

*American Handbook of Psychiatry*

# SCHIZOPHRENIA

The Manifest Symptomatology

**JULES R. BEMPORAD**

**HENRY PINSKER**

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**Jules R. Bemporad and Henry Pinsker**

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# SCHIZOPHRENIA: THE MANIFEST SYMPTOMATOLOGY

**Jules R. Bemporad and Henry Pinsker**

Since its initial description in 1896, there has been continuous debate about whether schizophrenia is a disease of organic etiology, a group of separate entities, not delineated, but with enough common features to be characterized as a syndrome, a reaction to severe stress, latent in all individuals, or an accumulation of maladaptive behavior patterns. Despite these controversies, the setting apart of schizophrenia as a nosological entity has stood the test of time. It is usually described as an entity with unknown etiology and variable course. Commonly, psychiatrists speak of schizophrenia in the singular, while agreeing that there is a group of schizophrenias. In this chapter, we will be concerned with the signs and symptoms, the clinical manifestations which make possible diagnosis of schizophrenia, and which set it apart from other psychiatric disorders.

While in certain cases it is not difficult to make the diagnosis of schizophrenia, at other times it may be exceedingly difficult. The difficulty may reflect the psychiatrist's bias against an ominous-sounding diagnosis, his concept of psychiatric nosology, or diagnostic habits to which he was educated. For example, schizophrenia is diagnosed more frequently in the

United States than in any other country—thirteen times more frequently per unit of population, for example, than in the Netherlands. Even within the United States, statistics vary from hospital to hospital. Despite these differences, there is general agreement that schizophrenia is a disorder that affects the total personality in all aspects of its functioning: emotion, volition, outward behavior, and most particularly, the thinking process. While not all patients show the same range or magnitude of disturbances, and even the same patient's symptoms will vary in time, the hallmark of this disorder is that it permeates every aspect of the individual's functioning.

## Historical Review

### The Classical Period

Kraepelin, in 1896, was the first psychiatrist to delineate schizophrenia as a separate diagnostic entity. He termed the new disease entity *dementia praecox*,<sup>1</sup> meaning mental deterioration occurring early in life. As he wrote two decades later:

I got the starting point of the line of thought which in 1896 led to dementia praecox being regarded as a distinct disease, on the one hand from the overpowering impression of the states of dementia quite similar to each other which developed from the most varied clinical symptoms, on the other hand from experienced connected with the observation of Hecker that these peculiar dementias seemed to stand in relation to the period of youth.

Kraepelin separated two major groups of patients: those who despite the severity of their acute symptoms achieve recovery in a short time, and those who showed a chronic and steady deterioration. The former were delineated as having manic-depressive psychosis, which Kraepelin eventually believed to be a constitutional or genetic illness, and the latter were classified as dementia praecox, which he believed to be an acquired, organic condition.

Within this newly established entity, Kraepelin unified a number of separately described syndromes, demonstrating that although the disorder could begin from a variety of clinical forms, ultimately a similar type of dementia ensued. These syndromes included catatonia, previously described by Kahlbaum in 1874, hebephrenia, fully reported by Hecker in 1871, and dementia paranoides. Ultimately, Kraepelin added other subtypes so that in his final works he listed nine types of dementia praecox. While Kraepelin made an exhaustive descriptive study of dementia praecox, he particularly stressed specific symptoms. Among these was hallucination, especially of the auditory type. He believed that hearing of voices was specifically characteristic of the disorder, ranging from the milder illusory belief that real noises have been transformed into messages to the extreme hallucinatory verbigeration, during which the patient's thoughts are constantly interrupted by a stream of meaningless phrases. Other pertinent symptoms were the delusion that one's thoughts were being influenced by external forces or that one's thoughts were known by others, and conversely that one could read the

thoughts of others. Delusions of almost any type formed a prominent part of the symptom picture.

The faculty of judgment was also severely impaired. Kraepelin writes:

What surprises the observer anew is the quiet complacency with which the most nonsensical ideas can be uttered by them and the most incomprehensible actions carried out. One has the impression that the patients are not in a position to accomplish that mental grouping of ideas which is requisite for their survey and comparison, their subordination among one another and for the discovery of contradiction.

Other prominent symptoms were disturbances of emotional expression, bizarre and stereotyped behavior, and, often, negativism. What differentiated this disorder from the commonly seen toxic psychoses was the absence of delirium or gross defect of the intellectual faculties, at least prior to the terminal phase. Memory, orientation, and comprehension remained intact despite gross incapacitation in other areas of functioning.

Kraepelin's great contribution lay in recognizing that a number of clinical syndromes could be seen as forms of one disease, and in differentiating this new entity from other psychoses (manic-depressive illness and paraphrenia). However, he triggered a controversy which is still with us by making prognosis as well as symptoms criteria for diagnosis. Dementia praecox was expected to end eventually in deterioration. Other psychiatrists, while applauding his genius for observation and classification,



were critical of his fatalistic outlook. Kraepelin eventually conceded that about 13 percent of such patients did achieve some form of recovery, that, in a sense, dementia praecox did not always lead to dementia, and if it did, it did not always develop precociously. Finally, the idea that correct diagnosis could be made only when the course of the illness was known is incompatible with the usual medical approach, which requires that diagnosis be made on the basis of available information and recognizes that all diagnoses are tentative and may be corrected in the light of subsequent data, including the course of the illness.

In the United States, Adolph Meyer extensively criticized Kraepelin's pessimistic view of dementia praecox, as well as his view of the disorder as analogous to an organic illness. Meyer argued that each patient be studied longitudinally and that premorbid life events be carefully investigated. If this were done, Meyer proposed, then dementia praecox could be seen as the culmination of accrued "faulty habits" and maladaptive reactions to environmental demands. Schizophrenic symptoms were extreme "substitutive reactions" which replaced effective action in the real world. Innocuous behavior such as daydreaming or such mild traits as a tendency to be uncomfortable in social situations gradually developed into autistic retreat with compensatory delusions or hallucinations. Meyer's contributions are extremely important in demonstrating that illness does not arise *de novo* but is an extension of and continuous with the past life of each patient. On the

other hand, Meyer has been criticized for being vague in defining where “faulty habits” end and true psychosis begins, that is, in not appreciating that in psychosis there is extensive alteration of the total personality.

Bleuler, a Swiss psychiatrist, accepted most of Kraepelin’s observations but attempted to go beyond a purely descriptive approach. In his classic monograph, *Dementia Praecox, or the Group of Schizophrenias*, published in 1911, Bleuler made many fundamental and lasting contributions to the study of schizophrenia. To the three previous subtypes he added the simple type, previously described by Diem. He recognized that the majority of schizophrenic patients were not so severely ill as to require hospitalization, and that deterioration to dementia was not inevitable.

Perhaps of greater importance was Bleuler’s attempt to define the basic disorder of schizophrenia. He believed the fundamental defect was a splitting of the functions of the personality, so that the mind lost its natural harmonious integration. The will was no longer coordinated with cognitive processes which in turn were split off from emotions. Therefore, he proposed the term “schizophrenia” (from the Greek *schizein*, to divide, and *phren*, mind) to replace Kraepelin’s dementia praecox.

Bleuler separated the symptoms of schizophrenia into two major categories: the *primary symptoms*, which were basic manifestations of the

disorder, and the *secondary symptoms*, which were psychological adaptations to the primary difficulty. The primary symptoms, which Bleuler ultimately believed to be due to an organic disease, consisted of (1) a *loosening of associative linkages* in the flow of thought, so that one thought no longer logically followed another and the associative flow of cognition became fragmented; (2) *autism*, which consisted of a particular type of thinking and acting that are not bound by external reality but follow the inner fantasy world of the individual; (3) *ambivalence*, meaning the simultaneous occurrence of contradictory feelings, wishes, or thoughts (his descriptions making clear that he considered only incongruous or paralyzing ambivalence pathological, and that the mixed emotions of everyday life were not intended to be diagnostic of schizophrenia); and (4) *disorders of affect*, such as indifference and lack of emotional expression, persistence of a basic mood unaffected by external events, or inconsistency between affective expression and the expressed thought or circumstances.

Bleuler believed that these primary symptoms were pathognomonic of schizophrenia, because they were manifestations of the disharmony or splitting of the personality. However, they were rarely seen in pure form, because the more florid secondary symptoms dominated the clinical picture. Secondary symptoms included delusions, hallucinations, gestures, disturbances of speech and writing, and catatonic symptoms (impulsiveness, automatism, negativism, stereotypy). All these symptoms were elaborated

differently in individual patients and formed the clinical basis for the classical subtypes of schizophrenia—paranoid, hebephrenic, catatonic, and simple. These symptoms were the result of the individual's attempt to cope with the primary disorder and could be understood in the context of his past experience. Bleuler, who was familiar with Freud's early work, undertook to demonstrate that the meaning of hallucinations and delusions was not random, but related to the patient's life and susceptible to being understood by study of the patient's life.

In addition, Bleuler also differentiated between fundamental and accessory symptoms. The fundamental symptoms were only found in schizophrenia and thus pathognomonic of the disorder, while the accessory symptoms could also be found in other psychiatric conditions. It appears that the distinction between fundamental and accessory symptoms was made on a phenomenological basis, while the difference between primary and secondary symptoms aimed at an etiological concept of schizophrenia.

In summary, Bleuler's monumental contributions include the demonstration that schizophrenia does not inevitably end in deterioration, a broadening of the subtypes included in the category, an attempt to show that symptoms have meaning, and an effort to grasp the fundamental defect of schizophrenia as the splitting of the functions of the personality. His specific emphasis on the defect of the associative process has persisted, so that even

today schizophrenia is often referred to as primarily a disorder of thinking.

Jung, while a student of Bleuler, made significant contributions to the meaning of schizophrenic symptoms; he was also one of the first psychiatrists to perform psychological tests on schizophrenic patients. In *The Psychology of Dementia Praecox*, published in 1903, Jung postulated the existence of autonomous unconscious “complexes,” or groups of ideas and feelings, which had been repressed but during psychosis involuntarily intrude into conscious thought, accounting for the schizophrenic’s discontinuity of themes in speech. Furthermore, through the use of word association tests, Jung found that similar or related ideas would recur to a variety of stimulus words. Jung proposed a psychosomatic theory of schizophrenia in which excess affect and trauma cause the release of a hypothetical toxin, which in turn destroys the hierarchical arrangement of the ego, so that archaic, repressed material emerges in a dramatic and overwhelming manner. Jung thus related psychosis to dreams and the schizophrenic to an awake dreamer, in that unconscious themes break into consciousness due to a weakening of the ego.

Although they were later to break with Freud, both Bleuler and Jung relied heavily on the then newly formulated principles of psychoanalysis in their interpretation of symptoms. Much of what Freud had written about distortion in dreams was found to be applicable to schizophrenic symptoms in terms of repressed themes and their symbolic representation in conscious

life in the form of symptoms. They appear to be equally indebted to the studies of Janet on hysteria, in which he suggested an organic “weakening” of the mind allowing for the emergence of “fixed ideas” and pathologic behavior.

## **The Psychoanalytic Approach**

While Freud’s revolutionary theories have found their greatest application to an understanding and therapy of the neuroses, they are no less relevant to the study of schizophrenia.

His work on dreams describes the elaboration of symbolism, the regression to perceptual rather than conceptual modes of experience, the simultaneous expression of incompatible ideas, and mental mechanisms such as condensation and displacement, which are useful in describing schizophrenic symptoms. Freud’s formulation of two major classes of cognition into primary and secondary processes has influenced much of psychiatric thought regarding psychoses. The primary process was postulated as being solely concerned with the attainment of pleasure and a release of tension. It does not follow logical rules and utilizes any means to attain expression. The primary process is essentially the mode of the unconscious and the id; it becomes manifest in dreams, slips of the tongue, various symptoms, and most blatantly, in psychosis. On the other hand, the secondary process is concerned with the individual’s relationship to his environment,

rather than with release of instinctual energy. It is characterized by logical, coherent cognitive forms and typifies most of our everyday conscious experience. In schizophrenia, there occurs a massive regression, with the overwhelming of the ego by primary-process mentation, accounting for the peculiarities of thought and behavior. Concomitant with regression, Freud postulated a withdrawal of libido or interest from the external world and its redirection onto the self, so that wishes are satisfied through hallucinations or delusions, rather than through actual behavior.

The libidinal decathexis of external reality accounts for the “end of the world” and other cataclysmic fantasies found in schizophrenia. In the analysis of Schreber’s diary of his own psychotic episode, Freud hypothesized that the megalomaniacal, hypochondriacal, and egocentric preoccupations result from an attempt to deal with the loss of external reality, and delusions and hallucinations are re-creations of a personal, fantasied reality to compensate for the loss of actual relationships. For Freud, then, schizophrenia represented a massive regression to a self-contained or narcissistic state, in which a fantasy world is substituted for the lost reality and in which the id and primary-process cognition overwhelm the ego’s hold on reality, leading to a condition where unconscious wishes and drives are freely expressed and the environment distorted to fit these needs. Freud often compared the schizophrenic state to the dream process, showing that in schizophrenia behavior and language are subjected to the same mechanisms that create

dream images out of latent and repressed instinctual desires.

Arlow and Brenner have explained how Freud's concepts of decathexis and recathexis do not fit clinical experience with most psychotic patients, for Freud selected only certain symptoms of schizophrenia, attributing to them unjustified primacy. Many schizophrenic patients do not show the extensive withdrawal from reality described by Freud, many do not have restitutive delusions or hallucinations, and delusions of world destruction, although not uncommon, are by no means characteristic of schizophrenia. Psychosis may be understood, within the context of evolving psychoanalytic theory, as a widespread disturbance of ego and superego function, a regression employed as a defense against anxiety related to intrapsychic conflict.

Since the schizophrenic, according to Freud, has given up relating to his environment, such a patient would be unable to form a transference relationship to a therapist and would thus be untreatable by psychotherapeutic means. Sullivan, and later Fromm-Reichmann, argued against this therapeutic pessimism and engaged in the psychoanalytic treatment of schizophrenic patients; as a result, they altered much of the psychoanalytic theory of psychoses. Sullivan dismissed the idea that instinctual and biological processes were predominant in psychopathology and instead stressed the importance of early interpersonal relationships. He believed that schizophrenia was a result of extremely destructive experiences



with significant adults which prevent the individual from forming a satisfactory self-image and from developing adequate modes of dealing with anxiety, so that throughout life he must distort perceptions of himself and others in order to escape being overwhelmed by anxiety. During life crises, the individual can no longer defend himself from early fears and the repressed experiences of early childhood re-emerge in a symbolic and often terrifying manner. Sullivan thus saw the symptoms of schizophrenia as signifying modes of previous relationships which were played out again in adult life with substituted protagonists. Sullivan's work is extremely relevant in showing the interpersonal nature of symptoms, as well as in opening the way to family studies of schizophrenia, but his greatest contributions are perhaps in the sphere of treatment.

Whether or not the psychoanalytic study of schizophrenia has succeeded in explaining the causes of the illness, it has contributed much to the understanding of the behavior and suffering of the schizophrenic patient, and has shown how similar mental processes can be found in healthy individuals.

### **The Existential Approach**

While receiving limited attention in the United States, the existential approach to schizophrenia has attracted a number of adherents in Europe.

Binswanger and Minkowski have attempted “existential” analyses of schizophrenic patients, utilizing basic categories of experience, rather than relying on extra-experiential constructs, such as libido or defenses. They attempt to reconstruct the mode of being of the patient, his subjective view of his world, what he feels, rather than how he behaves. According to Binswanger, for example, the world of the schizophrenic becomes flattened and constricted, dominated by a few recurrent themes. He is described as losing his freedom and existing as a passive object, subject to external forces instead of being motivated by internal desires. Minkowski emphasizes distortions in the perception of time and space, relating these alterations to manifest symptomatology. Jaspers has also used a phenomenological approach to schizophrenia, stressing the ability of the examiner to empathize with the patient. If the patient appears as an enigma to the examiner and the latter cannot make contact with or understand the patient, then a diagnosis of “true” schizophrenia is indicated, rather than that of a reactive psychosis. This somewhat subjective approach to a diagnosis has been furthered by Rumke in differentiating types of schizophrenias. The point is that true schizophrenia is an organic condition that defies empathic understanding.

### **Cognitive Approach**

Study of the cognitive defects of schizophrenia has never been formalized into a “school” or doctrine, but attempts to elucidate the nature of

the basic disturbances in thought or conceptual processes have occupied the attention of workers in the field from the start. Kraepelin, in his initial description of dementia praecox, noted that “the most different ideas follow one another with the most bewildering want of connection.” Bleuler, influenced by the association psychology prevalent at the time, stressed a loosening of the associations as a primary and fundamental symptom of schizophrenia. Since that time, thousands of studies have appeared, yet Kreitman et al. found thought disorder to be one of the symptoms least likely to be agreed upon by clinicians. Reed, in a recent review of the literature on thought disorder concludes:

. . . much of what is found in schizophrenic thought, speech and writing also occurs in normal people and what is observed as schizophrenic thought disorder is not due to a qualitatively abnormal mechanism, but rather to the use of normal ones in a quantitatively abnormal way.

### *Studies of Concreteness of Thought*

In the 1920s the Russian psychologist Vigotsky began to experiment with categories of thought in schizophrenic patients. He was influenced by his own work on the development of language and thought in childhood, as well as by the studies of Piaget. Vigotsky and Luria devised a test employing blocks of different shapes, sizes, and colors. The test tasks required, for success, classifying the blocks in a way more complex than simple sorting by color or size. They found that the schizophrenic patients were unable to go beyond a

concrete appreciation of the test material and concluded that they were unable to make higher order generalizations. Kasanin duplicated Vigotsky's work, and further concluded that schizophrenics had lost their former ability to generate abstract hypotheses and that their thinking was limited to concrete, realistic, matter-of-fact terms, in which things have personal rather than symbolic values. Goldstein, utilizing a sorting test which he had developed for the study of brain-damaged patients, found that schizophrenic patients as well as brain-damaged ones lost the "abstract attitude" and centered on the concrete aspects of their environment. Goldstein added that schizophrenics could concentrate on only one aspect of a problem at a time and that they were unable to see common properties of different objects, so that each object was judged as unique. This inability to generalize was seen as part of the over-all loss of abstraction ability. Benjamin found that schizophrenics interpreted proverbs literally, being unable to realize the existence of underlying abstract or figurative meaning.

While many workers have asserted that schizophrenics can be expected to give concrete responses, others, including Harrow, et al., have reported that strange, idiosyncratic thinking is a more important characteristic, both in acute and chronic schizophrenia. Similarly, McGaughan found that the difficulty in schizophrenia is not an over-all inability to go beyond literal, concrete meanings, but rather a tendency to give personalized and unusual meanings to test material. Rapaport et al., too, using an object-sorting test,

could find no evidence for marked concreteness. Whitbeck and Tucker have suggested that what has often been called “concreteness” is actually a defect in metaphorical thinking. The schizophrenic is described as unable to understand one object on the model of another. Reed has pointed out that in the early studies any atypical response was considered concrete, which magnified the prevalence of this finding. Low intelligence and the low energy output associated with chronic illness and prolonged hospitalization also increase the incidence of concrete responses.

At present, concreteness of thought is viewed as one of the many possible symptoms found in schizophrenia, rather than as a basic or universal defect. Some have claimed that over-abstract thinking is also found in schizophrenia; however, what is described as “over-abstract,” is usually a pattern of speech dominated by words and phrases which, when used by most people, would be used to express abstract ideas, but which are used as inexact substitutes for specific terms, and which convey private symbolism rather than abstraction. Thus, a patient asked to explain how he would repair the cord of an electric clock described the clock as a “span of time” and talked about eliminating the cord and having the clock operated by solar rays or by light.

### *Studies of Overinclusion*

In a series of studies dating back to the 1930s, Cameron” has reported his own investigation into cognitive disturbances in schizophrenia. On the basis of sentence completion tests and the Vigotsky sorting test, Cameron described a number of cognitive abnormalities. Schizophrenics displayed “asyndetic thinking,” which Cameron described as the juxtaposition of cognitive elements without adequate linkages, similar to the loosening of associations previously noted by Kraepelin and Bleuler. Also noted were “metonymic distortions,” described as the characteristic displacement of a precise term by an approximation. Related rather than exact terms were used in the context of speech. For example, Cameron quoted a patient saying he had three “menus,” rather than three meals a day. Another finding was “interpenetration of themes,” in which preoccupations of the patient intrude into his appraisal of the environment. On the basis of these findings, Cameron developed the concept of “over-inclusive thinking” as a basic disorder in schizophrenia. By this term, Cameron meant that the boundaries of concepts become blurred, so that irrelevant ideas become incorporated into the formation of concepts. As a result, thinking is imprecise and vague, replete with unessential details and highly personal material. For example, a patient included in one category of a sorting test the blotter, the desk, and the examiner. Such overinclusion was seen as responsible for the interpenetration of themes, since categories are no longer logically firm but may include all sorts of unrelated objects or events.

Payne has continued the study of over-inclusive thinking, and found that it occurs not only in schizophrenia, but in manic states and, to a milder degree, in neurosis. He found it in schizophrenics only when thought disorder was clinically obvious, and it disappeared in them when the acute illness subsided. Harrow et al., on the other hand, subdividing the phenomenon into behavioral and conceptual overinclusion, reported that while chronic patients, as described by Payne, showed less over-inclusive behavior, they continued to show over-inclusive thinking.

### *Cognitive Style*

A distinction between thought disorder and “cognitive style” was made by Wynne and Singer. Cognitive style was described as a continuum that had analytic thinking at one end, global thinking at the other. Analytic thinking was described as orderly, systematic, discriminating. Global thinking was described as loose, diffuse, erratic, field-dependent, with problems approached as a whole, with random rather than systematic efforts made toward solution. They found that when thought disorder occurred in an analytic thinker, it was of a type they designated “fragmented.” It was loose, characterized by intrusions that could not be harmoniously integrated into experiences or speech, and illogical leaps between ideas as the individual attempted to explain. Discontinuity between life compartments made for intact thinking in some areas, disordered in others. When the global thinker

manifested thought disorder, it was of an “amorphous” type. By this they meant woolly or fuzzy percepts, impoverished thought, vague, perseverative, lacking in purpose or goal, unable to elaborate ideas into more complex concepts, rambling, interpenetrating themes, blocking, and drifting off.

### *Studies of Mental Set and Stimulus Filtration*

Related to theories of over-inclusive thinking have been hypotheses stressing the schizophrenic’s inability to filter out irrelevant stimuli or to maintain a prolonged state of attention. Payne, in fact, seems to have shifted his interest from overinclusion to problems in selective attention. The major researcher in this area, however, has been Shakow- who has spent half a century studying the psychological aspects of schizophrenia. Shakow asserts that schizophrenics lose the ability to maintain a major set that would allow for sustained concentration in completing a task or following a complex sequence of thought. Instead, the schizophrenic’s behavior is a result of momentary, shifting, “segmental” sets, so that attention is constantly diverted toward immediate stimuli that are irrelevant to the attempted task. The schizophrenic becomes bombarded by details and distractions, so that his actions appear erratic and disconnected. Shakow compares this state to that of a centipede who was so concerned with how each of his feet moved that he lost sight of where he was going. Some support for Shakow’s hypothesis has come from the studies of Freeman et al., who reported schizophrenics as



describing themselves as “flooded” with unwanted stimuli.

In a study of associative structure, O’Brian and Weingartner observed that schizophrenic subjects gave more deviant responses on a word association test than did normals. But when asked to select from a list the words most related to the stimulus words, the schizophrenic subjects performed well, suggesting that they were able to recognize normal associations, but were unable to filter out idiosyncratic associations on an unstructured test.

On the basis of clinical reports of recovered schizophrenics, Arieti has found that perceptions become fragmented, so that whole constructs are no longer appreciated. This observation was confirmed in a study in which schizophrenics were presented with ambiguous cards that could be perceived as whole or disconnected partial percepts. While normal controls immediately perceived the whole percept, schizophrenic subjects perseverated on partial and fragmented percepts. Chapman and McGhie found an intensification of schizophrenic symptoms when patients were transferred to a busy, noisy ward, presumably representing an increase of stimulation. On the basis of various tests, Orzack and Kornetsky have reported evidence of over-arousal in schizophrenics.

Despite these reports, reviews of the literature compiled by Shakow and

by McGhie reveal that over-arousal or segmental set is an inconsistent finding. Here, again, the type of patient can greatly bias the results: Hebephrenic schizophrenics showed difficulties in maintaining a given mental set, but paranoid schizophrenics proved to be more attentive than controls. With this avenue of research, the same conclusions seemed to have been reached as with the studies of concreteness or over-inclusive thinking, namely, that some patients show the disability while others do not, and that the specific defect characterizes only some of the schizophrenic population, rather than being a pathognomonic sign.

#### *Studies of Logical Processes*

Another attempt to define the psychological deficit in schizophrenia has been the elucidation of the logical properties of thought disorder. Von Domarus, who first attempted a logical analysis, described the thought of schizophrenics as “paralogical,” defining its formal aspects as follows: “Whereas the logician accepts identity only upon the basis of identical subjects, the paralogician accepts identity on the basis of identical predicates.” As an example, Von Domarus describes a schizophrenic patient who believed that Jesus, cigar boxes, and sex were identical. Investigation revealed that the link connecting these disparate items was the concept of being encircled: Jesus’ head is encircled by a halo, cigar boxes by a tax band, and women by the sex glance of a man. Thus, the slightest similarity between

items or events becomes a connecting link that makes them identical.

Stimulated by the work of Von Domarus, Arieti has formulated a detailed analysis of the formal mechanisms of schizophrenia. According to Arieti, the symptoms of schizophrenia are part of a “progressive teleologic regression.” By “regression,” Arieti intends a return to older phylogenetic modes of cognition and expression; by “teleologic” is meant that the regression is purposeful in defending against anxiety and re-establishing some sort of psychic equilibrium; and by “progressive” is meant that this regressive attempt fails to protect the individual and elicits more symptoms or a clinical disintegration. The schizophrenic cannot integrate at this lower level of cognition and so is doomed to a downward spiral of conceptual disorganization. The use of “predicate thinking,” which equates as identical any items or events that have even the slightest similarity, is used to give the schizophrenic some semblance of meaning and to protect him from the anguish that a realistic appraisal of his environment would engender. Arieti’s often-quoted patient who believed she was the Virgin Mary because she also was a virgin, demonstrates how this “paleological” identification serves to bolster a shriveling sense of self and defend against feelings of worthlessness.

Arieti has attempted a synthesis of the psychodynamic and cognitive points of view in his approach to schizophrenia. He has delineated four stages of the disorder, showing how defense from anxiety at each stage is expressed

by specific cognitive aberrations. He views schizophrenic symptoms as not only purposeful in the psychodynamic sense but utilizing particular mental mechanisms, such as concretization of concepts, desymbolization, and desocialization.

Other psychiatrists have also approached schizophrenic symptoms from the standpoint of logical analysis, the most pertinent being the symptom of “context shifting,” which consists of shifting from one frame of reference to another in order to protect against anxiety-laden ideas. Burnham gives several examples of such maneuvers as follows:

**Interviewer:** You seem to want to avoid all possible pain.

**Patient:** I remember reading about Thomas Paine in a history course.

**I:** You seem to fear that if you develop any close friends, they will desert you.

**P:** I wonder what’s for dessert today.

It is obvious in this example that with the play on words the patient shifts the context of a meaningful word to one that is less likely to lead to painful realizations. Possibly, once the habit of shifting contexts is established, it is applied to nonsignificant as well as significant ideas. Also, any word or phrase might, to a schizophrenic patient, have a meaning unsuspected by others. Much of what has been described as the irrelevant, loose, or even delusional thoughts of some patients stems from this shifting, which

frequently cannot be grasped readily by examiners.

Schizophrenia, more than any other psychiatric disorder, is characterized by aberrations in conceptual process. These aberrations have been described in terms of overinclusion, paleologic thought, shifting contexts, decreased filtration, or concreteness. Schizophrenia, it must be remembered, probably consists of several entities. Extensive study tends to dilute the magnitude of any single finding that appears important in schizophrenia. A characteristic that persists is variability. Whatever aspect of schizophrenia is being studied, there is a tendency for the pluses and the minuses to cancel each other out, leaving averages that call attention away from the aberrations characteristic of schizophrenics as a group, but not of each individual.

## **Sign and Symptoms of Schizophrenia**

### **Onset of Schizophrenia**

While truly sudden onset can occur, especially in catatonic forms of schizophrenia, what often appears as sudden to the bystander, even to close family, is usually the culmination of a period of weeks or months of mounting inner turmoil and sense of ill-being. There is no single pathognomonic sign of early schizophrenia, and no valid predictors of potential for schizophrenia.

Polatin and Hoch reported that those who eventually become schizophrenic were apt to have been shy, seclusive, timid, with marked mood fluctuations and free-floating anxiety of overwhelming proportions, but this does not mean that those diagnosed schizoid personality are all potentially schizophrenic. The patient becomes increasingly restless, loses his appetite, becomes unable to sleep, often because of disturbing dreams, which may deal with calamitous destruction, humiliation, or unaccustomed primary-process material.

There may be inability to think, often explained as consequence of having too many thoughts at one time. This experience, seen briefly in normal individuals as an aspect of happy excitement, is, when prolonged, usually associated with a feeling of pressure or pain in the head. The patient begins to fear that he is becoming insane or losing his mind, that he will lose control, will never be able to think again, or, simply, that he will explode.

Here, as in most descriptions of the experience of mental illness, it is the verbal, introspective people who have provided the information. Those who are habitually nonverbal, however, appear to have the same suffering. If questioned about the presence of feelings or experiences known to be characteristic of the illness, they recognize, with relief, the description of what they have been experiencing. In the development of illness, the choice of symptoms, the manner in which they are elaborated, the attempts to deal

with them, are all related to the patient's underlying personality, his sophistication, his current family relationships, and culturally determined patterns of illness and help-seeking.

Insidiously developing schizophrenias may appear to lack the painful mental experiences described above. The young person may become excessively shy, feel embarrassed with others, but become more withdrawn than other self-conscious adolescents, possibly develop ideas of reference. Instead of anxiety, there is avoidance, which may be so rationalized that it appears to be a neurotic defense. A young man with many symptoms of schizophrenia dropped out of college, explaining that he became too anxious to sit in class, fearing that he would have to urinate and not be able to get out in time. He was unable to speak with girls, but simply attributed this to shyness.

Compulsive behavior may appear, or, if already present, become intense. Occurrence of multiple or disabling compulsive symptoms in a young person suggests the possibility of schizophrenia. An eighteen-year-old, struggling with continuous sexual fantasies and uncontrollable feelings of inexplicable misery, each day emptied his drawers and closets, washed them, then carefully rearranged all his possessions. His parents offered little objection until he began to require a tube of toothpaste each day in his frantic efforts to become clean. The person who is trying to defend against

overwhelming anxiety, or to deny the painfulness of being unable to maintain contact with other people may apply himself with considerable competence to a single intellectual pursuit, such as mathematics, chess, or religion, with room for little else. Friends are, in such cases, limited to one or two people with whom the activity and little else is shared. Far more common is a dwelling on abstractions, such as time, the nature of life, solutions to political and social problems. The individual may appear deep or intellectual to his neighbors, but if he records his thoughts in notebooks, as is often done, it can be seen that the ideas are usually lacking in depth or systematic approach, tend to be expressed in dramatic or cryptic but inconsistent phrases, fraught with significance only for the writer. Mark Twain described a youth who memorized thousands of verses of Scripture, received a gold medal, then went mad. Today, a young person with similar problems, instead of memorizing Scripture, might contemplate for months his own inner experiences and relationships.

The development of illness may often be recognized by a change in behavior. The new behavior may not be inherently pathological—the sociable person may become withdrawn, or the retiring person may become expansive. Behavioral changes that develop as defense against emerging psychosis may be mistakenly identified as healthy efforts to improve adaptation. In early stages of illness, a person may quit his job, leave his spouse, marry unwisely, or make other major life changes, in futile attempt to



solve problems that, although related to his environment, arise from within. A feeling of depression, sadness, hopelessness is often present coincident with early schizophrenia. Suicide is not uncommon.

Subtle alterations of perception, as described by Chapman, may occur during the premonitory period. Objects may appear larger or smaller, brighter or duller, take on unusual characteristics, fluctuate in size, appear to have outlines, or dance about. The patient may be unable to distinguish between object and background. Movement or change in perspective may create a sense of puzzlement and the visual scene may become incomprehensible. Extraneous stimuli may prove so distracting that organized activity becomes impossible.<sup>2</sup>

“Things just don’t make sense,” is a description often offered by patients in the early stages of a schizophrenic episode. People’s speech becomes too fast to be understood. It becomes impossible to shift from one idea to another with the usual facility. The signs on buses or streets suddenly seem divorced from meaning, although ability to read is unimpaired. When this happens, an individual may become lost while traveling routes he has traveled before. There is a loss of mental efficiency and an impairment of ability to organize and synthesize perceptions into meaningful patterns. Many complain that they feel doped, or dazed, or robot-like.

Psychiatric examination at this point may reveal loosened associations, increased incidence of idiosyncratic use of words or concepts, blending of one concept into another, with ideas following one another in profusion. There may be circumstantiality, a constant elaboration of detail. The affect is likely to be anxiety or perplexity. Frequently, there is a disruption of the boundaries that normally separate inner experience from perceptions, self from others, thoughts from actions. The patient who, upon first meeting a new physician, speaks as if a relationship already existed is subtly blurring the distinction between his inner need for a relationship and the environmental facts. The patient who “adjusts” to the hospital with ease and rapidity inconsistent with the outward disturbance illustrates a sensitivity to the surroundings which overrides the inner disturbance. In the course of an early interview, florid psychosexual material may be presented, material that most people would repress or conceal until a therapeutic relationship existed.

If the illness continues, disturbances of perception and testing of reality may occur. Trivial stimuli, such as subway signs, television commercials, overheard bits of conversation, the facial expressions of strangers, may begin to have special meaning. Illusions and hallucinations may become intense and frightening. While voices (phonemes) are the most common hallucinations in schizophrenia, hallucinations of all sensory modalities can be readily discovered by careful questioning. Olfactory hallucinations are usually foul odors, often related to sexual or excretory products. Tactile hallucinations

may take the form of embarrassing sexual sensations.

People may be misidentified, or their actions misinterpreted. A patient admitted to a hospital in which staff wore street clothes rather than uniforms was too distracted to notice the name badges that distinguished staff from patients. He assumed that someone must be a doctor there to observe him, and selected the patient who seemed most intelligent and declared him to be the psychiatrist. He accepted medication, but soon became quite disturbed, having concluded that the medication was LSD, given him to make him crazy in order to justify his being held in a psychiatric hospital.

Delusions are common when an early schizophrenic illness has fully developed. Usually, these are fragmentary explanations for things not otherwise understood. They are not systematized or believed with conviction. The patient may experience “psychotic insight.” Suddenly, everything becomes clear. He understands what has been happening to him, he understands the significance of hitherto unexplained perceptions, sensations, or thoughts. The usual rules of causality or evidence are ignored. This acceptance of private (autistic) thoughts and explanations is what is commonly but imprecisely termed a “break with reality.” Body processes, ordinarily not noticed, may be suddenly detected and thought of as symptoms of illness. Various sensations in the chest, for example, may be perceived as manifestations of grave heart disease.

## Recurrences of Schizophrenia

The course of schizophrenic illness most commonly seen is a series of recurrences and remissions, occurring against a background of chronic disability. Some of the classical manifestations of chronic schizophrenia, such as clang associations, neologisms, mutism, grossly bizarre behavior, are now seen often in acute episodes, but tend to fade away. It is thought by many that prolonged hospitalization in an environment dominated by other chronic patients encouraged continuance of such extreme symptoms. It had been hoped that elimination of prolonged hospital care would eliminate the chronic illness, but this has not been the case. Despite the enthusiasm of many workers, most studies have shown recurrences to occur, no matter what treatment has been employed. Several studies have shown that patients who take prescribed medication are less likely to be rehospitalized. Careful follow-up studies by Davis et al. of patients who had initially done well with intensive home care instead of hospitalization showed that they were, when the intensive care ceased, as likely to experience recurrences.

When symptoms recur, each episode of illness may develop as described in the section on onset of schizophrenia. Many patients, having learned from experience which mental phenomena are signs of illness, recognize what is happening and seek help. Hallucinations are readily recognized as such by many patients, delusions less often. Repeated episodes

tend to be characterized by less affective response, but there is often a complaint of unpleasant affect, often described by the patient, for want of better vocabulary, as either “anxiety” or “depression.”

## **Types of Schizophrenia**

Hebephrenia, catatonia, and dementia paranoides, once known as separate entities, were united as forms of one disease by Kraepelin, described as types of schizophrenias by Bleuler. The International Classification of Diseases continues to recognize these subtypes, although their clinical utility is debatable. Patients who manifest the classical symptoms of each type continue to appear, but in time different manifestations appear, or, as the illness becomes chronic, lose the differentiating features. What once appeared to be entities, and later subtypes, are best viewed now as pathological behavior patterns.

*Simple schizophrenia* is said to be characterized by insidious reduction of external attachments and interests, apathy, impoverishment of interpersonal relations, poverty of thought, and an absence of florid schizophrenic symptoms. The repetition of almost identical descriptions in many texts suggests that clinical experience has contributed little to the descriptions. In concluding a review of the literature on simple schizophrenia, Stone et al. state, “It is a vague and inherently unreliable diagnosis without

foundation in psychological theory or psychiatric practice.” They found that the diagnosis was seldom made, but when it was, just as in cases reported in the literature, hallucinations and delusions were often present, despite the fact that the condition is defined as a form of schizophrenia without these accessory symptoms. Apathy, indifference, and absence of anxiety, although described as characteristic of patients in this and other diagnostic entities, are often defenses that have proven impenetrable to the examiner, rather than intrinsic aspects of the illness. Uncommunicative patients often have anxiety, hallucinations, delusions, desires, and opinions, which they do not share with their families or psychiatrists. Since diagnostic terms are operationally defined, simple schizophrenia can be diagnosed when there is some tangible evidence of schizophrenia in a patient whose behavior is characterized by apparent emptiness, apathy, poverty of thought, and for whom no other diagnosis is appropriate.

Doubt has also been expressed about the validity of *hebephrenic schizophrenia* as a subtype. Markedly differing criteria for use of this diagnostic term have been provided by different authorities. In Bleuler’s time, almost any schizophrenic patient who was not catatonic and not paranoid was likely to be called hebephrenic. Slater and Roth describe as hebephrenic all cases of schizophrenia in which thought disorder is the leading symptom. Leonhard, as cited in Fish, has proposed an independent classification of chronic schizophrenias. Disturbance of affect is the outstanding disorder of

the four types of hebephrenia he describes, and the range of disturbance includes marked silliness, depressive flat affect, apathy, and autism.

In current American usage, characteristics are disorganized thinking, shallow and inappropriate affect, unpredictable giggling, silly behavior, and mannerisms. Hallucinations or delusions may be bizarre, disorganized, and transient.

Illustration: A woman of thirty, who had been hospitalized several times before with different manifestations of schizophrenia, was a constant source of irritation to staff and patients alike because of her child-like attention-seeking behavior. She lay on the floor in the corridor, turned the radio loud, jumped and stamped, shouted at her psychiatrist from the far end of the ward. When milk was spilled on the table, she licked it. She initiated conversation with a man by apologizing for having ugly, dirty thoughts about men, and said that she wanted to cut off her hair because it was a symbol of power. When she was reprimanded for walking nude from the shower, she responded by throwing eggs in all directions. She would suddenly throw her arms around people. Thought process disturbance was illustrated in a response to discussion of her unkempt appearance: "You are saying that I am filthy and dirty . . . the hands are mostly used for masturbation—that's what you mean by talking about my dirty fingernails." A few weeks later, she had returned to her usual sad, discouraged state, and was able to discuss her inability to maintain relationships, to control her intrusive fantasies, or to be free of anxiety.

Hebephrenic behavior is seen, acutely, as a form of clowning, acting-crazy behavior, defensively similar to mania, in chronic schizophrenic individuals. Classically, hebephrenic schizophrenia is one of the forms which begins in adolescence, and when this does occur, the prognosis is poor. Brill

and Glass studied a group of hospitalized hebephrenic patients and concluded that the syndrome represented an end-stage of illness, indicative of greater severity of schizophrenic illness, rather than being a special subtype.

*Catatonic* behavior may occur in any form of schizophrenia and is also seen at times with organic brain disease. Catatonic schizophrenia is diagnosed when volitional disturbance is the predominant characteristic of illness. Catatonic schizophrenia may occur as an acute illness, one of the reactive schizophrenias, or as a form of chronic illness. The acute catatonic episode is usually characterized by rather sudden onset of mutism, often accompanied by marked reduction in motor activity. The patient looks blank, but the pulse is rapid, suggestive of fear, and the eyes may dart about. Usually, he passively allows himself to be directed, admitted to a hospital. Placed in a bed, the catatonic patient may attract no attention. A subtle turning away, a resistance to being moved, discloses the characteristic negativism. The patient may be rigid when examined, may hold his head above the bed if the pillow is removed, but relax when alone. The most classical sign of catatonia is wax-like flexibility—if a limb is placed in an unnatural position, the patient retains the position for a short while, then, like melting wax, the limb gradually returns to natural position. This sign is not often seen; it may occur when a patient, having an arm placed above his head, for example, tries to cooperate by holding it there, until he fatigues. This behavior illustrates a suspension of volition, also expressed by echolalia or echopraxia. In the early



stages of a catatonic episode, the patient may refuse food, but, if liquids are available, drink surreptitiously, so signs of dehydration are of greater management significance than recorded intake. Prolonged inanition presents considerable danger. Usually, one or two feedings through a nasogastric tube are followed by resumption of less unpleasant methods of food intake. Most catatonic patients understand fully what is going on around them, and may integrate what they hear with fantastic illusions and delusions, often on themes of destruction. Some later report that they have been blank, or unaware of the passage of time. Rapid recovery is often seen, but if this does not happen, electrotherapy can be expected to produce dramatic improvement, and should be recognized as a potentially life-saving treatment. A patient whose immobility was so extreme that he developed large decubiti and severe dehydration recovered after a few shock treatments and explained that he had been convinced that if he moved a muscle, even an eye muscle, he would instantly die. Another, who would function for weeks, then spend an entire day standing immobile or lying in bed explained that only by doing so could she be sure she would not kill herself.

Chronic catatonic schizophrenia has a poor prognosis. In the past, every large mental hospital had some patients who stood in one spot day after day, developing stasis edema of the legs eventually, or patients who had to be tube-fed for years. Unusual repeated movements of the entire body, posturing, or of lesser extent, stereotypy, were common. The stereotyped

behavior, or repeated utterances, usually have some symbolic significance, not readily recognized because the separate parts of the miniature pantomime become condensed, abbreviated, and distorted.

Illustration: A chronic catatonic man, who had not spoken more than a few words at a time for over a year, regularly attended a day hospital, spending most of his time standing in the corridor, posturing, grimacing, and laughing to himself. He usually made some fragment of a comment when a staff member was absent, and he stood near meetings or group therapy without participating. As part of a research project on attitudes toward work, he was asked to write sentence completions. His response revealed some of his previously unexpressed, bizarre thoughts, and demonstrated the severe thought process disturbance that justifies inclusion of this condition among the schizophrenias.<sup>3</sup> His responses included: When my co-workers are around, I: "feel like hair sprouting out all over." The more responsibility a worker is given: "the less important he takes himself." If I were working: "omnisciently empowered. If only I was working omnisciently empowered." Sometimes I feel that my supervisor: "uses medieval techniques." I feel that my co-workers: "plot." What I want most from a job is: "friendly people." If the boss criticized me, I would: "spit in his face." Taking orders at work: "mutely."

Catatonic excitement, characterized by ceaseless activity, can be one of the few dangerous conditions in psychiatric practice. Whereas the paranoid patient who becomes dangerous is usually defending himself against what he perceives as an attack or an attacker, the excited catatonic patient may thrash out wildly, possibly continuously, without apparent reason or target. Fortunately, this condition is not common. Potential for catatonic excitement can be detected when a typically slowed patient seems to be struggling to maintain control or when he communicates, nonverbally, a disturbing feeling

of tension.

Of all clinical types of schizophrenia, the *paranoid* type is the most homogeneous and the least variable. Whether recurrent or continuous, the symptoms may be relatively unchanged over the years. Disturbances of verbal process or affect may be absent or very subtle. This is the most frequent form of schizophrenia developing in middle life, often in individuals who have been capable of forming relationships and performing well at work. Paranoid schizophrenia is characterized by prominent delusional thinking.

A primary delusion, also known as autochthonous or apophanous, as described originally by Gruhle (according to Slater and Roth), is a fundamental disturbance. A perception is suddenly understood as having a unique meaning, such as the description by a patient, "I saw the neon sign flashing on the building across the street and suddenly I knew it was being done to tell me that I was a failure in life." The primary delusion springs to mind fully formed, without precursor or explanation, and it carries a sense of conviction. It is not a product of disturbed thought process, mistaken information, or altered perception.

Secondary delusions, also known as delusional elaborations or delusional interpretations, are efforts to apply reason to explain what is happening. They are characterized by arbitrary or idiosyncratic connections,

and inability to even consider the possibility of alternative explanations. A patient who constantly complained that she was given injections of medication while she slept during the night was explaining, in an arbitrary fashion, why she felt dull and uneasy each morning. All efforts to suggest alternative explanations for these common symptoms were rejected as being inconsistent with the “obvious” facts. Then, having accepted the idea that someone was entering her apartment during the night, it seemed plausible to her that strangers were being brought in to look at her. Dynamically, this implied that she was of interest to many people. In answer to her own question of how this could go on, she explained that such crimes could go on only if people in high places were involved, which then made her feel more helpless, but also more important.

Delusional individuals often say that they do not know why they are persecuted, that it must be a result of mistaken identity, but usually there is a deep-seated conviction that they are the target of animosity from someone who is threatened by their power or righteousness. The patient whose delusions are frankly grandiose may identify himself as a member of the FBI, usually on a secret mission, a friend of the President, and a veteran of many important but secret triumphs. If hospitalized, he is there to observe the staff.

Somatic delusions may occur in all forms of schizophrenia and in depressions, but they are especially common in paranoid schizophrenia. The

patient may believe that part of his body is missing, rotting, shrunken, or malfunctioning. The hypochondriac seeks treatment to restore him to health, but the delusional individual is unreassurable. The somatic delusions in schizophrenia may be bizarre, as the belief that the heart has stopped, or, as one man described his problem, "I have a gas-oil leak inside." It is difficult to distinguish between somatic delusion, somatic hallucination, and the strange descriptions given by some patients of sensations arising from the brain or other organs not associated with perceived sensation.

Paranoid schizophrenia is associated with far less disruption of personality and less disturbance of function than any other schizophrenia. The patient may relate well to others, may have maintained relationships in the past, may have normal affective responses, and, often, no gross evidence of thought process disturbance. Careful examination or use of projective tests may elucidate subtle thought disorder. In all patients, thought disorder is most likely to be manifest when the patient is speaking about a topic that is emotionally significant to him. The paranoid schizophrenic patient may demonstrate thought process disorder only when explaining his delusional beliefs.

A delusion is described as "systematized" when the patient attempts to explain everything as a consequence of one cause. If this is accomplished, there is reduction of anxiety and greater acceptance of pathological view of

things by the patient, thus systematization of delusions is prognostically unfavorable. Most of the time, delusions are but tentative explanations, doubly useful in that they spare the patient the need to think about his personal troubles. The diagnosis of paranoia, a rare entity, can be made only in the presence of an isolated, fixed, systematized delusion, without evidence of other psychopathologic process.

Not all false beliefs are delusions. False beliefs may have been learned, or they may be products of distortion, selective attention, disturbance of identity, or faulty reasoning. The diagnosis of delusion should always be based upon demonstration of arbitrary or idiosyncratic thinking and denial of the possibility that alternatives could exist.

Hallucinations are found in all types of schizophrenia, and may be prominent in the paranoid type. Voices (phonemes) are the most abundant form. They may be accusatory, derogatory, condemning, commanding, or they may offer a continuous commentary or description of actions and thoughts. Voices may be a primary experience, with delusional elaboration to account for them. Distinction between hallucinations which are recognized as such, designated as “pseudo-hallucinations” by Sedman, and hallucinations believed to be the voice of a real person, is of doubtful clinical significance.

Kasanin coined the term *schizoaffective psychosis* to characterize

individuals who appeared to have a schizophrenic episode, but whose course was similar to those with affective disorders, i.e., they recovered or had remissions. In subsequent years, the definition of schizoaffective was changed, and it is now applied to patients who are clearly schizophrenic but who have significant disturbances of affect. Included in this group are some patients who present with symptoms of recurrent or continual depression, but who are discovered by careful study to be predominantly self-absorbed and to have magical, irrational, and idiosyncratic thinking. Impetus for acceptance of this compromise term, straddling affective disorder and schizophrenia, came from the studies which revealed that many patients, initially diagnosed manic-depressive, were subsequently found to be hospitalized as chronic schizophrenics.

The subtype of schizophrenia most often diagnosed in North America is *chronic undifferentiated* type, which was introduced to the nomenclature in 1952. It had been recognized that as time passed, patients whose early illness could be readily characterized as hebephrenic or catatonic, or at times paranoid, developed signs or symptoms of other types, and that the manifestations of chronic illness were similar for all patients. Also, there were always patients whose symptoms seemed to fit neither in one category nor in another. This diagnostic entity seemed appropriate for large numbers of patients, and, since it was so useful, interest in differentiating the other entities declined.

## Chronic Schizophrenia

Most descriptions of chronic schizophrenic patients, based upon observations of the chronically hospitalized, have emphasized that they are bizarre, inexplicable, stereotyped, uncommunicative. Return of many seriously impaired patients to the community may provide opportunities for discovering which manifestations are caused by the illness and which by institutional care. The manifestations of illness within hospitals have changed, reflecting in part the influence of learned patterns and social forces in shaping the symptoms, or in creating conditions that allow a patient to be excused as sick or to get assistance. A century ago, religious preoccupations, mutism, and grossly impaired behavior, were far more common.

The chronic manifestations of schizophrenia are similar in patients who began as catatonic or as paranoid, in those who became ill at forty, and those whose illness began in childhood. Thought process disturbance may be severe and global, or it may be detectable only in certain areas of thought. Conversation may be vague, stilted, superficial, repetitious, marked by clichés and explanations that fail to explain. Those who are extremely autistic may dwell on their own thoughts and not attempt to respond to others. Past events and present ideas may be intermixed. Referents may be omitted, so that the patient's statements lack context and appear incoherent.

Delusions and hallucinations may persist; reality-testing may be



adequate, or may be very poor. Inexplicable physical symptoms are common, and may include total body pain, diffuse weakness, unsteadiness of gait, vomiting, choking. Any symptom is possible, but often the patient just cannot find words to describe the over-all bad feeling. Affective response may be dull, incongruous, or there may be a sustained mood, perhaps cheerfulness, but more often stubborn irritability.

Anergy, or disturbances of volition, have at times been incorrectly described as apathy. The patient who, without knowing why, is unable to act, may defensively say that he does not care. During recovery from a schizophrenic episode, patients may be abnormally tired, fatigue easily, and experience clinical depression. The chronic schizophrenic may sit blankly for long periods, unaware of the passage of time, even giving the impression that he has organic brain disease. He may remain in bed when he intended to look for a job, avoid or put off without reason any activity that is new, unfamiliar, or outside of his routine. A patient referred to a clinic may fail to attend because he dreads going to a new place, or he may stop attending if personnel change, rather than meet someone new. Life is routine, constricted, empty. He may sleep most of the day, be awake during the night. The chronic schizophrenic in the community may fear contact with strangers, be unable to maintain a flexible approach to buying food, and consequently live on a monotonous, deficient diet. He may be unable to cope with externally caused changes in environment or to meet the complex demands of welfare

departments. Years of interpersonal isolation may make him appear to lack common sense. He cannot anticipate other people's reactions or understand what impression he makes upon others.

Personal hygiene and habits may be neglected; there may be reluctance to change clothes, for the body image and the garments may be intertwined. Thus, he may apply for a job looking disheveled, and if employed, may insist on doing the job his way, not the employer's way. He may be unable to handle common social skills of any sort, such as breaking off conversation if he does not want to talk to the person, or refusing if asked to do something he does not want to do, or asking someone to go to a movie with him. There may be a constant fear of hurting others, or a remarkable lack of concern or even awareness of the feelings of others.

Many chronic schizophrenic individuals are unable to handle excessive external stimuli or multiple simultaneous stimuli. They think slowly, have difficulty concentrating, become unable to function by disorganization of behavior or protective withdrawal if too much happens at one time, if the system becomes overloaded. External events, thoughts, bodily sensations, all may compete for attention and lead to overload. Some patients appear to be unable to differentiate self from environment, and to experience internal and external sensations as a continuum. Freeman et al. consider this loss of "ego feeling" to be the basic disturbance in chronic schizophrenia.

Early studies suggested deterioration of intellectual skills and capacities in chronic schizophrenia. There does seem to be slowing of learning and quick loss of what has been learned. To a large extent, the defects once thought to be deterioration appear to be related to attention and motivation. Test results can be improved when the outwardly apathetic patient can be motivated.

Arieti has differentiated states of schizophrenia which summarize the changes that take place as schizophrenia progresses, without implying that this is the inevitable course for all patients.

The first stage extends from the beginning of impairment of perception of sensory reality to the formation of the characteristic symptoms of schizophrenia. It is characterized by the presence of anxiety in the patient, and a tendency to fight the external world in an attempt to vindicate his illness. Three substages have been recognized: (1) substage of panic, when the patient begins to perceive things in a different way, is frightened, and does not know how to explain the strange things that are happening; (2) substage of psychotic insight—he puts things together in a pathological way; (3) substage of multiplication of symptoms—symptoms become more and more numerous as the patient vainly attempts to solve his conflicts and remove his anxiety with them.

The second, or advanced, stage is characterized by an apparent acceptance of the illness. All the classic symptoms are present and they do not seem to bother the patient as much as before. Life has become more and more restricted and lacking spontaneity. Routine and stereotyped behavior are outstanding.

In the third, or preterminal, stage, which may occur five to fifteen years after onset, many symptoms seem to have burned out and the types of schizophrenia resemble each other. At this stage, primitive habits, such as that of hoarding useless objects and decorating oneself in a bizarre manner are conspicuous.

In the fourth, or terminal, stage, the behavior of the patient is even more impulsive and reflex-like. Hoarding of objects is replaced by food-grabbing and later by ingestion of small objects, edible or not. Later in the fourth stage, although occasionally in the third stage, many patients present what appears to be perceptual deficiency. They seem insensitive to pain, temperature, and taste, although they still react to olfactory stimuli. Incontinence of urine and feces may be constant or occasional. The most organic-appearing behavior may, in some instances, prove reversible if the patient's withdrawal and negativism are overcome.

*Residual type* is the official diagnostic term to be applied to the patient

who no longer shows psychotic evidences of schizophrenia, but does have other evidences. This term, although plausible, has never become widely used, probably because the appearance and disappearance of psychotic symptoms is recognized as a fluid matter. Chronic schizophrenic patients may be more or less psychotic, more or less incapacitated.

*Late schizophrenia* is not an officially accepted term, and many deny the existence of such an entity. Kay and Roth described carefully the schizophrenias that appear in later life. There has been a tendency to diagnose involutional psychosis too glibly among those in the 1950s or 1960s, and to assume that any older patient must have a senile or arteriosclerotic problem. Illnesses recognizable as schizophrenia of late onset are usually dominated by delusional thinking. There are no major evidences of organic brain dysfunction. When the patients are admitted to hospitals, they do not show the rapid deterioration of physical and mental condition characteristic of those with arteriosclerotic brain disease. The prognosis for recovery from the delusional illness is poor. The individual who develops late schizophrenia has usually been seclusive, eccentric, or very tense throughout adult life.

### **Borderline Syndromes**

Whether this group should be included among the schizophrenias is a source of much controversy. Rarely are such patients thought of as

schizophrenic in Europe, where they are diagnosed as neurotic or having a character disorder. Terms that have been applied to at least some portion of the patients in this group include “borderline schizophrenia,” “borderline personality,” “borderline syndrome,” “ambulatory schizophrenia,” “larval schizophrenia.” In ICD-8 and DSM-II, these conditions are included among schizophrenia, latent type. This is an unfortunate term, but at least it allows patients who are clinically similar to be classified together. In DSM-I, patients in this so-called borderline group were classified among the chronic undifferentiated, which then created the odd situation of the sickest and most chronic patients sharing a category with patients thought by many not to be schizophrenic at all.

In 1949, Hoch and Polatin coined the term “pseudoneurotic schizophrenia” to describe patients who had multiple, shifting neurotic symptoms (pan-neurosis), continual, pervasive anxiety (pan-anxiety), and chaotic sexuality. Careful examination revealed Bleulerian signs to a mild degree, and on follow-up many developed clear-cut schizophrenia. Zilboorg described mild schizophrenias, making the point that tuberculosis could be diagnosed before cavitation developed, and appendicitis before peritonitis. His original use of the term “ambulatory schizophrenia” referred to the patients’ tendency to wander about, but subsequently he accepted the popular usage that equates ambulatory and non-hospitalized. Dunlaif and Hoch described pseudopsychopathic schizophrenias, characterized by

antisocial behavior as a consequence of an irrational view of reality, inappropriate responses in human relationships, disturbance of affect, and profusion of neurotic and hypochondriacal complaints. Patients may become psychotic when their antisocial behavior is prevented by incarceration.

The term *latent schizophrenia* has a long history of use analogous to the use of “latent” in most medical conditions, as Bleuler’s explanation that he would diagnose schizophrenia only in disturbances unquestionably psychotic in terms of social adjustment; if the schizophrenia was assumed to be present but has not advanced to the level of psychosis, he called it “latent.” In ICD-8 and DSM-II, the conditions described above, plus others termed “larval” or “incipient schizophrenia” are classified as schizophrenia, latent type.

“Borderline state,” “borderline schizophrenia,” “borderline personality,” “borderline syndrome,” are terms applied to a condition that resembles personality disorders in that it is stable and not especially likely to develop into psychosis or overt schizophrenia, but that resembles schizophrenia when diagnosis is based on disturbance of ego function. Grinker et al., studying hospitalized patients, delineated four subtypes within this group. In these conditions, there is diffuse impairment of most ego functions, moderate in severity. “Micropsychotic” episodes may occur under stress. Such patients are never considered schizophrenic in England, and even in the U.S. many are troubled by the existence within the schizophrenias of a diagnostic entity

defined as nonpsychotic. Psychotherapeutically, the approach to these patients is more like the approach to severe schizophrenia than to neurosis.

### Approaches to Diagnosis

In much of the world, the diagnosis of schizophrenia is made only when the patient is clearly psychotic. British psychiatrists are likely to make a diagnosis of affective disorder if there is significant disturbance of mood, or if delusions or hallucinations are explainable as products of altered mood.' The diagnosis of affective disorders almost died out in the United States after follow-up studies of patients initially diagnosed manic-depressive showed that many subsequently became unmistakably schizophrenic. The situation was epitomized by Lewis and Piotrowski:

Even a trace of schizophrenia is schizophrenia and has a very important prognostic as well as diagnostic significance. Many patients with few and mild schizophrenic signs and with a strong affective element fail to improve. . . . . schizophrenics are qualitatively different from all other people.

After schizophrenia is diagnosed, it becomes apparent that prognosis is quite variable. The attempts to dichotomize the schizophrenias have been reviewed by several authors. Of the many pairs of terms proposed, "process" and "reactive" have gained the widest usage. *Process schizophrenia* is characterized by gradual or insidious onset, without precipitants, isolation, impoverishment of thought, poor premorbid adjustment. This form of



schizophrenia most often reaches the level of psychosis in late adolescence or early adult years. Prognosis is poor. Patients in this group are considered schizophrenic in every diagnostic school.

*Reactive schizophrenias* appear to develop in response to some psychological stress in individuals whose adjustment has been adequate. Onset is rapid, with gross disturbance, such as catatonic or paranoid symptoms. There may be severe disturbances of reality perception and testing. This form of schizophrenia may appear at any age, often in the late thirties or forties. Prognosis is good for recovery from each episode.

When schizophrenia is defined narrowly, the course of illness is apt to be one of progressive impairment, corresponding to Kraepelin's original concept. When this approach to diagnosis is followed, the patient who has what some would call a schizophrenic illness with recovery, is given another diagnosis.

Langfeldt introduced the term "schizophreniform psychoses" to describe patients who did not manifest "splitting phenomena with clear consciousness." By "splitting phenomena" he meant "clear ideas and feelings of passivity (resulting, among other things, in thought-reading, thought-stealing, etc.), derealization and depersonalization, which are accepted by the patient without comment." The schizophreniform psychoses were more likely

to have symptoms that were psychologically intelligible and to have an acute onset related to some precipitating emotional event. Schizophreniform psychoses were thought to be psychogenic, and schizophrenia organic. In many long follow-up studies, percent of the patients diagnosed schizophreniform when hospitalized have done relatively well, half of them were free of symptoms or working. Of those diagnosed schizophrenic, fewer than 20 percent were able to live outside the hospital, and most of those not hospitalized were not self-sufficient.

More recently, Robins and Guze reviewed selected literature on prognosis and concluded that schizophrenia with good prognosis is not a mild form of schizophrenia, but a different illness, probably related to affective disorders.

One of the clearest presentations of the narrow delineation of schizophrenia is that of Schneider.

### **Schneider's Diagnostic Criteria**

Schneider designates a group of phenomena as being of first-rank importance, not because they are thought to be basic disturbances, or related to any theory of schizophrenia, but because they have special value in making the diagnosis of schizophrenia. He describes the following as being of first-rank importance, cautioning that they might at times be found in other

psychotic states.

1. Hallucinations:

- a) Audible thoughts: hearing one's own thoughts as an auditory experience;
- b) Voices conversing with one another;
- c) Voices that keep up a running commentary on the patient's behavior.

2. Somatic Passivity Experiences: experiences (not delusions) of physical interference, which may include somatic hallucinations, attributed to various devices, rays, hypnotic influence, frequently of a sexual nature.

3. Thought Process:

Thought-withdrawal or interruption of thought attributed to some outside person or force. Also, thoughts ascribed to others who intrude their thoughts upon the patient.

Diffusion or broadcasting of thoughts: private thoughts are known to others. This is a change in the experience of thinking, not a delusion or a hallucination.

4. Delusional Perception: abnormal significance, usually with self-reference, is attached to a genuine perception without any comprehensible, rational, or emotional justification. The significance is almost always urgent, personal, and of great

import.

5. Will: actions, feelings and impulses felt as the products of others, as well as influenced or directed by them.

According to Schneider, signs and symptoms which, although seen often in schizophrenia, are also seen often in other conditions, or in normals, are not useful in establishing diagnosis. His list of inconclusive symptoms includes some that have been associated with schizophrenia since Kraepelin and Bleuler. Thought withdrawal is seen in severe depression, he says; disconnected thought is seen in normal individuals, especially when upset; the opinion of an examiner that the patient's affective response is inadequate, is undependable; rapport with the examiner cannot be accurately determined; lack of drive or impulsive conduct are seen in other conditions.

## **Ego Function**

The concept of schizophrenias as conditions characterized by disturbances of the ego has received increasing attention. Several authors have attempted to define the ego in terms of its specific characteristics. Beres presented a list of seven functions of the ego, explaining that the development of the ego can be understood only in terms of its several functions. Beliak has for many years been developing scales for measuring ego functions. He has formulated twelve functions. The description of ego function disturbances

below does not correspond precisely to either Beres or Beliak. While psychoanalysis may explain the disturbance of ego and superego in schizophrenia as regression employed as a defense against anxiety arising from intrapsychic conflicts, it is not necessary to accept the validity of analytic concepts in order to employ the descriptive terms related to ego dysfunction.

1. Thought process: defects of association, concreteness, inability to use figurative language, excessive use of over-abstract language, impaired logic, autistic or idiosyncratic use of words, blocking.

2. Reality:

Perception of reality: hallucinations, illusions, perceptual distortion, ideas of reference, delusions.

Testing of reality: inability to recognize that perception does not correspond to the external world or that thinking is arbitrary and does not follow socially shared methods of establishing proof or correctness.

Sense of reality: depersonalization, derealization, loss of ego boundaries, feelings of dissolution, oceanic feelings, disturbances of sense of identity.

3. Object Relations (interpersonal relations ): withdrawal, social isolation, extreme self-absorption or egocentricity; inability to maintain relationships of mutuality.

4. Regulation and Control of Drives, Affects, and Impulses: inability to delay, to tolerate frustration; direct expression of basic aggressive and sexual drives.
5. Defensive Functioning: inability to maintain repression, emergence of primary-process thinking, inability to develop or maintain stable defenses.
6. Autonomous Functioning: disturbances of language, memory, will, inability to work, disturbance of motor skills.
7. Synthetic-Integrative Functioning: feeling of confusion, splitting, disorganized behavior, inability to maintain goal-direction or sense of causality.
8. Stimulus Barrier: over-awareness of internal or external stimuli, overresponse to stimuli; tendency to become disorganized in presence of excess stimuli.

This approach to diagnosis allows all the schizophrenias, from the nonpsychotic “latent” to the most disabled, to be ordered on one continuum of operationally defined terms. It does not imply that all the schizophrenias thus diagnosed are forms of a single disease entity.

### **Prognosis in Schizophrenia**

Prognosis for recovery from an acute episode is good, but it is not possible to predict the future course at the time of a first episode. The ICD-8

terms, “reactive confusion,” “reactive excitation,” and “reactive psychosis, unspecified,” employed in some countries, but not in the U.S., allow a neutral diagnosis of a psychotic episode which may or may not mark the onset of a chronic illness. If a second episode occurs and is again followed by recovery, it may be argued that the correct diagnosis should be manic-depressive illness. In terms of the North American practice of diagnosing schizophrenia in rather broad terms, it can be said that the course may be (1) a single psychotic episode followed by remission, (2) psychotic episodes with no impairment between them, (3) recurrent episodes with progressive impairment of ability to function, (4) continuous psychosis, and (5) continuous psychosis with progressive apparent impairment of intellectual capacity. Changes in approach to treatment render obsolete many of the earlier studies that were done when prolonged hospitalization was a frequent form of treatment. At this time, it can be said that if the diagnosis of schizophrenia is firmly established (excluding latent types) in a hospitalized patient, the patient is likely to be hospitalized again and is likely to experience impaired ability to be self-sufficient.

Studies of prognostic criteria and outcome have led to the conclusion that the standard subtypes of schizophrenia (catatonic, paranoid, etc.) lack prognostic value. Indicators of good prognosis, according to Vaillant’s review, are rapid onset, recognizable psychological stresses, presence of confusion, presence of depression, good premorbid adjustment (i.e., non-schizoid), and

family history of affective disorder.

## Differential Diagnosis

Perhaps the most important rule in diagnosing schizophrenia is that *no one symptom is pathognomonic*, but that a constellation of specific symptoms is necessary. Schizophrenia is a complex disorder characterized by a withdrawal into a private fantasy world, which is maintained through the use of personal beliefs, idiosyncratic thought patterns, and precepts that are not culturally shared.

Schizophrenia can at times be confused with both functional and organic conditions. Among functional disorders, the emotional excesses of the hysterical personality sometimes present a diagnostic problem. However, while bizarre behavior and extreme mood swings can be seen in hysteria, there is no withdrawal from others and the hysteric is extremely susceptible to environmental influences. Gross stress reactions, such as the “three-day psychosis” seen in military settings, are often indistinguishable from acute schizophrenic episodes. The patient is typically agitated and anxious, has hypochondriacal complaints and some paranoid ideation. However, as in hysteria, there is no withdrawal from others, but rather a fear of being left alone, and extreme compliance. There is a history of prolonged fatigue and psychological stress. Similarly, in manic states, there is a constant effort to be



involved with others. Finally, none of these conditions demonstrates the disturbance of thinking or the excessive reliance on internal interpretation of events, as found in schizophrenia.

Psychiatric disorders of adolescence present specific difficulties in diagnosis, since this is so often the age of onset for schizophrenia. Nonschizophrenic adolescents frequently show eccentric behavior, extreme mood swings, hypochondriacal concerns, social withdrawal, and preoccupation with overly abstract ideas. Careful observation reveals that the intellectualization or romanticized view of things does not represent thought disorders or delusional thinking. Of diagnostic importance is the ability of the adolescent to experience pleasure. Prolonged feelings of hopelessness or despair—the anhedonia described by Rado—is an ominous sign in this age group.

The occurrence of a schizophrenia-like illness in patients who have had temporal lobe epilepsy for a mean duration of 14.1 years was described by Slater et al. Davison and Bagley have reviewed the literature and reported a more than chance incidence of schizophrenia-like psychosis associated with the following: epilepsy, cerebral trauma, cerebral tumor, encephalitis, basal ganglia diseases (including paralysis agitans, Wilson's disease, Huntington's chorea), presenile degeneration, Friedreich's ataxia, motor neuron disease, multiple sclerosis, narcolepsy, cerebrovascular disorders, carbon monoxide

poisoning, cerebral anoxia, hypoglycemia, thallium poisoning, phenylketonuria, vitamin B12 and folic acid deficiency. Any of these may at times be mistakenly diagnosed schizophrenia.

In the past, toxic disorders did not present a diagnostic problem in that disorientation, memory difficulties and altered intellectual functions absent in schizophrenia were prominent symptoms. With the current usage of psychedelic compounds, such as LSD, mescaline, and psilocybin, toxic psychoses similar to schizophrenia are more frequently seen.

Freedman reports that almost all of the symptoms of acute schizophrenic episodes can be produced by LSD, and that in the early phases of an LSD psychosis it may be impossible to differentiate the two. In a few hours, however, the individual's ability to structure his world despite the toxic effect of the drug is different than the misinterpretation seen in schizophrenia. In general, these hallucinogens produce fragmented visual hallucinations (vivid colors, patches of flowers), rather than the conceptual auditory hallucinations of schizophrenia. Also, in many cases, part of the self is unaffected by the drug and remains rational while observing the drug-induced distortions, so there is not the total panic and anxiety that correspond to the gross involvement of the personality in schizophrenia. Diagnosis may be difficult when a schizophrenic youth using hallucinogens in his efforts to eliminate anxieties about identity finds the toxic psychosis a

trigger for functional psychosis.

In contrast to the hallucinogens, chronic use (or even a few doses in susceptible individuals) of amphetamines can produce a syndrome undistinguishable from paranoid schizophrenia. Ideas of reference, distortions of the body image, delusions of persecution, and auditory hallucinations in the presence of clear consciousness have been reported. These patients usually recover within a week of withdrawal from amphetamines, during which they exhibit prolonged sleep, extreme hunger, and severe mental depression. Without a history of amphetamine ingestion, diagnosis may be impossible, unless high urinary amphetamine levels are discovered.

### **The Clinical Concept of Schizophrenia**

From the disparity and great variety of symptom pictures described above, it must be questioned whether an entity such as schizophrenia exists, and if the concept of it as a unitary psychiatric disorder is valid. In view of our present state of knowledge, schizophrenia may be best conceptualized as a clinical syndrome, rather than a classic disease with a single etiology, symptom picture, and course. Schizophrenia represents the singularly human ability to substitute an internal world for external reality through an alteration of thought and perception, and the creation of an idiosyncratic set

of symbolic criteria through which to interpret experience. The attempt to identify and define the mechanisms of these distorting processes may ultimately shed light on the higher reaches of the human mind, as well as on its disintegration.

As Jung wrote over half a century ago, “We healthy people who stand with both feet in reality, see only the ruin of the patient in this world, but not the richness of the psyche that is turned away from us.” An appreciation for this hidden richness should be the task of every student of psychiatry.

## Bibliography

- Arieti, S. “Primitive Habits and Perceptual Alterations in the Terminal Stage of Schizophrenia,” *Archives of Neurology and Psychiatry*, 53 (1945), 378-384.
- . “Primitive Habits in the Preterminal Stage of Schizophrenia,” *Journal of Nervous Mental Disease*, 102 (1945), 367-375.
- . *Interpretation of Schizophrenia*. New York: Brunner, 1955.
- . “Schizophrenia” in S. Arieti, ed., *American Handbook of Psychiatry*, 1st ed., Vol. 1. New York: Basic Books, 1959.
- Arlow, J. A., and C. Brenner. “Psychoanalytic Concepts and the Structural Theory,” *Journal of the American Psychoanalytic Association Monograph*, Series #3. New York: International Universities Press, 1964.
- Belfer, M. I., and C. C. d’Autremont. “Catatonia-like Symptomatology,” *Archives of General Psychiatry*, 24 (1971), 119-120.

- Bellak, L., and M. Hurvich. "A Systematic Study of Ego Functions," *Journal of Nervous and Mental Disease*, 148 (1969), 569-585.
- Bemporad, J. "Perceptual Disorders in Schizophrenia," *The American Journal of Psychiatry*, 123 (1967), 971-976.
- Benjamin, J. "A Method of Distinguishing and Evaluating Formal Thinking Disorders in Schizophrenia," in J. S. Kasanin, ed., *Language and Thought in Schizophrenia*. New York: W. W. Norton, 1964.
- Beres, D. "Ego Deviation and the Concept of Schizophrenia," in *The Psychoanalytic Study of the Child*, Vol. 11. New York: International Universities Press, 1956.
- Binswanger, L. *Being-in-the-World*, J. Needleman, transl. New York: Basic Books, 1963.
- Bleuler, E. *Dementia Praecox, or the Group of Schizophrenias*, J. Zinkin, transl. New York: International Universities Press, Press, 1952.
- Bleuler, M. "The Concept of Schizophrenia," *The American Journal of Psychiatry*, 111 (1954), 382-3.
- Braceland, F. J. "Kraepelin, His System and His Influence," *The American Journal of Psychiatry*, 114 (1957), 871-876.
- Brill, N. Q., and J. F. Glass. "Hebephrenic Schizophrenic Reactions," *Archives of General Psychiatry*, 12 (1965), 545-551.
- Burnham, D. L. "Varieties of Reality Restructuring in Schizophrenia," in R. Cancro, ed., *The Schizophrenic Reactions*. New York: Bruner/Mazel, 1970.
- Cameron, N. "Reasoning, Regression and Communications in Schizophrenics," *Psychological Monographs*, 50 (1938), 1-33.
- . "Schizophrenic Thinking in a Problem-Solving Situation," *Journal of Mental Science*, 85 (1939), 1012-1035.

- . "Experimental Analysis of Schizophrenic Thinking," in J. S. Kasanin, ed., *Language and Thought in Schizophrenia*. Univ. of Calif. Press, Berkeley, 1946.
- Chapman, J. "The Early Symptoms of Schizophrenia," *British Journal of Psychiatry*, 112 (1966), 255-261.
- Chapman, L. J., and A. McGhie. "An Approach to the Psychotherapy of Cognitive Dysfunction in Schizophrenia," *British Journal of Medical Psychology*, 36 (1963), 253-260.
- Davis, A. E., S. Dinitz, and B. Passamanick. "The Prevention of Hospitalization in Schizophrenia: Five Years After an Experimental Program," *American Journal of Orthopsychiatry*, 42 (1972), 375-388.
- Davison, K., and C. S. Bagley. "Schizophrenia-like Psychoses Associated with Organic Disorders of the Central Nervous System: A Review of the Literature," in R. N. Herrington, ed., *Current Problems in Neuropsychiatry*. *British Journal of Psychiatry* Special Publication #4, 1969.
- Domarus, E. von. "The Specific Laws of Logic in Schizophrenia," in J. S. Kasanin, ed., *Language and Thought in Schizophrenia*. New York: W. W. Norton, 1964.
- Dunlaif, S. L., and P. Hoch. "Pseudopsychopathic Schizophrenia," in P. Hoch, and J. Zubin, eds., *Psychiatry and the Law*. New York: Grune and Stratton, 1955.
- Edwards, G. "Diagnosis of Schizophrenia: An Anglo-American Comparison," *British Journal of Psychiatry*, 120 (1972), 385-390.
- Eitinger, L., et al. "The Prognostic Value of the Clinical Picture and the Therapeutic Value of Physical Treatment in Schizophrenia and the Schizophreniform States," *Acta Psychiatrica et Neurologica Scandinavica*, 33 (1957), 33-53.
- Ellinwood, E. H. "Amphetamine Psychosis: Description of the Individuals and Process," *Journal of Nervous and Mental Disease*, 144 (1967), 273-283.
- Englehardt, D. M., et al. "Phenothiazines in Prevention of Psychiatric Hospitalization, IV. Delay or Prevention of Hospitalization—A Reevaluation," *Archives of General Psychiatry*, 16

(1967), 98-101.

Fish, F. *Schizophrenia*. Bristol: John Wright and Sons, Ltd., 1962.

Forest, F. M., et al. "Drug Maintenance Problems of Rehabilitated Mental Patients: The Current Drug Dosage 'Merry-Go-Round,'" *The American Journal of Psychiatry*, 12 (1964), 33-40.

Freedman, D. X. "On the Use and Abuse of LSD," in S. C. Feinstein, P. L. Giovachini, and A. A. Miller, eds., *Adolescent Psychiatry*. New York: Basic Books, 1971.

Freeman, T., et al. *Studies on Psychoses*. London: Tavistock Publications, 1966.

Freeman, T., J. L. Cameron, and A. McGhie. *Chronic Schizophrenia*. New York: International Universities Press, 1958.

Freud, S. "Psychoanalytic Notes on an Autobiographical Account of a Case of Paranoia," in Standard Edition, Vol. 14. London: Hogarth Press, 1958.

----. "On Narcissism: An Introduction," in Standard Edition, Vol. 14. London: Hogarth Press, 1958.

Garnezy, N. "Process and Reactive Schizophrenia: Some Conceptions and Issues," *Schizophrenia Bulletin*, 2 (1970), 20-74.

Goldstein, K. "Methodological Approach to the Study of Schizophrenic Thought Disorder," in J. S. Kasanin, ed., *Language and Thought in Schizophrenia*. New York: W. W. Norton, 1964.

Goodwin, D. W., P. Alderson, and R. Rosenthal. "Clinical Significance of Hallucinations in Psychiatric Disorders," *Archives of General Psychiatry*, 24 (1971), 76-80.

Grinker, R. R., B. Werble, and R. C. Drye. *The Borderline Syndrome*. New York: Basic Books, 1968.

Harrow, M., et al. "Schizophrenic Thought Disorders After the Acute Phase," *The American Journal of Psychiatry*, 128 (1972), 824-829.

- Harrow, M., G. J. Tucker, and D. Adler. "Concrete and Idiosyncratic Thinking in Acute Schizophrenic Patients," *Archives of General Psychiatry*, 26 (1972), 433-439.
- Higgins, J. "Process-Reactive Schizophrenia: Recent Developments," *Journal of Nervous and Mental Disease*, 149 (1969), 450-472.
- Hill, L. B. "The Nature of Extramural Schizophrenia," in A. H. Rifkin, ed., *Schizophrenia in Psychiatric Office Practice*. New York: Grune and Stratton, 1957.
- Hoch, P., and P. Polatin. "Pseudoneurotic Forms of Schizophrenia," *Psychiatric Quarterly*, 23 (1949). 248-276.
- Jung, C. G. "The Content of the Psychoses," in *Collected Works*, Vol. 3, R. F. C. Hull, Transl. New York: Pantheon Books, 1960.
- . *The Psychology of Dementia Praecox*. New York: Nervous and Mental Disease Pub. Co., 1936.
- Kantor, R. E., and W. G. Herron. *Reactive and Process Schizophrenia*. Palo Alto: Science and Behavior Books, Inc., 1966.
- Kasanin, J. "The Acute Schizoaffective Psychoses," *The American Journal of Psychiatry*, 90 (1933), 97-126.
- Kasanin, J. S. "The Disturbance of Conceptual Thinking in Schizophrenia," in J. S. Kasanin, ed., *Language and Thought in Schizophrenia*. New York: W. W. Norton, 1964.
- Kay, D. W. K., and M. Roth. "Environmental and Hereditary Factors in the Schizophrenias of Old Age ('Late Paraphrenia') and Their Bearing on the General Problem of Causation in Schizophrenia," *Journal of Mental Science*, 107 (1961), 649-686.
- Kendell, R. E. "Diagnostic Criteria of American and British Psychiatrists," *Archives of General Psychiatry*, 25 (1971), 123-130.
- Klaf, F. F., and J. G. Hamilton. "Schizophrenia—A Hundred Years Ago and Today," *Journal of Mental Science*, 107 (1961), 819-827.



- Kraepelin, E. *Dementia Praecox and Paraphrenia*. 8th German edition translated by R. M. Barclay, and G. M. Robertson. Edinburgh: Livingstone, 1919.
- Kreitman, N., et al. "The Reliability of Psychiatric Assessment in Analysis," *Journal of Mental Science*, 107 (1961), 887-908.
- Langfeldt, G. *The Schizophreniform States*. London: Oxford University Press, 1939.
- . "The Prognosis in Schizophrenia and the Factors Influencing the Course of the Disease," *Acta Psychiatrica et Neurologica Scandinavica*, Suppl. 13, 1937.
- Lewis, N. D. C., and Z. S. Piotrowski. "Clinical Diagnosis of Manic Depressive Psychosis," in P. H. Hoch, and I. Zubin, eds., *Depression*. New York: Grune and Stratton, 1937.
- McGaughran, L. S. "Differences Between Schizophrenia and Brain-Damaged Groups in Conceptual Aspects of Object Sorting," *Journal of Abnormal and Social Psychology*, 54 (1957). 44-49.
- McGhie, A. *Pathology of Attention*. Baltimore: Penguin Books, 1969.
- Meyer, A. "Fundamental Conceptions of Dementia Praecox," *British Medical Journal*, 2 (1906), 757-760.
- . "The Dynamic Interpretation of Dementia Praecox," *American Journal of Psychology*, 21 (1910), 385-403.
- Minkowski, E. "Findings in a Case of Schizophrenic Depression," in R. May, E. Anzel, and H. F. Ellenberber, eds., *Existence*. New York: Basic Books, 1958.
- Mosher, L. R., and D. Feinsilver. *Special Report on Schizophrenia*. Washington: U. S. Dept., of Health, Education and Welfare, 1970.
- O'Brian, J. P., and H. Weingartner. "Associative Structure in Chronic Schizophrenia," *Archives of General Psychiatry*, 22 (1970), 136-142.
- Orzack, M. H., and C. Kornetsky. "Attention Dysfunction in Schizophrenia," *Archives of General*

- Psychiatry*, 14 (1966), 323-326.
- Payne, R. W. "Cognitive Defects in Schizophrenia: Over-Inclusive Thinking," in J. Hellmuth, ed., *Cognitive Studies*, Vol. 2. New York: Bruner/Mazel, 1971.
- Polatin, P., and P. Hoch. "Diagnostic Evaluation of Early Schizophrenia," *Journal of Nervous and Mental Disease*, 105 (1947), 221-230.
- Rado, S. "Schizotypal Organization, Preliminary Report on a Clinical Study of Schizophrenia," in S. Rado, ed., *Psychoanalysis of Behavior*, Vol. 2. New York: Grune and Stratton, 1962.
- Rapaport, D., et al. *Diagnostic Psychological Testing*. Chicago: Year Book Publishers, 1945.
- Reed, J. L. "Schizophrenic Thought Disorder: A Review and Hypothesis," *Comprehensive Psychiatry*, 11 (1970), 403-431.
- Robins, E., and S. B. Guze. "Establishment of Diagnostic Validity in Psychiatric Illness: Its Application to Schizophrenia," *The American Journal of Psychiatry*, 126 (1970), 938-987.
- Rumke, H. C. "The Clinical Differentiation within the Group of Schizophrenias," *Proceedings of the Second International Congress of Psychiatry*, Vol. 1, 1957.
- Schneider, K. *Clinical Psychopathology*, M. W. Hamilton, transl. New York: Grune and Stratton, 1959.
- Sedman, G. "A Phenomenological Study of Pseudo-hallucinations and Related Experiences," *Acta Psychiatrica Scandinavica*, 42 (1966), 35-70.
- Shakow, D. "Segmental Set: A Theory of the Formal Psychological Deficit in Schizophrenia," *Archives of General Psychiatry*, 6 (1962), 1-17.
- . "Psychological Deficit in Schizophrenia," *Behavioral Science*, 8 (1963), 275-305.
- Slater, E., A. W. Beard, and E. Glithero. "The Schizophrenia-like Psychoses of Epilepsy," *British Journal of Psychiatry*, 109 (1963), 95-150.

- Slater, E., and M. Roth. *Mayer-Gross Slater and Roth Clinical Psychiatry*, 3rd Ed. Baltimore: Williams and Wilkins Co., 1969.
- Steinberg, H. R., R. Green, and J. Durell. "Depression Occurring During the Course of Recovery from Schizophrenic Symptoms," *The American Journal of Psychiatry*, 124 (1967), 699-702.
- Stone, A. A., et al. "Simple Schizophrenia—Syndrome or Shibboleth," *The American Journal of Psychiatry*, 125 (1968), 305-312.
- Sullivan, H. S. *The Interpersonal Theory of Psychiatry*. New York: Norton, 1953.
- Tucker, G., et al. "Perceptual Experiences in Schizophrenic and Non-Schizophrenic Patients," *Archives of General Psychiatry*, 20 (1969) 159-166.
- Unwin, J. R. "The Contemporary Misuse of Psychoactive Drugs by Youth," in S. Arieti, ed., *World Biennial of Psychiatry and Psychotherapy*. New York: Basic Books, 1971.
- Vaillant, G. E. "The Prediction of Recovery in Schizophrenia," *Journal of Nervous and Mental Disease*, 135 (1962), 534-543.
- . "Prospective Prediction of Schizophrenic Remission," *Archives of General Psychiatry*, 11 (1964), 509-518.
- Vigotsky, L. S. "Thought in Schizophrenia," *Archives of Neurology and Psychiatry*, 31 (1934), 1063-1077.
- Werble, B. "Second Follow-up Study of Borderline Patients," *Archives of General Psychiatry*, 23 (1970), 3-7.
- Whitbeck, C., and G. J. Tucker. "Thought Disorder: Implications of a New Paradigm." Presented at the 125th Annual Meeting of the American Psychiatric Association, Dallas, Tex., May, 1972.
- Wynne, L., and M. T. Singer. "Thought Disorder and Family Relations of Schizophrenics, II. A Classification of Forms of Thinking," *Archives of General Psychiatry*, 9 (1962), 199-

206.

Zilboorg, G. "Ambulatory Schizophrenias," *Psychiatry*, 4 (1941), 149-155.

----. "The Problem of Ambulatory Schizophrenias," *The American Journal of Psychiatry*, 113 (1952), 519-525.

### Notes

- 1 The term *dementia praecocée* had been used previously by Morel, a Belgian psychiatrist, in his description of a fourteen-year-old boy who after a history of excellent scholastic achievement became melancholic and withdrawn, expressed homicidal wishes toward his father, and eventually lapsed into a seclusiveness and lethargy.
- 2 Tucker et al. have shown that existence of perceptual disturbance may be related to high anxiety, and is not pathognomonic of schizophrenia.
- 3 Mute patients will often speak under sodium amobarbital, narcohypnosis, disclosing both current fears and underlying thought disorder.