a slight falling off of intellectual efficiency; any slight cortical damage sustained by the treatment will not be particularly handicapping. Paranoid projections and systemizations and aversion reactions which are connected with affective features have also responded well to convulsive therapy.

The best results in the use of insulin therapy have been obtained in acute conditions where there is marked anxiety. Panic reactions, catatonic and other schizophrenic excitements, and intense anxiety in the psychoneuroses have all responded well to insulin. There is rather general agreement that insulin is the preferred shock therapy for early schizophrenia. There is no satisfactory explanation for these therapeutic results, but there is a growing believe that symptoms,
rather than psychiatric diagnoses are the important considerations in deciding which therapy to use.

Maslow and Mittelmann (9), in discussing the sleep treatment, or therapeutic narcosis, say it has been used in the management of mental disorders for many years. Forty or fifty years ago numerous therapists experimented with bromides, trional, and somnifene, but in recent years more successful results have been obtained by the use of sodium amytal.

As a general rule, the plan is to make use of the amytal sleep over a period of twelve weeks. This means about ten weeks of rather deep narcosis, allowing for one week to get "under" and one week for coming "out". The amount of sodium amytal required to carry through this regime varies from fifty to ninety grains every twenty-four hours.

While many cases of early schizophrenia in which the patient was cooperative have yielded very satisfactory results under sleep treatment, the greatest good has come in the manic-depressive type of depressions, especially when the patient was put to sleep very early in the depression.

It goes without saying that, in instituting a rest or sleep regimen such as this, the patient should be in a quiet room, and the environment should be in every way so regulated as to contribute to the general purposes and design of the treatment. When under deep narcosis, patients should be kept lying on the side in order to avoid swallowing the tongue and to prevent an undue accumulation of mucus in the
pharynx. These patients are fed according to indications, two thousand to three thousand calories per day, and they eat just as long as they can hold anything when they are propped up in bed and spoon fed.

The role of sodium amytal in producing a talkative state when it is administered in optimum dosage, is probably due to the fact that this drug has almost a selective activity upon the thalamus and hypothalamus and that many of its special effects are due to this supposed selective action.

The use of this treatment in schizophrenia has produced apparent recovery or marked improvement in only about one-half of the percentage obtained in manic-depressive involvements, and its use in involutional melancholia is likewise rather disappointing.

ETIOLOGY

According to Dorcus and Shaffer (3), the etiology of the functional psychosis has been studied from a variety of positions and is a highly controversial matter. Heredity, endocrines, biochemical, and physiological changes and various psychogenic factors have all been presented by experimenters and clinicians as the chief determinants of the disorders.

The importance of heredity has generally rested on the submitted evidence that functional psychoses appear more frequently in certain families than in the general population. It should be noted, however, that the members of such families may have been subjected to particular environmental and interpersonal relationships, the effect of which need
to be evaluated. The statistical information regarding incidence in families is open to the further source of possible error of reliability of report. The disgrace of implied familial insanity may result in considerable concealment of real incidence in family histories. It appears that a predisposition to the disease is recessively inherited but the illness appears just as likely to be the result of many factors.

The attempts to relate body types to temperament and consequently to functional psychoses has a long history. Kretschmer's work on constitutional body type has been widely quoted with extreme differences of opinion. He separated individuals into what he termed asthenic, athletic, pyknic and dyplastic types. It was claimed that these types could be differentiated from each other by their normal psychological characteristics and that when mentally ill, they would fall into rather distinct reaction groups.

Those individuals with the asthenic habitus were said to be psychologically of the schizothymic, introverted type with a capacity for schizophrenic disorders. It was also pointed out that some of the athletic types and practically all of the dyplastics tended to develop schizophrenia if they become psychotic. The pyknic type was contrasted with the asthenic and was found chiefly in those who developed the manic-depressive psychoses. The latter are described as the more objective, extroverted, cyclothymic type of persons. There is considerable division of opinion among scientific workers regarding the value and reliability of Kretschmer's concepts, and conclusions will have to wait for further research. Sheldon also presents a detailed
study of constitutional analysis with some interesting correlations between physique and temperament.

Dorcus and Shaffer (3) say that attempts to correlate brain pathology with functional psychosis have appeared throughout the history of efforts to understand the disorders. The last decade has witnessed numerous attempts to treat the functional psychosis by brain surgery. The technique is variously referred to as psychosurgery, labotomy, and leucotomy. In these operations, the frontal areas are either removed by bilateral craniotomy, or more commonly, the connections between the frontal cortical areas and the lower centers are severed by cutting the white matter in the center of the frontal lobes just anterior to the tips of the anterior horns of the ventricles. The main symptoms relieved by the operation have been depression, agitation, compulsion, suspiciousness and irritability. Symptoms produced include emotional flattening, euphoria, poor judgment, and in about forty per cent of the cases, a marked gain in weight.

Social cause. Many clinicians and experimentalists who believe that psychogenic factors be at the base of the functional psychosis are inclined to follow the point of view first experienced by Adolph Meyer, who saw the functional psychoses as reactions of the personality in terms of the social environment and personal organization. This point of view lies farthest from theories of mental causation and closest to pragmatism and instrumentalism. It is pointed out by Dorcus and Shaffer (3) that instead of searching for first causes, this approach
attempts to determine the conditions under which functional disorders arise and progress or disappear. Conflict, disappointment, fantasy, physiopathology, trauma in interpersonal relationships, social, economic, and other environmental circumstances may all be a part of these conditions. Thus, for this point of view the functional psychoses are major disorders in which the direct effects of structural, physiological and biochemical pathology are minimal or absent, while personal or social factors are maximal.

With the fact clearly in mind that the total personality must always be considered, the personal, social, and environmental factors are operative in preparing the ground, and that in many instances the cases will be complicated by the appearance of organic concomitants, the functional psychoses are here considered as primarily of psychogenic origin. There appears, however, to be increasingly more reasons to believe that the diagnosis of schizophrenia, for an example, as it is now used includes many types of illness, and that the etiological factors are not the same for all individuals place in the diagnostic group. The reaction types which we encounter here show striking failures to function normally, principally as a result of a clash between the individual and the environment. The schizophrenic, for example, facing unbearable circumstances in his environment, escapes from reality into a fanciful world of his own.
No longer must we regard schizophrenia as an incurable mental
and nervous disorder. The prognosis is indeed poor if no treatment
is early established and if the personality is practically shattered.
As a result of modern methods of approach and attack, many of these
cases are turning out more favorably than in former years.

Sadler (11) points out, when the hebephrenic type is once
pretty well established, the prognosis is very unfavorable. In the
paranoid forms, deterioration in many forms and cases is not marked
and some of these individuals are able to make fairly satisfactory
readjustment to life. The catatonic forms are especially subject to
favorable remissions, and many of these cases, when taken soon after
the onset, appear to recover completely; at least they run along
apparently normally for many years, but they are subject to recurrences,
as the result of shocks, infections, or other unusual experience of
mental stress or nervous strain.

In all forms of schizophrenia, the more profoundly the emotions
are blunted, the less favorable the prognosis. It is a fact, however,
that many of those patients who achieve a practical recovery do not
experience a full restoration of insight. Many times there is a
definite retrogradation of personality performance to a somewhat lower
level.

Many such patients achieve a social recovery rather than a
complete restoration of personality unification. Many others recover
to a certain stage and then stop right there remaining at a standstill for years. The vast majority, however, tend to show mental progressive deterioration, more particularly as concerns the emotional phases of the personality and increasingly become mis-adapted to society. Sooner, or later, the majority of even the more mild types find their way to public or private institutions.

According to Sadler (11) prognosis is more favorable if the schizophrenic made adequate adjustment to society before his mental breakdown, as it also is when the degree of degression is but slight. There are also better prospects for improvement or recovery when the patient evinces a disposition to cooperate with treatment procedures.

The simple (apathetic) and paranoid forms of schizophrenia are the slowest in evolution, that is, they tend to run a chronic course. Paranoid types will often remain stationary for two or three years at a time, but sooner or later the paranoid compensation breaks down and deterioration proceeds apace. The heberphrenic and catatonic forms are more acute in onset and in many ways go on rapidly to actual dementia. The prognosis of catatonia, is, on the whole, much more favorable than that of the other three, but some cases show a tendency to recur at regular periods, even after apparent recovery. Permanent recovery of well advanced paranoid schizophrenia is hardly to be looked for.

Prognosis is always more favorable if the precipitating factors have been very definite and outstanding. That is, the more profound
the causation, the better chance the patient has of achieving partial or complete recovery.

Heredity is definitely concerned in the prognosis of this and most other forms of psychosis. Chronic mental disease of any sort in the parent may have helped to create an environment in which the ordinary mild type of personality disturbance tends to become more severe or malignant.

The prognosis largely depends upon the basic type and equipment of the patient's personality. It varies greatly, depending on whether the patient is constitutionally seclusive, markedly introvertish, or whether he has been retarded in socialization because of unfavorable surroundings or as a result of unfortunate experiences.

Catatonic manifestations may merely be glorified reproductions of a constitutional tendency toward negativistic resistance or sheer stubbornness. If a psychosis appears to be something of an evolution of certain pre-existent traits of character, then the prognosis in most cases would seem to be more favorable. Many experiences of the transition stage from sanity to insanity may later be elaborated into apparently malignant symptoms. All things equal, an acute, stormy onset is a favorable prognostic sign.

Sadler (11) continues by saying toxicity or some other form of profound exhaustion may often be associated with an early benign psychosis, thereby causing the attack to appear to be much more serious than it is. In such cases, consciousness may be clouded and many symptoms may seem unduly alarming. A careful search should be made for pre-existing
infections and other evidences of physical exhaustion. The finding of these, if they have not been too long continued, should add a favorable element to the prognosis.

It should be borne in mind that catatonia is a symptom complex appearing in connection with many disorders aside from schizophrenia. It sometimes results from tonic toxicity and of course in all such cases the prognosis is hopeful. The same is true of the stuporous states which are unassociated with schizophrenia. Prognosis, either favorable or unfavorable, should not be lightly ventured on the basis of any single symptom or group of symptoms. After all, a forecast is much more dependent on insight than on any other single factor. If the insight persists to some degree, a favorable prognosis may be safely made.

Sadler (11) believes the hope for success in the treatment of schizophrenia depends almost entirely on its early recognition. Not a great deal can be done for the average case if the psychiatrist is not called in until the condition is well advanced. The supposed idiosyncrasies, tantrums, and queer conduct of the young folks, together with their temperamental oddities and early manifestations of misdemeanors, must no longer be regarded as nothing worse than freakish, youthful, behavior or moral perversity. When ordinary efforts at correction and discipline have failed, such retardation, perversity, listlessness, or incipient delinquency should bring such individuals to the notice of a psychiatrist. Altogether too often these cases are looked upon as evidence of glandular deficiency or moral perversity or else as resulting from such physical disorder as autointoxication or focal infection. Frequently the
internist or the osteopath has been treating the case before, and as a last resort, after years of precious time have been wasted, when the disorder has reached an advanced stage, the psychiatrist is called in.

While schizophrenia has long been considered a practically incurable disorder this prognosis should be changed. Mild cases, when taken early are curable, at least in a large number of cases.

According to Sadler (11) the Elgin (Illinois) State Hospital recently made a report of a study of the social readjustment of one hundred cases of schizophrenia. Table II shows the degree of adjustment of the various types in so far as this could be determined.

TABLE II
SOCIAL READJUSTMENT OF SCHIZOPHRENIA CASES

<table>
<thead>
<tr>
<th></th>
<th>Paranoid Cases</th>
<th>Percent</th>
<th>Hebephrenic Cases</th>
<th>Percent</th>
<th>Catatonic Cases</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>17</td>
<td>28.4</td>
<td>9</td>
<td>31.2</td>
<td>5</td>
<td>41.7</td>
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<td>Partial</td>
<td>20</td>
<td>33.3</td>
<td>4</td>
<td>14.3</td>
<td>4</td>
<td>33.3</td>
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<tr>
<td>Poor</td>
<td>13</td>
<td>21.7</td>
<td>10</td>
<td>35.7</td>
<td>1</td>
<td>8.3</td>
</tr>
<tr>
<td>Rehospitalized</td>
<td>5</td>
<td>8.3</td>
<td>4</td>
<td>14.1</td>
<td>1</td>
<td>8.3</td>
</tr>
<tr>
<td>Died</td>
<td>5</td>
<td>8.3</td>
<td>1</td>
<td>3.6</td>
<td>1</td>
<td>8.3</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100.0</td>
<td>28</td>
<td>100.0</td>
<td>12</td>
<td>100.0</td>
</tr>
</tbody>
</table>
According to Sadler (11), Strecker and Ebaugh have formulated the following very concise summary of prophylactic treatment procedures for combating schizophrenic tendencies.

1. Preventative measures. Studies of childhood psychopathology. Mental hygiene in school. Preparation for problems of adolescence, of emancipation from home, sex hygiene, etc. Organized, state wide neuropsychiatric examinations of school children showing behavior difficulties, and of all school failures, with prompt treatment as well as outpatient studies of prepsychotic individuals and of so-called normal.


4. Reconstruction therapy - establishment of rapport. Frank discussion of patient's problems and assets (personality resources) and the situation he has to meet. Establishment of an adequate personality in keeping with resources. Establishment of reconstructive interests of diverse types, of insight and understanding.

5. Occupational therapy to produce action is very advisable. Colonization of all institutional cases where it is possible for deteriorated cases to become self-supporting. Follow up of all discharged patients for a number of years in order to arrive at
definite statistical facts regarding adjustment. Placement in private
boarding homes.

6. Careful psychiatric social service follow-up and vocational
supervision may reclaim many of these individuals after they are
discharged back to the community.

General hygiene and nursing care, ventilation, bathing, artificial
feeding, change of scene, etc. Excitement: adequate supervision
and observation. Continuous baths and other types of sedative
therapy, such as packs. Apathy. Useful occupation, games, entertain-
ment.

Shock treatment, as fully described in this report is of great
help in the initial stages of the treatment of most schizophrenics.

The therapeutic-narcosis plan of treatment by means of massive
doses of sodium amytal is often effective in certain types of acute
schizophrenia, even after the failure of the shock treatment.

Preventive measures are dependent upon the ability to recognize
in the child the possibilities of a future schizophrenics. The recent
studies of character anomalies as found in the anamneses of
schizophrenic patients indicates the possibility of foreseeing this
result in a certain considerable number of cases, particularly those
presenting the "shut in" type of personality.

White (15) points out that while it is customary to consider this
disease as hopeless so far as being able to influence it by therapeutic
measures is concerned, still this pessimistic attitude does not seem wholly warranted. Even in the cases that get better, we cannot define how much of the result has been due to treatment. The general scheme is to get the patient in as accessible position as possible to which end occupational therapy, amusements, athletic sports, may contribute. Then an attempt may be made along psycho-analytic lines to determine the real difficulties to the end of attempting new adjustments. One reason why this so frequently fails is because others than the patient are involved in the situation and success would mean securing their intelligent cooperation, quite frequently a hopeless task. In those cases, however, where this has been successful, the results seem to warrant the effort. It is needless to add that all the therapy should be brought into play as required.

This method of procedure, in such cases would be to attempt to overcome the defect present in the particular case by educational and psycho-analytic methods. It would seem that a recognition of the schizophrenic character in the child would make it possible to save it from a number of stresses that might prove disintegrating factors. Particularly, an open, healthy initiation into the mysteries and problems of sex is important, as this is the rock upon which these cases are often ship-wrecked.

Protection from undue stresses and a careful education along lines of the development of self-sufficiency in the face of difficulties with a full appreciation of the limits of strength and adjustibility is the keynote.
As stated in the introduction, the purpose of this report was three-fold: first, to prepare a background for research in the field, second, to provide a review of some of the available literature for others interested in the field, particularly in this institution, and third, to find out what some of the present problems are in regard to schizophrenia, and the extent to which solutions have been found. The writer has attempted to fulfill these purposes by formulating the problem of presenting a discussion of schizophrenia which is concise and factual.

Concerning the early concepts of schizophrenia, it was found that in 1860, Morel, a French psychiatrist, used the term demence precoce to describe the mental condition of a person who was showing marked mental deterioration and loss of memory. Kraepelin in 1896 took over this term, dementia praecox, as a name for a group of symptoms which he thought were basically characteristic of a single disease. Bleuler modified the concept more than anyone else. He objected to the name dementia praecox because in that the illness does not necessarily begin in puberty and does not always terminate in dementia. He coined the name schizophrenia, meaning splitting of mental life, which he regarded as the main characteristic of the disorder. He also held that schizophrenia was not necessarily a single disease, but more probably a group of symptoms of varying origin, which are called simple, paranoid, hebephrenia, and catatonic. Combinations are called mixed schizophrenia.

Simple schizophrenics are marked by their apparent and long
lasting deterioration and scarcity of acute psychotic symptoms. They are usually apathetic, indifferent, and lack judgment and foresight. In general they are rather inadequate persons who seem "run down" and rarely regain interest in normal life.

The major difficulty of the paranoid schizophrenic patient revolves around the delusions in belief, thought, and action. These delusions are usually somewhat fantastic, not well organized, and are only partially incorporated into the thoughts and life of the patient. The delusions grow out of disorders in thinking and hallucinations from which the patients suffer. The delusions are in part constituted by rationalizations by which these patients explain their bizarre experiences to themselves. Among the symptoms in hebephrenia, one should note the infantile behavior, the deterioration and seeming regression, the shallow emotional responses, the senseless and illogical thought processes, the delusions and the hallucinations.

It will be noted that the major psychological factors of the catatonic patient is the inaccessibility, the muscular stiffness, and the general negativism. The catatonic patient may have periods of excitement which are comparable to the excited phase of manic-depressive psychosis. The motor symptoms are of special importance in the catatonic syndrome.

Another type of schizophrenia which has come into prominence recently is the childhood variety. Childhood schizophrenia is not typical of any other variety of schizophrenia, but probably resembles
most closely simple schizophrenia. The factors involved in childhood schizophrenia are relatively unknown, but there are indications of organic cause and misguided love by parents.

The schizophrenic cases form a large and important group in the field of psychiatry. It begins most frequently during adolescence or early adult life and has grave prognosis. It is not, however, correct to assume that no case recovers. Many patients make fair recoveries and are able to live in the community. Often the defect resulting from the disease is mild in degree. Even so, these patients need guidance and aid, and most of them require some form of social assistance.

With regard to theories, two main approaches were found. One approach stresses the constitutional somatic basis, from which come some of the primary psychological manifestations of a full-blown psychosis. The evidence in favor of this approach has been presented: relatively mild somatic disturbances of the schizophrenics as a group, namely defective homeostasis, and the effectiveness of somatic forms of treatment, namely shock treatment. The writer has also presented the other approach, which states that the manifestations of schizophrenia have psychological meaning and are brought about by clear cut psycho-dynamic processes. In its boldest form, it states that the schizophrenic suffered a severe trauma in early infancy. As a result of this damage, he reacts to all frustrations, even of a relatively mild nature, as though they were of catastrophic intensity. He then goes through a variety of measures and maneuvers to protect himself and make
life livable as he sees it and get the satisfaction of which he is capable. The most convincing evidence of this approach is presented by observation of patients who have undergone psychoanalytic treatment, modified to suit schizophrenic patients. What is now the possible relationship between these two approaches? As previously mentioned, some investigators are inclined to differentiate between a constitutional and therefore primary somatic type of schizophrenia, usually referred to as process schizophrenia, and another which represents a reaction to severe and shattering experience. The differentiation may be correct. A further possibility, however, is that the dividing line between these two assumed groups is not a sharp one, but that they represent the extremes of a continuum. Evidence has been given that some patients show signs of qualitatively psychotic nature, either on projective tests or on brief clinical examination or during more detailed psychoanalytic treatment, and develop full-blown psychoses only after an additional major trauma occurs. There is no doubt about the psychotic potential in these patients. Although there would be no clear indication of it anywhere in their life history. Further evidence has been presented to show that although some patients offer fairly definite evidence of symptoms of a psychotic nature, both on clinical examination and on projective tests, yet these symptoms disappear with adequate handling. The patients, becoming capable of going through adequate analytic clarification of their symptoms and personality and remain essentially well through decades of subsequent life history. Thus according to Maslow and Mittelmann (9) it could be said at present,
if one accepts the concept of a somatic-constitutional basis for schizophrenia, the patients in this respect range from a strong vulnerability to a near normal hardiness. Proportionately the severity of problems varies from those of daily existence, to severe and shattering experiences.

With regard to treatment medical science has not solved the main problems of schizophrenia, namely etiology and pathology. As a corollary no specific treatment is known. Every case must be carefully considered, however, from the purely medical side for evidences of endocrine disorder, organic disease, and metabolic disorder, as well as for psychological factors in the life of the patient. Life experience and environmental conditions play an important role in the development of the psychosis.

It is important to place schizophrenic patients under care at the earliest possible moment; as it is with any person developing a disease, acute or chronic. Many schizophrenics show character anomalies from early childhood that are suggestive. Among these traits may be mentioned "shut-in" personality, inability to make friends and take part in communal activities with zest, supersensitiveness, over-conscientiousness, egocentricity, obstinancy, phantasy-formation, or day-dreaming. These characteristics cause such persons to be considered peculiar, eccentric, exceptional, or difficult; whereas they should indicate a careful psychiatric examination.

The main unsolved problems relating to schizophrenia were found to be conflicting theories about the causes, especially the
role of heredity and of organic symptoms. Another problem is in childhood schizophrenia. Although the incidence is not extremely high, little is known about the disease. A third problem is in the classification of schizophrenia. The solution of all these problems must be found in further research.


8. Larned State Hospital, Record Room, "Case Histories". Larned, Kansas.


