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SOME BIOLOGICAL CONSIDERATIONS ON THE PROBLEM OF MENTAL ILLNESS*

LUDWIG VON BERTALANFFY, Ph.D.†

The biologist cannot be expected to offer solutions in a field where there are many different opinions among the psychiatrists themselves. He can, however, perhaps make some contribution by erecting caveats that may help to eliminate misunderstandings, save labor, and promote concentration of future work in promising directions.

The question I wish to pose is not whether it is practically convenient to label certain syndromes with terms such as neurosis, schizophrenia, pseudoneurotic schizophrenia, dementia, catatonia, and the rest of the psychiatric nomenclature. This may well be imperative for administrative purposes and useful for suggesting therapeutic measures empirically found to be effective in the mental disturbances so labeled. The question I have concerned myself with is rather, are these disease entities and in particular is there a specific disease named schizophrenia as delimited from others.

In defining a so-called disease entity, a triad of criteria is necessary: *i.e.,* specific etiology; a specific syndrome of symptoms; and a specific course (possibly also specific ways) of treatment. While such conditions as appendicitis and pneumonia comply well with these criteria and can, in this sense, be properly called disease entities, this becomes some-

*Substance of a paper read before the Institute for Schizophrenia held on October 1-3, 1958 in Osawatomie, Kansas.

†Visiting Sloan Professor, The Menninger Foundation, Topeka, Kansas.

what more questionable in diseases such as rheumatism or arthritis, where the name is little more than a label attached to disturbances whose etiology is obscure, symptoms vary, and specific therapy is undeveloped.

In the light of the criteria mentioned, apparently schizophrenia does not qualify as a disease entity. Its etiology is unknown; its symptomatology offers a spectrum of aberrations from the normal, which is not only most multifarious but largely different in individual cases; and no general typical course or specific therapy is known.

Thus I hardly need to say that, from my biological viewpoint, I embrace the unitary concept of mental illness advanced by Dr. Karl Menninger and his group.[16] The unitary concept in psychiatry is closely related to the so-called organismic viewpoint in biology (*cf.* Bertalanffy[5]) which, as opposed to the mechanistic view and approach, emphasizes the organism as a whole and its dynamic organization.

A simile taken from the field of organic disease may be helpful in evaluating the unitary concept of mental illness. Speaking of "cancer," it is obvious that there are many kinds of cancer of the various organs. Histologically there is a great difference between, say, a squamous cell carcinoma, an adenocarcinoma, or a hepatoma. Different therapies—surgery, radiation—may be indicated. The borderline between benign tumors and malignant growth is not clear-cut, and in some cases a benign tumor appears to develop into a cancer. However, even though "cancer" is a multifarious disease, its different kinds are not considered separate "disease entities" although, of course, different terms are used in diagnosis. Rather, it is generally agreed that there is some cytochemical and physiological aberration—by no means clearly understood at present—that underlies the various forms of malignant growth, so much indeed that it is unnecessary to speak of a "unitary concept of cancer."

In a similar way, a unitary concept of mental illness will not deny patent differences, or contend that mental disorders differ only in degree or quantity. The idea is rather that there is some basic disturbance which may be manifest in different ways. The contrary—the reification of psychiatric terminology into separate disease entities—is as if we were to consider lung cancer, skin cancer, uterine cancer, or liver cancer as separate diseases, instead of different forms of malignant growth.

It deserves mentioning that Eugen Bleuler, creator of the term "schizophrenia," did not commit the fallacy of reification of psychiatric terms. This is apparent even from the title of his classic,[7] referring to the "group of schizophrenias" (*i.e.* a number of frequently encountered syndromes) rather than to one entity bearing this name.

On the other hand, recent biochemical hypotheses imply that some metabolic disturbance—an aberration of epinephrin metabolism, deficiency or excess of cerebral serotonin, taraxein as a plasma protein causing schizophrenia, increased ceruloplasmin level—is the "cause of schizophrenia." Although none of these claims is well established at present (*cf.* Bertalanffy,[6] and the recent survey of the National Institute of Mental Health: McDonald[14]), probably a "biochemical lesion" (Minz[17]) is a predisposing factor of psychosis. However, a one-sided biochemical approach presupposing a uniform disease entity called "schizophrenia" and a simple cause-effect relationship between an alleged toxic agent and mental disease (similar to some infection causing pneumonia) is apt to lead to disregarding the variety of etiological factors, and the diverse course and prognosis of mental illness.

I believe the unitary concept of mental illness—propounding that mental disorder is a systemic disease rather than a number of separate disease entities—represents in psychiatry a major break-through which may lead to a basic reorientation in theory and clinical practice. If the search for separate entities of mental disease is replaced by the concept that the delicate mental apparatus can be disturbed in various of its parts and to a varying degree; that the so-called schizophrenic is not a monster to be buried in a closed ward but rather the victim of a disorganization of psychological processes; and that the goal of therapy is re-establishment of normal organismic order by the healing power of nature and with the doctor's assistance—then not only can otherwise paradoxical facts be intelligently arranged, but we may also concentrate on etiological research and therapy which is comprehensive and not one-sided, and thus more promising than previous efforts.

A biological, as distinguished from a biochemical, approach will have to be more broad-minded to include the many-sidedness of mental illness. A convenient starting point is a question the biologist is bound to ask and in some way to answer: What is characteristic of human as compared to animal behavior? As the psychiatrist is concerned with disturbances of human experience and behavior, this question obviously is a basic one.

New Concepts in Human Behavior

Two concepts I wish to offer in this respect are, first, man as an intrinsically active, psychophysical organism; and second, man as an *animal symbolicum.*

The first concept is intimately connected with a basic reorientation in biology and behavioral science. The classical model of behavior was the stimulus-response scheme: that is, an organism (man included) functions by way of answering stimuli coming from outside; behavior

is essentially directed toward re-establishment of an equilibrium disturbed by external factors, and hence it is essentially governed by economic principles, that is, behavior is essentially a sum total of reactions tending to re-establish, at minimum costs, a supposed "equilibrium" which was disturbed by outside stimuli.

Similar considerations apply to psychological and psychoanalytic theory. The stimulus-response scheme underlies Freud's "principle of stability," according to which the supreme tendency of the organism, biological and mental, is to get rid of stimuli and come to rest in a state of "equilibrium." The same applies to the more recent model of feedback and cybernetics which still adheres to the stimulus-response scheme, only the circular feedback loop being added. The principle of economy is expressed by the statement that behavior, infantile and adult, essentially means a "coping" with reality—*i.e.,* dealing with environmental demands and challenges at minimum expense.

Although these principles have proved useful in psychological and psychoanalytic theory and practice, it appears time to expand them. This writer believes that a more basic reorientation is necessary—which, as a matter of fact, can be supported by any amount of biological, neurophysiological, behavioral, psychological, and psychiatric evidence.

The essentially new idea (new, however, only with respect to the conventional stimulus-response scheme) is that of the primacy of immanent activity of the psychophysical organism—which, in turn, is related to the theory of the organism as an *open system* in physiology and biophysics. Even without external stimuli, the living organism is not a resting but an intrinsically active system—as evidenced, for example, by the fact that *active* behavior phylogenetically and ontogenetically precedes *reactive* (reflex) mechanisms which are superimposed as a secondary regulatory apparatus.

Furthermore, the living organism does more than "maintain its equilibrium." As long as it lives, it maintains a disequilibrium called the "steady state" of an open system; and it even advances, ontogenetically and phylogenetically, to higher forms of order and organization (that is, states more distant from equilibrium). Similarly, behavior is not only reaction to outside stimuli and exigencies at minimum costs; the activity of the organism includes what may loosely be called a creative element, where, besides gratification of needs and "equilibration" with the environmental situation, function pleasure—as described by Karl Buehler—accompanying the activity, is its own reward.*

*The author takes great pleasure to note the close parallelism of the above considerations which are derived from biological or even zoological facts, with the analysis of human psychology and emphasis on spontaneous creativity as given by Gardner Murphy.[18]

These thoughts have direct bearing on problems of psychopathology; but before applying them, the second concept previously mentioned deserves brief explanation.

The idea that man's unique position in nature is based upon the predominance of symbols in his life, is by no means new. Suffice it to refer to Susanne Langer's inspired book[11] which, in different context and terminology, develops ideas closely related to those offered in the present paper. However, the implications for psychopathology appear by no means generally recognized or exhausted.

Apart from the gratification of biological needs—hunger and sex—man lives in a universe not of things but of symbols for things. A coin or bank note is a symbol for a certain amount of work done or utilities available; all of our thinking involves a handling of concepts—that is, symbols of things, actions, or relations; words are symbols for things or relationships; a book is a fantastic pile of accumulated symbols (Bertalanffy[2]).

Although a satisfactory definition of symbolism is by no means easy, it may—for purposes of the present discussion—be considered as that activity which distinguishes human and subhuman behavior. Animals may have signals *(e.g.,* in the conditioned reflex); innate signs for things *(e.g.,* the "schemata" in instinctual behavior); even an inherited language *(e.g.,* bees). However, they do not have those freely created, representative, and tradition-bound signs that are called "symbols" and form the nucleus of human civilization—manifest in thought, language, art, science, religion, social organization and any other field. Consequently, human values *(cf.* Bertalanffy,[4] Dobshansky[8]) are distinguished from universal biological values—pleasure of the individual and survival of the species—by the fact that they are essentially needs and gratifications within a symbolic system, that of a civilization in a certain time and space. Similarly, psychopathology means disturbances not only at the biological and physiological but above all at the symbolic level.

Application to Psychopathology

The consequences of the above conceptions appear to offer answers to problems of psychopathology which are baffling when considered in the orthodox view.

First of all, it appears that it is not conditions of biological stress but rather of stress at the symbolic level ("quasi needs" Lewin,[12] Hacker[22]) that lead to increase in mental disorders. It has repeatedly been noted that World War II, a period almost unparalleled in physiological hardship (a daily ration of often 1,000 calories or less per day) as well as psychological stress (combat, daily bombing), did not bring about an increase either in neuroses (Opler[19]) or in psychoses

(Llavero[13]). Conversely, in the United States today—with an economic opulence never reached in the past; and, as far as material comfort is concerned, a period when "the greatest happiness of the greatest number" has been realized in an unprecedented way—there has been an exasperating increase in mental illness. In other words (apart from easily understood phenomena like combat neuroses), it appears that conditions of biological stress, where animal survival is at stake, are not necessarily psychopathogenetic; whereas conditions involving symbolic values or "quasi needs" (such as status, position, property, comfort, and the like) may be.

This is hardly compatible with theories which seek to explain mental illness exclusively in terms of primitive animal drives and their frustration. It is, however, in perfect agreement with the concept of man as *animal symbolicum*, essentially living in an ambient of symbolic values, seeking fulfillment of these, and being victimized by their frustration.

Furthermore, not only conditions of stress but equally those of absence of stimulation are psychopathogenic factors. In the laboratory sensory deprivation in an isolation chamber soon leads to a model psychosis. This apparently is related to well-known clinical phenomena such as prisoners' psychoses and the exacerbation of schizophrenic symptoms by isolation in the ward. At the level of social factors, the insight is increasing, in Existential Analysis and beyond, that meaninglessness and emptiness of life, rather than Freudian frustration of biological needs, have become foremost psychopathological factors. Conversely, gratification by self-rewarding activities and not mere gratification of basic biological needs underlies the beneficial effects of occupational and adjunctive therapy.

All these can be considered consequences of the fact discussed above: that the psychophysical organism not only reacts to stimuli coming from outside but rather is a system tending to maintain its intrinsic activity. At the level of human psychology this has its counterpart in a drive toward "self-realization" with respect both to gratification of biological needs and those arising within a symbolic system of values characteristic of a certain social and cultural framework. If this value system becomes problematic (*cf.* Bertalanffy[4]), and if the individual does not find orientation and satisfaction in his way of life, it is not to be wondered that meaninglessness of life may be today as potent a neurosogenic factor as was repression of instinctual drive in Victorian times.

These concepts also serve to remind us of certain characteristics of schizophrenia which are apt to be overlooked in the too-zealous search for a biochemical theory of that disease. For instance, it seems compatible with the unitary concept of mental illness (but hardly with the concept of schizophrenia as a disease entity) to note that in the very exaltations of the human mind, experiences occur which psychiatrically would be termed schizophrenic symptoms. Although the dictum "genius and madness" has been abused, it may not be out of place to cite a few of the innumerable examples tending to support such an idea.

1. Unbridled chains of association, pompous and incoherent wording are a classic schizophrenic symptom. Bleuler[7] gives the following example from a schizophrenic's letter to his family:

   "Many a small and large landowner or poor drunk from Thalweil, Addisweil, from Albis, from Sak, from Seen, from Rohrback, from Rorbas have never again returned to their own homes. . . ."

   Compare this with the tirades in Milton's *Paradise Lost:*

   "His eye might there command wherever stood
   City of old or modern fame, the seat
   Of mightiest empire, from the destined walls
   Of Cambalu, seat of the Cathaian Can
   And Samarchand by Oxus, Temir's throne
   To Paquin of Sinaean kings, and thence
   To Agra and Lahor of great Mogul
   Down to the golden Chersonese, or where
   The Persian in Ecbatan sat, or since
   In Hispahan. . . "

   The train of thought is identical, but the first example is classified as "schizophrenic"; the second as "high Baroque."
2. "Voices" command a schizophrenic what to do. Precisely comparable "voices" told Joan d'Arc to liberate France.
3. Visual hallucinations appear in delirium or advanced schizophrenia. But Goethe—the prototype of a "whole man"—tells of his vision, after leaving Sesenheim, of encountering himself as *Doppelgaenger.*
4. "The patients are pierced by red-hot needles, daggers or spears" (Bleuler[7]). Compare Saint Teresa's description (or Bernini's statue):

   "It pleased the Lord that I should see His Angel . . . In his hand I saw a long golden spear and at the end of an iron tip I seemed to see a point of fire. With this he seemed to pierce my heart several times so that it penetrated to my entrails."

Several observations present themselves in this connection. First, schizophrenia, except for the progressive deterioration in dementia, is not simply a degeneration of the mental apparatus but contains creative elements. If the schizophrenic builds up a world-picture of his own, this is a creative act—be it ever so misguided and fantastic from the viewpoint of the "normal" observer. This creative element is the link connecting the schizophrenic and the artist, mystic, and even the scientist. The ideas, for instance, that there are antipodes, that the earth

revolves around the sun, that non-Euclidean geometrics apply to physics, or that physical matter for the the most part consists of holes or empty space, contradict all common sense and would be considered schizophrenic (as historically they were) if they did not happen to be scientifically correct.

Furthermore, schizophrenia is an essentially human disease, because its basic symptoms ("loosening of associational structure" and "splitting of personality" according to Eugen Bleuler[7]) are intimately connected with the symbolic activity characteristic of man. For all we know, animals may behaviorally show and experience any number of perceptual, motoric and mood disturbances such as hallucinations, dreams, or faulty reactions, under certain constellations of stimuli or under the influence of pharmacological agents. However, they cannot display a schizophrenic disturbance of *ideas* such as delusions of persecution and grandeur and the like for the simple reason that there are no ideas to begin with. For similar reasons, suicide is a characteristically human phenomenon because it results from a frustration with respect to values at the symbolic level, which is in conflict with the biological drive of self-preservation.

Lastly, one has to consider what is meant if "split personality," "losing of ego boundaries" or of "self-identity" are regarded as basic disturbances in schizophrenia.

Normal experience is organized into the "self" and "things outside"; "ego" and "non-ego"; "subject" and "objects," or whatever terms we choose. This is based upon the antithesis of proprioceptive and exteroceptive perceptions; but relations at the symbolic level make them into a coherent universe.

It is well known, however, that this "normal" experience of the self and an outside reality in the adult gradually develops in the child in conjunction with the development of symbolic categories of thought (*cf.* Bertalanffy[3]); and, similarly, that the normal universe of the adult European is not the only possible one—the animistic world-picture of primitives, supernormal states of "peak experience" (Maslow[15]), mescaline or lysergic acid experience, and psychotic states being examples to the contrary. A "loosening" or even "losing of ego boundaries" appears to be the common feature of forms of experience which are different from the "normal" but not all "pathological." Maslow,[15] in particular, has emphasized that conventional Western psychology deals only with what he calls "deficiency cognition," that is, experience oriented toward coping with reality by means of adaptive perception and within an accepted symbolic framework. Maslow's "being-cognition" of love, or

of mystic, esthetic, and orgastic experience, in contrast, is non-utilitarian, transcends the boundary between ego and non-ego, renounces grouping under the framework of symbolic categories, and is detached from personal goals and anxieties.

The normal experience in our Western culture is characterized by firmly drawn ego boundaries; Descartes' "I think, therefore I am" and the opposition of *res cogitans* and *res extensa* are its classical conceptualizations. One may wonder, however, whether, *e.g.* the Buddhist's "That art thou" does not express a very different world experience wherein empathy (a fundamental nuisance in a physicalistic world view) plays a role hardly accessible to us.

Thus it appears that the structuring of experience considered as normal as well as deviations from this norm largely depend on the cultural background. Consequently, mental disturbance means not only distortion of sense data (as in hallucinations, illusions), but to a large extent a distortion of symbolic interpretations which are culturally accepted.

If, for example, such symbolic interpretations appear particularly awkward or unusual, we call them by the psychiatric name of "delusion." To the individual in a given cultural setting they may have the same cogent reality as the schizophrenic's persecutory or grandiose ideas have for him. This was noticed a long while ago; for example the behavior of the property-destroying, potlatching Kwakiutl Chief would appear megalomanic to us, and loving relatives would have little difficulty in having him certified; but in his own cultural setting, he not only finds personal gratification in his way of dealing with reality as he sees it, but he also is considered to be not only normal but superior by his tribe (Benedict[1]).

Or else, there may be a "concretistic inability to symbolize" or "loss of symbolic capacity" (Goldstein,[9] Hacker[22]), *i.e.*, an unrealistic mistaking of symbols for "things" and vice versa. Reification of concepts, that is, making mental images into real things, is one characteristic of schizophrenia; but the same trend is found in much of our normal thinking, the borderline being indistinct. It ranges from the illustrious example of Plato making abstractions into reality and, indeed, into *the* ultimate reality; to the anthropomorphism of early physics making "forces" (a simile taken from introspective experience) into an outside reality—only laboriously to be replaced by a "deanthropomorphized" world picture of purely mathematical relations; and on to popular notions like "nation," "humanity," and the like, in which collective nouns for social groups are made into emotion-charged fetishes.

Examples of this kind, which easily could be amplified, lead to the question whether and to what extent mental illness is connected, in

its epidemiology and its content, with a given cultural framework (Opler[19]). For instance, Lambo[10] reported that in the native population of Africa manic-depressive patients preponderate in comparison to schizophrenics. Epidemiologic shifts in our own society and of a short-range nature so as to exclude possible racial differences are well known. The near disappearance of classical Freudian hysteria and its replacement by obsessional neuroses, or psychosomatic disorders, is an example. One may speculate whether the recent increase in schizophrenia is not promoted by a certain cultural situation, namely, the conflict of the traditional Western ego ideal with the impact of "other-directedness" (Riesman[20]), and of the "organization man" (Whyte[21]) in modern society.

Taking into account this culture-boundness of behavior and of the accepted structure of experience, there appears to be only one criterion of mental "health" as opposed to "illness." It is that the mentally healthy individual has a consistent and integrated universe, while the schizophrenic has not. Hence, parallel "symptoms" may appear in supernormal experience of the genius and the mystic, in primitives, and in the schizophrenics of our hospitals; however, they must not be taken in isolation but in their context—so that whether an individual is considered "sane" or "insane" is determined not by isolated symptoms only but rather whether these are embedded in an organized universe consistent with the given cultural framework.

As emphasized in the beginning, no new solution of the problem may be expected from the biologist. He may, however, help to clear away some misunderstandings, to formulate some more adequate models within the framework of a unitary concept of mental illness, and so in some measure to contribute to the problem confronting us.

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EXPERIMENTS IN INDUSTRIAL MANAGEMENT

ALFRED J. MARROW*

Our staff at Harwood has been carrying on some interesting experiments for almost 20 years. I might describe many of them as experiments in "participation." And, I might add, they have been guided largely by the theory and practices of group dynamics. Some of these principles have been imparted, not only to top-echelon executives—though that came first—but also to middle management people, to floor supervisors, to straw-bosses, who come into daily contact with workers and, of course, to the workers themselves. We have encouraged department heads to become amateur psychologists. We know that there is a feeling among professionals against doing that sort of thing. But it is my own conviction, borne out by the results that we have attained, that there is much to be said for it. Actually, everyone is an amateur psychologist to some degree—he has to be, to get along with himself and other people—and my belief is that we might as well train business executives and supervisors to be good amateurs, rather than bad ones.

The main plant of the Harwood Manufacturing Corporation, where the research has been done, is located in a small town in Virginia. The plant produces pajamas and, like most sewing plants, employs mostly women. This plant's population is about 500 women and 100 men. The workers are recruited from the rural, mountainous areas surrounding the town, and are usually without previous industrial experience. The average age of the workers is 23, and their average schooling is about eight years of grammar school.

The labor policies of the company are liberal and progressive. A high value is placed on fair and open dealing with the employees, who are encouraged to take up grievances with the management at any time. The workers are all members of a highly respected, international union. Foremen are helped to find effective solutions to their human relations problems and taught to resort to conferences and role-playing. There is an orientation program to allay the discouragement and frustrations that often befall new employees who find themselves in new and unfamiliar situations. Wherever possible, plant-wide votes are conducted to settle problems that affect the whole work-force. The company provides employees such privileges as music on the job, health services, a lunchroom, and recreational programs. The firm has also been conscious of the role of public relations in the local community and has given financial and other support to any activity that would

*President, Harwood Manufacturing Corporation, New York City.

build up good will. As a result, Harwood has enjoyed good labor relations since the day it began operations.

Harwood has an incentive plan for its workers. It is like such plans adopted elsewhere. Piece rates are set by time studies and formulated in terms of units. One unit equals one minute of standard work. Significantly, the rates have been adjusted so that a skilled worker can, if he wishes, raise his take-home pay by 25 to 50 per cent. He can do this by a degree of extra effort. But working at a normal pace, he earns a living wage. In other words, he is encouraged to produce more, but never harried into doing so.

In the research that has been conducted over this period of two decades, all of the studies have reflected a belief that man is essentially social and that, at work or at play, he has a need to belong. "Not belonging" produces in him a shaky personality; he is so uncertain in his relationships that he is prone to anxiety and indecision. He is, then, like a child reared without the security of parental love. "Group belonging," on the other hand, gives him assurance of a place in his world. Hence, the color and tone and strength of his beliefs are borrowed from other people, those around him. In a group each person contributes dynamically to the conduct and attitudes of his fellow-members. The result is that the group as a whole is more than the sum of its parts. Something else has been added, an *esprit de corps* that leads to teamwork, and each member acquires an element of confidence that is missing when he is on his own.

Thus, whenever a job is to be done by people working together, it is best accomplished when they feel themselves a united group with a common goal. How can such participation be made a lasting condition among workers as well as managers? How can the work-force's entire personality be engaged—brain no less than hands—in shaping a company's policy? A partial answer is found in "involvement." Involve workers in tackling problems connected with their jobs and they join wholeheartedly in reaching solutions. They participate. They are no longer mere robots. They are more than "hands" now; they also contribute their brains. They have genuine feelings of achievement, because they really help to form the company's decisions.

Let us illustrate with a single experiment conducted at a time when Harwood was installing new machines and changing operational methods. These changes were strongly resisted by workers, many of whom were being transferred to strange jobs in other departments. They expressed their resentment in several ways: by complaints about the new piece-work rates; by restricting their output; by marked aggression toward the management; and finally by quitting. But the company

could not help itself. To keep up with competition, such changes had to be effected from year to year.

One season, when a major change-over was planned, it was decided to try this new approach: "participation." The workers were divided into two groups, both of them matched in skill. Each group was advised of the impending change, but in a different way.

The first group was simply called into the conference room and told that changes were to be made and why they were necessary. The production manager explained the new procedures and the new piece rate. The workers were invited to ask questions and given frank answers. This, by and large, exemplified normal procedure.

The second group was given a full explanation of why the change was mandatory—business had fallen off. Unless fresh orders were attracted by new models and lower prices, there might be lengthy layoffs. The urgency of cutting costs was dramatized as vividly as possible. What could be done? The group was asked to discuss this problem. How the product could be simplified and costs reduced even further was made a joint problem of management and the workers. "We don't want to sacrifice quality, and we don't want you to lose any income. What are your ideas about this?"

Management and workers sat together from the start until the new method and rate were agreed upon. Suggestions came in such numbers, and were made with so much enthusiasm, that the stenographer at the meeting could barely record them all. Though no formal vote was taken, the decisions crystallized the consensus of the group.

What resulted from this two-pronged experiment? Production by the first group (nonparticipating) dropped 35 per cent the day after the change-over; nor did it improve for a month thereafter. With the fall-off came deteriorated morale, manifested by gestures of hostility toward the company; there was a restriction of output and evidences of subtle noncooperation. Within two weeks after the change, nine per cent of the operators had quit. Others quickly filed grievances about the pay ratte, although it was, in fact, a little too high.

The other group (participating) took the lead from the start. By the second day, the operators were back to their former level of output, and thence steadily raised it to a point about 14 per cent higher than ever before. Their relationship with their supervisor was freely cooperative. Not one of this unit quit. Excellent morale signalized how cohesive this group had become.

This experiment established the direction of many other studies carried out at Harwood over a period of years. All of this research,

conducted by qualified scientists in the field, supports a basic thesis: dislike of work generates anxiety and frustration that affect not only a man's work life, but also his home life and community role. This dislike of work is reflected in quitting, a final form of flight, and in absenteeism which is often a temporary form of the same thing for the same reasons. This resentment against "the job" is further reflected in low productivity and inferior workmanship.

But when people are allowed to participate and are involved in decision making, they not only work regularly but they work hard. They take pride in their jobs. They do not quit. All of our studies at Harwood and those done elsewhere have brought the same consistent findings. Morale and productivity are improved in a work climate that satisfies human needs that high wages and short hours alone do not and cannot. Without such satisfaction, the average man will not work his best.

In former times, one of the chief incentives for higher production was the threat of punishment—docking of pay for absences, even those due to illness; fines or penalties for bad or spoiled work; and always the possibility of summary dismissal. Such systems of penalties were particularly effective when economic conditions were bad and jobs hard to find. Nowadays such a system, even if feasible, which it is not, would be repugnant to progressive management.

A more popular incentive is the reward. But just as some people are unintimidated by a threat of punishment, so do others fail to respond to a proffer of rewards for special effort. The "reward system" assumes that man's prime motivation is economic. The theory is that if you pay a man for the *amount* of work he does, the more he is paid, the more he will produce. This is equivalent to comparing a man to a machine with a predictable response. But it is not true of a machine that the more electrical current one feeds into it, the faster it goes, indefinitely. There is a fixed limit to what it can turn out. The same is true of workers, though the analogy to the machine is otherwise false. They will work only so fast. When they reach a tempo they have set for themselves, they will not increase their output, regardless of extra pay.

This is shown by another Harwood study: the daily production records of hundreds of workers were compiled and analyzed to learn how much variation there was in the number of units turned out daily. The workers concerned in this study had an incentive plan calling for higher pay for more production.

It was anticipated that operators would have good days and bad ones, depending on how they felt, the kind of materials they worked on, the

efficiency of their machines, and other factors. But this was not so. According to the records, nearly all the workers turned out the same amount daily. Their output often remained fixed and unchanged for weeks and even months. Obviously the level they had established was one they could easily attain and still permit themselves leisure. The rate they chose was generally above the minimum set by management for an experienced worker, and so they warded off pressure from the supervisor for more effort.

Another instance of this was found in the four-week average of a group of twenty-five of the most skilled operators. Each produced about 700 units a day on his job. The output was so uniform that the largest weekly variation during the month was less than one per cent. Some workers did not vary at all but turned out an identical amount every week. They certainly could have produced more and earned more.

Why, then, did they restrict production and limit their wages? Clearly they cared about other satisfactions than money. They cherished their status as members of a group. A man comes to his job seeking that status. He hopes to become part of a group in his plant or department. Once this wish is realized, he owes a definite obligation to his fellow workers. The group sets a pace that even its weakest members can meet, and no individual cares or dares to exceed it. He cannot become acquisitive at the expense of others. Management may try to force the role on him, but it will nearly always fail. Any appeal to him must be directed first of all to the group to which he belongs, and any goal set for him must be a shared goal.

From the human point of view in all of the experiments we have reported and in many others, improvements resulted because of management's interest in employees' troubles and its willingness to share with employees in groups the responsibility of working out solutions. The give-and-take of frank and informal meetings, where the workers are invited to share in decision-making, has led to stepped-up productivity. It has brought new motives into play for workers and made their ability to attain a higher level of production more real to them. In sum, the improvement that has followed is a consequence of a new feeling of mutual understanding. It has been sustained because the workers are enabled to perceive their own power and performance from a much broader perspective.

CHANGE OF PATTERN IN A CASE OF CYCLIC PSYCHOSIS

H. G. WHITTINGTON, M.D.*

Periodicity in the appearance of schizophrenic symptoms is a much studied but little understood phenomenon.[1-7] In 1953, a case[1] was reported in which the patient's illness followed a definite cyclic course with predictable patterns of behavior. Since the publication of that report, certain changes have occurred in the clinical picture of this patient which warrant a follow-up study, based on five years of additional observation, some of it by the author. The patient had then been hospitalized for three years without any change in the regular, cyclic pattern of her illness.

> For 17 days of each month, the patient's behavior was mildly hypomanic. She was talkative, cheerful, alert, superficially friendly, and kept busy in adjunctive therapies. Although in interviews she showed signs of incipient psychosis, such as associative gaps and poor judgment, the quality of her reality contact appeared good. This phase of her illness was termed "integrative."
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> At the end of each integrative period, the appearance of irritability, diminished productivity, and garrulousness ushered in a period of psychotic behavior, termed "disintegrative." She became so unkempt and abusive that she had to be transferred to a closed ward. Her speech became fragmented, delusional, and at last only an incoherent mumbling. She postured, grimaced, dressed in bizarre costumes, tore her clothing, and voiced hallucinations. Ten days after the onset of such behavior she would change overnight into a well-groomed, personable young lady, and eagerly return to the open ward. This cycle, at the time of the first report, had been repeated every month during three years of hospitalization.

Clinical Course Subsequent to January 1953

In March of 1953, the patient began to receive electroconvulsive therapy at the onset of each disturbed period—this occurred at 7 to 29 day intervals—as an attempt to abort or shorten it. The more severe symptoms did not appear. This interrupted the regular periodicity of her illness so that the onset of disintegrative episodes was not predictable. Despite the alleviation of the most severe psychotic manifestations, no lasting improvement in the patient's condition was noted, and her level of functioning during the integrative periods was not advanced. By July of 1954, electroconvulsive treatments were necessary as frequently as at the onset of treatment, so in August of 1954 they were discontinued. A total of 47 treatments had been given.

*Health Service, University of Kansas, Lawrence.

The previous, predictable, behavioral cycle was then re-established, with a mildly hypomanic period of about 17 days giving way to a period of more disturbed behavior lasting about ten days. Her behavior was not as bizarre as before, however.

In April 1955, she began to receive chlorpromazine, 75 to 300 milligrams a day, at the onset of her disintegrative period. Only a moderate reduction in psychotic behavior was achieved. At the beginning of her integrative period, treatment with chlorpromazine was discontinued but was resumed three weeks later when her sullenness and neologisms presaged another psychotic episode. On dosages ranging up to 600 milligrams a day, she was able to converse slowly and logically, to stay on an open ward, she was not assaultive, and displayed no bizarre behavior. By June 1955, an atypical neurological syndrome had developed, characterized by tremor of the hands, expressionless face, and sialorrhea. Chlorpromazine administration was discontinued, and instead reserpine, in dosages of two to five milligrams daily, was given. By July 1955, a daily maintenance dosage of three milligrams of reserpine prevented her having disintegrative episodes.

On September 16, 1955, the patient left the hospital on a 90 day trial visit in custody of her sister. A social worker was to check with the patient every two weeks, and the sister once a month. The patient seemed to make a good adjustment for the first six weeks. She shopped, cared for her clothes, attended movies, read, and visited her sister. The sister and her husband questioned the patient's ability to adjust herself to life outside the hospital, but allowed her to live in a rented room and eat in cafes.

By late November the patient had begun to make overly optimistic plans about working and sought a job, but found none. She seemed restless and tried to occupy her time by going to concerts and other public gatherings. During November the patient stopped taking reserpine. Her sister then noted that the patient was sometimes agitated and spoke in an excited, incoherent manner.

On January 14, 1956, at her sister's insistence, the patient returned to the hospital. Upon readmission she was confused, disorganized, delusional, hostile and assaultive. She was again given reserpine, three milligrams a day, and soon became pleasant, cooperative, and no longer confused or openly delusional. Within three weeks she was transferred to an open ward, and resumed her previous excellent adjustment and active schedule. Planning was begun for her to live in an apartment near the hospital.

The patient rented and lived in an apartment for almost eleven months, during which time she took reserpine, three milligrams daily.

She was seen weekly by the social worker for interviews about reality problems. For the first six months she did well, attended business school regularly and cared for herself and her apartment. The patient visited her sister often. In the spring of 1957 three events apparently affected her significantly: first, she completed her business course, so that the need of getting a job began to concern her despite the social worker's attempts to support the rationalizations against such a move. Second, her sister became pregnant and the patient became preoccupied with concern for her sister, and her thoughts dwelled on pregnancy and childbirth. Third, her trial visit from the hospital was expiring and final discharge was impending. The patient became progressively more anxious, finally quit taking her medication, and had to be readmitted to the hospital. She was irritable, spoke in a scattered and often incomprehensible manner, and was excited. Within a few days on a closed ward, again receiving reserpine, she returned to her vivacious, hyperactive, well-groomed self.

> Psychological testing was done on September 3, 1957, at which time the patient was back to her highest level of integration. The patient, in contrast to previous tests, recognized her illness clearly and was better able to conceal it by being more guarded, less impulsive and less spontaneous, and more constrained. In unstructured interviews, she voiced delusions of finding poems published about her, of "government control," and other ideas of persecution, with a tenuous and inconstant insight that these were "crazy ideas." Many malapropisms and neologisms were present in her speech, but she tended to correct them and to suppress the irrelevant, autistic associations of earlier testing.

In summary, although definite evidences of a psychosis were present, she was usually able to suppress bizarre material. As another reflection of the "as-if-normal" quality, she obtained a normal profile on the Minnesota Multiphasic Personality Inventory. Various laboratory procedures were also performed during the months following the patient's readmission including blood cholesterol, basal metabolic rate, protein bound iodine, and glucose tolerance. There was evidence of disturbed carbohydrate metabolism, in a flat glucose tolerance curve, but no proof of thyroid dysfunction. The patient again left the hospital for a trial visit in January 1958, and is making a good adjustment.

Discussion

The organic bias of medicine is nowhere more evident than in studies of cyclic psychosis.[2-21] The regular, predictable cycles of behavioral change beg for some equally neat explanation, some equally precise

"cause." Two main lines of physiological theory have been investigated:

1. *The intoxication theory:* the psychotic behavior is due to the accumulation of some toxic metabolite, most likely an amine product of protein metabolism.
2. *The endocrine theory:* a rhythmic upset of endocrine function leads to the periodic behavioral changes.

The pioneer investigator of periodic psychosis, Gjessing,[12, 13] studied longitudinal changes in the *internal* milieu of the patient by biochemical methods, and correlated such alterations with the patient's behavior.

Gjessing described two main types of periodic catatonia: *synchronous syntonic,* in which stupor or excitement begins suddenly along with synchronous metabolic and autonomic changes; and *asynchronous asyntonic,* in which metabolic autonomic changes are not synchronous with the behavioral changes. He divided the synchronous syntonic into two subtypes: *A,* in which the psychosis begins during a phase of nitrogen retention, shortly after the nitrogen store has reached its maximum value; and *C,* in which the stupor or excitement begins just before the nitrogen store reaches its low point, so that the nitrogen retention is at a maximum during the quiescent interval.

Other studies using the "kinetic" approach—a longitudinal biochemical study—have not entirely supported Gjessing's conclusion that "at the time of change of phase in a varying nitrogen balance a toxic substance, connected with disturbance of protein metabolism, is produced which acts in an inhibitive or irritant way on the central nervous system." No consistent plan of investigation has been pursued in the different studies, so that comparisons between investigators are difficult, and few are as rigidly controlled as Gjessing's. Hardwick and Stokes,[19] however, report a well-designed, long-term study of a patient with periodic catatonia. They conclude as follows:

1. Association of stupor with a negative nitrogen balance occurs only *until a high level of general nutrition is obtained.*
2. The simplest view, that the nitrogen balance change is secondary to a mental disturbance which requires the breaking down of protein for the production of calories, is not supported by the evidence.
3. Change in protein metabolism is not immediately causative to the mental upset.
4. In one case of schizophrenia, which was *not periodic in type,* a rhythmic fluctuation of nitrogen balance was found without mental upset.

Lindsay[5] also concludes, "the mental state is not the direct cause of the known biochemical changes, nor are the latter the immediate cause of the former."

Investigations of the endocrine functions have met with little more success. Changes in the urinary 17-ketosteroid level have been described by Rowntree,[11] Gunne,[14] and Gornall,[20] but the findings have been inconsistent from patient to patient, and the results inconclusive. Changes in the level of corticoid hormones have been reported by Gunne[14] and Gornall,[20] but data are insufficient to draw any conclusions.

Change in the fasting blood sugar, glucose tolerance,[11-13] insulin sensitivity,[11-17] and serum sodium, potassium, and chloride levels[11] have also been described; again no consistent trends are evident. A lowering of the basal metabolic rate during quiescent periods has been consistently recorded.[11, 14, 20] Large doses of dessicated thyroid have been advocated as beneficial treatment.[11, 14, 16, 19, 20] This has been viewed as correcting defective thyroid function, and has also been justified because of its effect on protein metabolism (which Gjessing feels to be faulty in periodic catatonia). Danzinger and Elmergreen[18] describe, and express mathematically, the reciprocal relationship between pituitary thyrotrophin and thyroxin; they feel large doses of exogenous thyroid suppress the secretion of both hormones, stabilize an otherwise unbalanced endocrine system, and result in improvement. However, Gunne[14] demonstrated that the protein bound iodine level in the blood is normal, despite an abnormal basal metabolic rate; this casts serious doubt on the likelihood that altered thyroid function is a causal event in periodic psychosis.

A complete analysis of such pathophysiological studies is not intended here. However, the hoped for "cause" has not been evident, nor are the physiological accompaniments of behavioral changes regular or predictable. Hoskins[21] made a comprehensive evaluation of similar studies on schizophrenia. Can we really say much more than that the changes in the physiology of schizophrenic patients are reflected in nitrogen metabolism, endocrine function, and autonomic function?

Therese Benedek[22, 23] demonstrated the psychological changes in a woman during a normal menstrual cycle, as the predominant hormone shifts from estrogen to progesterone (see also Bandler[24]): changes not only in behavior, but in dreams, fantasies, and unconscious conflicts as revealed during concurrent psychoanalysis. This dimension is lacking in the articles previously cited. Careful psychological evaluation of the patient is consistently missing in the case reports of periodic psychosis; an exception is Rowntree,[11] who observes that both of his patients expressed delusions of pregnancy during attacks.

Bandler and others[24] have investigated the relationship between seizures and the menstrual cycle. Their work, like Benedek's, is valuable because of the method used to study cyclic phenomena from more than one vantage point—psychological and physiological. They conclude that seizures of epileptic women have a random phase distribution; transient phase preferences sometimes, perhaps always, are due to psychological factors.

In the literature on periodic psychosis, however, no comparison of psychological factors can be made, since descriptions of them are few.

the economic principles of episodic psychological phenomena are nowhere else so clearly elaborated as in the work of Karl Menninger.[25-28]

> Menninger conceives of a hierarchical series of ego defenses utilized in the face of mounting stress. Devices of a first order include "nervousness," such as hyper-alertness, hyper-kinesis. Second order devices consist of "neurotic" symptoms and syndromes, such as compulsions, addiction, fugue states. If ego devices of a first and second order do not suffice to maintain homeostasis, devices of a third order may become necessary. Such devices are characterized by an episodic, relatively direct expression of aggression, with a transient transgression of the controls and strictures of reality.
>
> Devices included in the third order are convulsions (so that the work of Bandler[24] on seizures may in fact have some relevancy to the general subject of periodic psychosis), attacks of assaultive violence, "schizophrenia" attacks. Regulatory devices of a fourth order are characterized by persistent dereistic discharge and disorganization, such as delusional preoccupation, erratic disorganized excitement, active autistic thinking. Fifth order devices are characterized by complete failure of ego control.

About the patient in the case described in this paper, the simplest economic formulation might be that she used first and second order devices to maintain psychological homeostasis, but that periodically a transient ego rupture occurred, and episodic dyscontrol, an ego defense of the third order, ensued. However, at times when she was not blatantly psychotic, she gave evidence of a continuing psychotic process even in integrative periods. Her thought disorder, delusions of persecution, and blunted affectivity were hidden from the casual observer by her facade: *i.e.* the predominant use of less pathological regulatory devices such as cheerfulness, hyperactivity, rapid speech, superficiality and avoidance of close interpersonal contact.

Another formulation might be that in her integrative periods the patient handled inner stress by using homeostatic regulatory devices predominantly of a first order. However, even then there was evidence of processes usually considered psychotic: ideas of persecution, neologisms, loosening of associations, and impaired abstraction capacity. Insight was tenuous and inconstant, but she recognized herself as sick and some of her ideas as "crazy" during these integrative periods.

After two weeks of such adjustment, in which first order devices served to maintain homeostasis—and the more pathological devices seemed to be on a "stand-by" basis—gradual worsening of her adjustment occurred and terminated in episodic dyscontrol. This occurrence might be explained as follows: (1) A shift in endocrine-metabolic processes, with an increase in drive energies perceived as internal stress. (2) A weakening of control capacity, of ego functioning, due to some metabolic change. (3) Changes in the environment. (4) Exhaustion of the ego, so that first order devices could no longer be utilized and more desperate ego maneuvers were resorted to. (5) A threshold phenomenon, by which unconscious conflict at last broke into the preconscious and necessitated more drastic ego defenses.

From the data, only environmental change can be definitely ruled out. Biochemical studies have failed, as yet, to consistently demonstrate metabolic changes that might cause or accompany an increase in drive strength or a decrease in ego capacity. This nowise excludes the possibility of such metabolic fluctuations exerting an effect on psychological homeostasis.

Here questions are in order about the patient's life experiences, the forces that entered into her ego development, her habitual patterns of drive control, situations that were perhaps never "solved," and areas of life functioning that were most troublesome to the patient. Further, we might seek evidence of cyclic mood swings, fluctuating drive strength, or varying integrative capacities throughout her life.

> Fatherless from the age of three, neglected by her mother who favored the younger brother, she grew up moody and quiet, and was regarded as awkward and stupid by her mother and siblings. A strict, dogmatic, religious upbringing, lack of closeness to her mother, absence of a father: all increased the intensity of the relationship with the blind brother, who was her only interpersonal contact. He was sent to a home for the blind when the patient was 13, leaving unresolved the patient's feelings toward him: affection, identification (conscious and unconscious), hatred because of the preference the mother showed him, resentment over his demands on her, erotization of their relationship at a time of awakening sexuality in the patient. She projected her unconscious hatred onto the mother whom she accused of mistreating the brother.
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> The mother became further separated from the patient as a result of her projected hostility and guilt (so that to admit her unfulfilled dependency needs, to look to the mother for succorance, became impossible for her). She was exposed to a loose morality during her stay in the Army. Unconsciously she felt so similar to her brother that his mental illness was her own also. In the face of these psychological stresses she became more isolated, lonely and suspicious, which resulted finally in her discharge from the Army. Following her return home, the mother noted cyclic mood swings, with periods of agitation and somewhat irrelevant talk; however, there was no regular periodicity at first, and it was apparently only after hospitalization that the definite cycle of behavior changes became established.

In the hospital, the patient in her disintegrative periods was concerned over sexuality; distrusted others; by her dress and manner conveyed her separateness and uniqueness; was preoccupied with thoughts about motherhood and childbearing; and was assaultive. Even with her habitual defenses of isolation, partial severance from reality, and "busy work," she was unable to deal with her aggressive drives which were expressed directly at the cost of more pronounced reality severance. Rather than episodic dyscontrol, then, this must be viewed as an episodic

worsening of a chronic schizophrenic adjustment. But even so, the regular periodicity is no less puzzling.

If lowering of tension is a partial explanation for the amelioration which assaultive, regressed behavior afforded the patient, the tension-discharging function of a *grand mal* convulsion, induced by electroconvulsive therapy, might explain the temporary benefit afforded by electroshock. The function of convulsions as a homeostatic regulatory device of the third order has been described by Menninger[26-28] and others;[33-35] animal experimentation has also shown convulsions as a device resorted to by the organism when confronted with an insoluble conflict situation.[36, 37]

> From World War II came some striking information on what extreme psychological and physical stress can do to the human personality.[30-32, 43-50] As to the question concerning the effect of chronic stress upon the physiological processes of an individual, and the reciprocal effect produced by such changes upon the psychological functioning of the person, we are left wanting for information. Selye[38] has investigated stress in animals extensively, and has shown changes occurring in protein metabolism, salt and water metabolism, carbohydrate metabolism, and endocrine functions; however, no correlation of the phases of the General Adaptation Syndrome with the cycles of disordered physiology has been reported in the literature on cyclic psychosis.[5, 11, 14, 17-20] Also, the stresses produced in the laboratory are not comparable to the lifelong disorders in interpersonal relationships which the patient described.
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> Funkenstein and his co-workers[39] have recently published a study of the relationship between frustration and the emotional and physiological reactions to frustration; again, however, the stress was acute, relatively mild, and nowise comparable to the complex and subtle stresses involved in psychosis. That alterations in physiology in psychosis do occur is certain;[21] that altered physiological processes do affect psychological functioning is equally certain.[22, 23] But whether the psychic stresses or the physiological disorders are *causative,* we have little more than our basic bias—organic *vs.* psychological—to determine which alternative seems most likely.

In our present case, also, the issue is in doubt. The low basal metabolic rates of minus 21 and minus 25 suggest an endocrine disturbance; however, the protein bound iodine was normal. The conclusions of Gjessing[12, 13] about the pathophysiology of periodic catatonia, based upon the efficacy of thyroid as a treatment, point to the dangers of such inferential reasoning, since the bulk of evidence now does not suggest any thyroid deficiency. Likewise, viewing electroconvulsive therapy as of benefit purely because of its energy-releasing mechanisms is also fallacious; in addition to whatever direct effect electroshock has on brain metabolism, it also acts as an acute stress which changes endocrine functioning.[17, 38] The partial remission of symptoms in this patient following administration of ataractic drugs also gives no good evidence of how the change occurs.[40-42] since investigations on the function of serotonin

—presumably the substance affected by the ataraxics—in the central nervous system, and elsewhere in the body, are not conclusive, and the interactions between serotonin and other enzyme-hormone systems are unclear.

If we accept Freud's instinct theory and the concept of psychological homeostasis as outlined by Menninger, a simple explanation is possible. Aggressive drives accumulate because of the patient's inability to discharge aggression caused by effects of her life experiences on her adaptive capacities. Episodic dyscontrol becomes necessary every month to discharge the accumulated aggressive energy. Electroshock functions in lieu of episodic dyscontrol to maintain homeostasis, at less cost to the organism. Ataractic drugs act to dampen instinctual energy, to "sedate the id," rendering mechanisms of the third order and severe reality severance unnecessary: no increase in ego, but less id.

Perhaps the simplicity and lucidity of the concept is its most eloquent disjoiner; could psychic life possibly be so simple? And what of the determinants leading to such a constellation of ego traits that results in periodic worsening of a chronic schizophrenic adjustment? What of the physiological processes altered by psychic stress, or perhaps by yet unknown causes and resulting in psychic disorder? And what are the modes of action of electroshock and of the ataractic drugs?

The frame of reference of this writer may be phrased as follows: Psychosis is one extreme of a spectrum of mental illness developing as a result of faulty life experiences whose beginning is in an unsatisfactory relationship with the parents or parent-surrogates. These experiences and the individual's ability to integrate them are more or less influenced by a constitutional *anlage.* The endocrine-enzyme systems of the organism are sensitive reactors to psychic stress, and once disordered, have a relative autonomy of dysfunction; so that repeated frustration leads to a state in which the pathophysiological changes in a sense restrict the possibility of change, and are reflected in secondary changes in psychological processes. This interrelationship is complex, little known, and difficult to explore experimentally.

By the time a chronic psychosis has developed, the possibility of unraveling what has gone wrong, and why, is extremely unlikely. The simplicity, psychologically, of the animals studied in experimentation and the relative acuteness of the stresses applied render such data of limited usefulness. Experimental frustration of human adults, while essential for further understanding of psychological and physiological accompaniments of psychic stress, can probably not yield data directly referable to psychosis, in which the stress must be assumed to be extreme, practically lifelong, and elaborated by secondary life-frustrations as the result of slowly developing symptoms.

Conclusions

The fullest understanding of episodic mental disturbance, at our present level of knowledge, is afforded by Karl Menninger's concepts of psychological homeostasis, schematized as a hierarchy of regulatory devices employed in the face of mounting stress or continuing unresolved stress.

Study of this five year follow-up of a case raises questions concerning the concept of periodic psychosis as an intermittent disease. In fact, this patient displayed even in her integrative periods clear evidences of psychotic processes, so that the disintegrative phases represented only episodic worsening. Perhaps the entire concept of a person falling victim periodically to a mental disturbance, and then recovering from it——a concept rooted in the medical tradition of disease specificity—had best be abandoned.

In this patient, at least, it was more productive to examine her illness from the standpoint of psychological homeostasis, in which context questions were raised concerning the possibility of fluctuations in drive strength or in control capacity (based on endocrine-metabolic changes), changes in the environment, dyscontrol as an ego exhaustion phenomenon, and dyscontrol as due to exceeding of a tension threshold.

This frame of reference offers a productive approach to the study of episodic mental disturbance. However, it is emphasized that a study of the illness consists just as much in gaining an understanding of the person during his periods of relative integration, as during the disorganized phases. The more obviously psychotic periods should be viewed as periodic worsenings in which more desperate orders of dysfunction are resorted to. It is perhaps preferable to speak of a cyclic course or a periodic course of illness, and abandon the terms periodic psychosis and cyclic psychosis entirely, since they imply a definiteness of onset and abruptness of termination of psychotic phases which, it would seem, are more illusory than real.

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ACTIVITIES OF THE MENNINGER FOUNDATION

Dr. Ludwig von Bertalanffy, the seventh Alfred P. Sloan Professor at the Menninger School of Psychiatry, arrived in October.

A noted biologist, Doctor von Bertalanffy has served as director of biological research at Mt. Sinai Hospital in Los Angeles, California, and as visiting professor at the University of Southern California. He was born in Austria, and received his Ph.D. from the University of Vienna where he taught from 1934 through 1938. He then became a professor and director of the biological research department of the University of Ottawa. In 1954 he was a senior fellow of the then newly-founded Center for Advanced Study in the Behavioral Sciences at Palo Alto, California.

Doctor von Bertalanffy has written 15 books and has conducted research in the fields of comparative and cellular physiology, cancer, biophysics, mathematical and theoretical biology, and the philosophy and history of science. He was one of the founders of the modern "organismic" conception of biology in the 1920's. Other of his contributions are in the theory of open systems and the steady state of the organism, theory of growth, a recently developed cytological cancer diagnosis by way of fluorescence microscopy, and a general system theory. In recent years Doctor von Bertalanffy has become increasingly concerned with behavioral science and the theoretical foundations of psychiatry. He has been active in the Mental Health Section of the World Health Organization.

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The eighth Sloan Professor was Dr. J. Christian Bay, librarian and bibliographer, who came to Topeka in December for three weeks. Doctor Bay, who is the father of Dr. Alfred Paul Bay, superintendent of Topeka State Hospital, is librarian emeritus of the John Crerar Library in Chicago. Before going to Crerar Library, which is noted for its scientific, technological, and medical collections, Doctor Bay was associated with the Library of Congress. There he helped prepare the original schedules for several natural history classes. From this activity grew his active interest in botany and plant sciences.

In 1917, he was elected medical reference librarian at the Crerar Library and later became librarian. He has written numerous scientific books as well as three books about Western Americana. Doctor Bay was born in Denmark and was decorated as a Knight of the Royal Order

of Dannebrog in Denmark upon a return visit in 1932. He has honorary degrees from Northwestern University and Elmhurst College.

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The 11th reunion of alumni of the Menninger School of Psychiatry was held in Topeka in January in conjunction with the meeting of the Kansas District Branch of the American Psychiatric Association. More than 100 alumni from Kansas and surrounding states attended. Plans are nearly complete for the annual meeting of alumni to be held during the American Psychiatric Association meeting in Philadelphia, Pennsylvania, April 27 to May 1. Dr. Harry Wagenheim is in charge of arrangements.

* * * *

Dr. Marietta Houston joined the Foundation staff in January. She has been director of the outpatient department at the Langley Porter Clinic in San Francisco, California, and has been a clinical instructor and assistant clinical professor in psychiatry at the University of California School of Medicine. In 1953-55, Doctor Houston was chairman of the Committee on Psychiatric Diagnostic Nomenclature for the National Institute of Mental Health. Her primary assignment in the Foundation will be in the education department.

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Preliminary clearing and filling of a 25-acre tract has begun in preparation for construction of the Foundation's new Children's Hospital. Bids for the three buildings will probably be let this month (March), and construction will begin as soon as weather permits. The three new buildings will more than double the present capacity of 22 beds. The hospital will be composed of a 30-bed unit for children from 5 to 12 years of age, a 20-bed unit for children from 12 to 15, and a school-activities building.

At one of the Foundation's sister institutions, Topeka State Hospital, construction has been completed on a new outpatient clinic. The new one-story building has some 30 offices, a reception room, two conference rooms, and a physical examination room. It is part of an $18,000,000 construction program announced for the state hospital last year.

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This is the fourth year that seminars for occupational physicians and industrial executives have been offered by the Foundation's Division of Industrial Mental Health. The seminar for physicians was held March 2-6, and the seminar for executives will be held April 13-17. Applications for both have exceeded the enrollment limit of 20.

READING NOTES

In *Psychiatry and Religious Experience* by Louis Linn and Leo Schwarz (Random House, 1958), a psychiatrist who is also a psychoanalyst, and a chaplain who is also an editor have collaborated in a book which is at the same time dignified, informative and broad. The religious development in childhood and in adolescence, the moral and religious problems of married life and illness, the function of religion in human life and the relation of psychiatry and marriage counseling to one another are all discussed systematically and competently. It sharply diverges from the position of certain humanistic sociologists who identify the tasks of religion and psychiatry and refer in poetic language to psychiatrists as "physicians of the soul."

* * * *

The Isaac Ray Award of the American Psychiatric Association was appropriately given to Philip Q. Roche for his progressive examination of the forensic psychiatry situation. The increasing disparity between rigid legal structures and changing scientific concepts is producing today a variety of transitional compromise measures. These are apparent before, during and after the legal hearings which attempt to establish culpability. Numerous cases illustrating this legal-psychiatric conflict are presented and examined by Roche in *The Criminal Mind* (Farrar, Straus, & Cudahy, 1958).

The author finds usefulness in our episodic dyscontrol concept and shares with us the feeling that responsibility is a legal fiction on which psychiatrists should not attempt to pass. Either everyone is responsible or no one is responsible, depending upon one's philosophy. But to ask a scientist whether or not a subject is responsible enough to benefit from being retributively injured by society is to ask him an unscientific and for him preposterous and inacceptable question.

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In his John Porter Lectures at the University of Kansas Medical School, which were published in *Neurotic Distortion of the Creative Process* (University of Kansas Press, 1958), Dr. Lawrence Kubie advanced the thesis that creative activity arises in the Freudian "preconscious system" and is then communicated through conscious symbolic processes to fellowmen and, indeed, to our own critical re-examination. Creativity can be impaired, distorted or blocked by unconscious conflicts ("neuroses"); indeed, one might say that the goal of both psy-

choanalytic treatment and education is to free preconscious processes from the tyranny of unconscious distortions.

One of the best features of the book is the large number of clinical vignettes used as excellent illustrative examples.

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In these days when the average 400-page book costs $8.00, or two cents a page, it is a delight to receive a book of 64 pages which costs only 25 cents, particularly a book that contains important information. *Simple Methods of Contraception* (Planned Parenthood Federation of America, 1958), is edited by Winifred Best and Frederick S. Jaffe. In his foreword to this little book the President of the American College of Obstetricians and Gynecologists comments upon "this remarkable volume" as the first in which various simple techniques are reported upon, evaluated and their social and moral implications examined with lively insight. This reviewer concurs.

* * * *

In his fifth revision of *Modern Clinical Psychiatry* (Saunders, 1958), Dr. Arthur P. Noyes has had the collaboration of a well-known and highly regarded colleague, Lawrence C. Kolb. Two chapters have been added, one on pharmacological therapy and one on psychiatry and the law. New bibliographic references have been listed. The text is excellent; the index could be improved.

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Self-Destruction (Charles C Thomas, 1958) is another scientific protest by a psychoanalyst evoked by the repeated observation of man's preventable self-destructiveness. Beulah Bosselman reviews in simple words some of the theories and some illustrative case histories.

* * * *

Jessie Taft records her memories and her letters to and from Otto Rank, to whose theories and practice she remained and remains staunchly faithful. To her credit, she writes with affection and without bitternness, defensiveness or recrimination, in spite of the trend of psychotherapies to go further and further away from Rank. His letters with which the book (*Otto Rank,* Julian Press, 1958) is replete, do not add to his luster.

* * * *

No doubt a large part of the minor psychotherapy of the world is done not by physicians but by pastors. It is usually and properly not called therapy, because it is not administered by a physician. This is a useful practical distinction, but the theory of effective intervention in a distorted life process is equally relevant regardless of the agent, and

efforts to extend and improve this aspect of professional functioning must rely upon scientific analysis and systematic training.

Dr. Seward Hiltner has long conducted one of the largest of these training programs for clergymen, and in *Preface to Pastoral Theology* (Abingdon Press, 1958) he examines with admirable clarity the shepherding function, which he regards as a formal branch of theology, including functions of communication, healing, sustaining, guiding and organizing. Each of these he discusses.

* * * *

W. O. Nagel's article "Predators Are Like People" in *Wyoming Wildlife* for December 1958 says, "A predator is any creature that has beaten you to another creature you wanted for yourself. . . The very creatures maligned as predators are actually our lowest-cost insurance against. . . (certain kinds of) destruction. Only when they turn to destroying property themselves is it good business to cancel this insurance—and then only the destructive individual itself. Anything else will not profit us and, most often can do us only harm."

This kind of destruction he is describing is illustrated by another article entitled "The Balance of Nature" which says, "More than 50 years ago the Kaibab Plateau in northwestern Arizona was famous for its fine mule deer hunting. Hunting was prohibited for a time and predators (cougars and wolves) were trapped and poisoned. Within a few years the deer herd had grown so large that thousands of them were starving because their food supply was gone. . . ." Even worse than the loss of the deer was the loss of the deer range. Decades passed before the range could again support many deer. They had also done great damage to the forest itself. This is an example of predator control that was successful, but that backfired.

* * * *

"Not that it will lessen the sale of shot gun shells in the least but the following poem struck a responsive chord in my heart:

"To My Love Who Doesn't Like To Hunt
You think, perhaps, that you lack strength of mind
And that, for a man, your heart is much too kind
But you are doubly dear to me
Because you'd rather see a wild duck flying
As a flash of beauty on the azure sky
Than in some cold marsh, dying.

. . . . Dorothy M. Tucker"

(From "This 'N' That" by Mildred P. Keeshan in *The Manhattan Mercury,* Oct. 26, 1958.)

My kinsman, Erich Menninger-Lerchenthal, protests vigorously in *Osterreichische Arztezeitung* (Vol. 13, No. 11, Vienna) against the attacks being made on psychiatry and psychiatrists in the Austrian daily newspapers. These seem to allege that psychiatric hospitals keep their patients too long or not long enough—*i.e.*, keep them indefinitely or discharge them prematurely. Admitting that psychiatric hospitals in Austria are overcrowded and lack their full quota of psychiatric social workers to assist in the placement of some patients back in society, Doctor Menninger feels that the attacks in the press are slanderous and reminds them of Doctor Hoff's invitation to go through his clinic, look at everything and then write what they see rather than rumors they hear.

* * * *

The first life insurance company, "The Corporation for Relief of Poor and Distressed Presbyterian Ministers and of the Poor and Distressed Widows and Children of Presbyterian Ministers," was established (in 1759) in Philadelphia by the Synod of the Presbyterian Church. This company, now Presbyterian Ministers' Fund, is the oldest life insurance company in continued existence in the world. (*J.A.M.A.* 168:1433, 1958)

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Tom Watson's magazine *Think* has been going for 24 years now and it is still too apt to contain a stimulating article for any issue to be passed over unexamined.

For example, take the December 1958 issue. There is an interview with the witty author of Parkinson's Law and four intimate photographs. He thinks our conformity is going to ruin us in America.

Or take the article on "the need of an international language" (a pet hobby of mine), discussing Volapük, Esperanto and Interlingua. Fifteen scientific journals have adopted the latter for summaries. Then, of course, there is the recent mechanical translation which may develop into something.

Then the January 1959 number came with an excellent interview with Dr. Will, accompanied by some very fine candid camera shots.

* * * *

Emil Oberholzer, Jr., son of the late Swiss-American authority on the Rorschach Test, is himself the author of a book published by Columbia University Press, 1956, on the attitudes and official procedure of the early Congregationalists (Puritans) toward various kinds of misbehavior. The title of the book is *Delinquent Saints: Disciplinary Action in the Early Congregational Churches of Massachusetts.* It consists largely of sections of case histories and court records taken from early New England documents. It is interesting to reflect upon the gradual evolution of the Congregational Church from such severe, moral strictness to its present broad, idealistic tolerance. This book describes and illustrates the earlier phase.

* * * *

Someone ought to describe life as one series of shocks after another. Anyway I've been shocked again, this time by what I read in *Maclean's Canada's National Magazine* (May 11, 1957) about the provocation the Canadian Government gives to the eccentric Doukhobors. I knew they acted up from time to time but I didn't know that because the parents think education is a sin and won't send them to school, the government collects the children forcibly and locks them up for eight years behind a steel mesh fence to get educated! Parents are allowed to visit with their children through the meshes of this fence from time to time, under the eyes of guards, and standing up. This doesn't sound like our northern neighbors who are, in most respects, much more civilized in such matters than we.

* * * *

Alexander Graham Bell had a friend by the name of Maynard, who became curator of the Smithsonian Institute. Just a hundred years ago now, on August 29, 1858, a man who signed himself simply "Boyer" wrote an anniversary letter to Mr. Maynard in which he acknowledged the news of the successful laying of the Atlantic cable and commented on the lack of local celebration of this great event. "It will be looked back to in after ages" he wrote, "with the same if not a more sublime feeling than the invention and ultimate success of steam navigation."

Mr. Boyer went on then to trace the growth of communication from the foot messenger to the horseman to the steam locomotive. He didn't stop there, but continued thus:

"Could you or I look into futurity one hundred years, what do you suppose we would see? No telling. We would probably see the air filled with etherial navigators in curiously constructed aerial cars flying with hurricane speed from one clime of the Earth to another. Looking down with contempt on the relics of the present age.

"Steam entirely done away with. Locomotives and passenger and freight cars smashed all to pieces and laying in chaotic heaps in the

corners of the fences. An air line pendant in the clouds over a boiling sea and the now newly constructed cable all fished out of the deep and manufactured into crinoline.

"News flying from Europe to America and from America to Europe through the upper air and men and freight rushing through the air at the rapidity of 300 miles per hour. The thought is sublime and rather preposterous.

"But looking back one hundred years and taking a retrospective view of the improvements wrought therein, and considering that man in his onward march may improve as much in the next century as he has done in the bygone one, we cannot begin to conceive what may yet be done." (From an article by Bess Furman in *The New York Times,* Sept. 28, 1958.)

* * * *

Another prized gift book is one from Paul Pruyser. It is an essay by Vladimir Solovyev, published in London several years ago (The Centenary Press, 1945); the translation is by Jane Marshall. It is an essay on the meaning of love—82 beautiful, elegant, provocative pages. Love as he sees it, is the "deliverance of individuality through the sacrifice of egoism," which in Freudian argot means the conversion of narcissism into object love of the mature type. The acknowledgment of the "unconditional significance" of the other fellow is, he holds, the basis of this love.

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The same morning I read Phyllis Greenacre's scholarly analysis of imposters in the *Psychoanalytic Quarterly* (July, 1958), I also read the new edition of Curtis MacDougall's *Hoaxes* (Dover, 1958) which contains hundreds of imposters and fakes of all kinds. I strongly recommend both. In the former journal, Jensen and Petty develop the fantasy of being rescued as a *fourth* (after KAM's three) of the unconscious motives in suicide. A good critical review of the Schneidman-Farberow book on suicide is supplied by Paul Friedman. But the best article of all, in proportion to its size, is the modest announcement by Dr. Moses Naftalin of New York (p. 403) of his discovery of an unconscious confusion *by Freud* of the Hebrew word *ruach* and the German word *Rauch.* The former means spirit which Freud wanted to relate to air, but he got mixed up and translated it "smoke." Naftalin modestly remarks, "I was sceptical, as would Freud himself have been, about an absence of meaning in this error." From this he goes on to develop a suggestion regarding the smoking compulsion in Freud and others—the unconscious identification of smoke as the breath of life.

—K.A.M.

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PUBLICATIONS BY MEMBERS OF THE STAFF

RAMZY, ISHAK and WALLERSTEIN, ROBERT S.: Pain, Fear, and Anxiety: A Study in Their Interrelationships. *Psa. Study of the Child* 13:147-189, 1958.

The interrelationships among pain, fear, and anxiety are explored within the framework of a psychoanalytic conceptualization of the phenomenon of pain. Pain is considered that *sensation* which signals a breach in physiological continuity and integrity, a breach which is experienced on the mental level of organization as the *perception* of pain. In structural terms, the relationship of the varieties of physical and mental pains are traced, and some of the determinants of natural and pathological pains are pointed out. In genetic terms, the developmental relationship is drawn between the primary pain and fear experiences, and the nature and degree of the subsequent anxiety experiences.

HIRSCH, ERNEST A.: The Adaptive Significance of Commonly Described Behavior of the Mentally Retarded. *Am. J. Ment. Deficiency* 63:639-646, Jan. 1959.

In the past the symptomatic behavior of mentally retarded children has been viewed primarily as reflecting lack, dysfunction, or inadequate solution. Such characteristic behavior as hyperactivity, tension intolerance, destructiveness, an overly passive orientation, perseveration, or echolalia, however, may be understood as also having adaptive significance. Destructiveness, for example, although it may be intimately related to "organic" factors, emerges much more readily and with greater intensity when the child feels under stress *(e.g.* when he is faced with too difficult a task). Thus, while destructiveness represents a "lack" in the sense of poor control, the behavior is adaptive in the sense that it frequently eliminates the stress which has created discomfort.

DOLGOFF, THOMAS and SHEFFEL, IRVING: Communication—The Pulse of the Mental Hospital. *Ment. Hospitals* 9:25-29, Sept. 1958.

Descriptions and illustrations are given of some of the major causes of breakdowns in communication: the tendency to confuse facts and feelings; insensitivity to the importance of personal goals and values; and failure to assess the role of the personal and organizational relationships within which communication takes place. These difficulties reflect the communicator's failure to think of what his communication will mean to the recipient and how it will affect him. Hospital administrators should improve their listening skills, use informal "pretesting" more frequently, train their subordinates in the communication arts, and be alert to the importance of "timing" in their communications.

MILLER, DEREK H.: Family Interaction in the Therapy of Adolescent Patients. *Psychiatry* 21:277-284, Aug. 1958.

Unless helped with their anxiety, anger, and guilt, parents of adolescent patients may hinder the treatment process. Clinical examples are given to illustrate how the deleterious aspects of family interaction can be minimized. As the adolescent develops a stronger ego, direct intervention by the physician between the parents and the patient, required sometimes early in treatment, becomes unnecessary. Reactions of the families of adult patients compared with those of adolescent patients are similar except for the greater dependence of the adolescent on his family and their interaction being more overt.

BOOK REVIEWS

The Teaching and Learning of Psychotherapy. By RUDOLF EKSTEIN and ROBERT S. WALLERSTEIN. $6.50. Pp. 334. New York, Basic Books, 1958.

The authors of this ground-breaking book are to be congratulated on the clear formulation of their principal thesis that teaching psychotherapy through supervision is a new skill which involves much more than helping a student to acquire a store of theoretical facts or a repertoire of technical tricks. They believe that the goal of teaching and learning psychotherapy through supervision is to modify the obstacles to the learning process which stem from the "automatic response tendencies" built into the student's personality. The authors illustrate vividly how behavior patterns of adaptive value to the student may in this new setting constitute an interference to the therapist-patient relationship and so become obstacles to the development of skill in psychotherapy. These obstacles are reflected in the supervisor-therapist relationship and thereby become the focus of the supervisor's "educational diagnosis." The supervisory task then becomes a matter of techniques for "educational treatment."

This emphasis on learning problems and "problems about learning" is refreshing and challenging. We have a lingering tendency to label all learning problems as counter-transference and therefore as "bad"—an attitude which in itself produces a "problem about learning." But when the authors focus on the effect of various patterns and the learning difficulties they present, the transactional nature of both learning and therapy is highlighted and both student and supervisor are challenged to discover and overcome the difficulties.

This educational skill required of a good supervisor is described in detailed case studies which emphasize the training setting as an important aid to the supervisor's development and successful functioning. The authors' use of a "clinical rhombus" as a model of four significant inter-relationships in any training program (administrator, therapist, patient and supervisor) is a novel approach which gives the administrator his important place on the training team.

Several dilemmas which confront supervisors are handled thoughtfully in this book. The question of training for "research vs. practical skill" is seen not as an either-or-issue, but as a problem of integrating both into an experience of self-discovery for the student. Novel approaches to old problems are the rule in this book, *e.g.* the chapters on emergencies in supervision and on recording and evaluation. Many readers may have the feeling that their own students do not present such intensely difficult learning problems as those illustrated. On the other hand, each reader will have encountered the same problems in some form. The easy ones are not illustrated here!

The authors maintain most consistently their thesis that teaching and learning is a reciprocal process. This is not a new idea but in this book it is given new dimensions. No claim is made for having spoken the last word on supervision. But there can be no doubt that Doctors Ekstein and Wallerstein have made a valuable attempt to conceptualize these problems and a significant contribution to a subject full of controversies and unknowns.

Joan Fleming, M.D.
Chicago, Illinois

Existence: A New Dimension in Psychiatry and Psychology. ROLLO MAY, ERNEST ANGEL and HENRI F. ELLENBERGER, eds. $7.50. Pp. 445. New York, Basic Books, 1958.

The American psychiatrist and psychologist has had little chance to learn about the currents in European psychiatry labeled "existentialism" and "phenomenology." There have been scattered articles, some friendly books, and some lectures in English, but no single, informative and fairly authoritative text such as this book purports to be. Hence, one welcomes these translations of some difficult German and French papers which have served as "models" to European devotees. The editors deserve thanks for their informative, didactic, introductory chapters. With the help of this volume, the rambling and at times cultist discussions of phenomenological and existentialist psychiatry in this country may begin to make sense.

Whether psychology and psychiatry need a new dimension and whether the dimension here offered is a useful one, are questions which the reader must decide after many hours of difficult reading. This reviewer feels that the approaches exemplified in *Existence* may add a note of descriptive precision and some richness of perception to any good psychiatric case study. They may also enrich psychopathology with a sharp portrayal of the nature of certain syndromes. May's chapters on existentialism may sharpen the wit of psychoanalytic ego-psychologists. But the idea of a "world design" that is to be studied in order to understand the patient seems in no way superior to the dynamic-genetic study of the person-in-his-situation which was taught by Freud, Meyer and Sullivan.

The ample sprinklings of literary and "liberal arts" items in the case studies create an impression of erudition—yet they do not offset the lack of explanatory concepts. Further, the urge to capture the unique essence of each person in each situation is admirable—yet this should not blind us to the fact that uniqueness itself is no more than a special case of commonality. Science is interested in continuities: the continuity within one person from moment to moment, between one person and the next, and between all the orders of reality.

Paul W. Pruyser, Ph.D.

BOOK NOTICES

General Diagnosis and Therapy of Skin Diseases. By HERMANN WERNER SIEMENS. $10. Pp. 324. Chicago, University of Chicago, 1958.

Written by an eminent European specialist in skin diseases and ably translated by Dr. Kurt Wiener, this volume offers a new approach to dermatology based on the fundamental study of the skin lesion. This is neither a textbook nor treatise, but rather a resumé or guide toward a better understanding of pathology, diagnosis and treatment of skin disorders. The three hundred seventy-five black and white close-up photographs taken under the author's supervision are superb and emphasize his viewpoint that a careful study of the details of the lesion is the foundation for dermatologic diagnosis. (Nathaniel Uhr, M.D.)

Introduction to Psychiatric Nursing. By MARION E. KALKMAN. $5.95. Pp. 331. Ed. 2. New York, McGraw-Hill, 1958.

To the beginning student and the experienced student, this text offers a stimulating and understandable discussion of psychiatric nursing. Part one is a study

of personality development to give the student a beginning understanding and knowledge of the emotionally ill patient. Part two carefully explains what the nurse can offer her patients and stresses the importance of the controlled nurse-patient relationship. This text has value for nurses in all fields. (Adria Brown, R.N.)

The Psychology of Medical Practice. By MARK H. HOLLENDER. $6.50. Pp. 276. Philadelphia, W. B. Saunders, 1958.

What used to be called the art of medicine, as to the patient's emotional reaction to his illness and the relationship between doctor and patient, is formulated in this book. Neither a textbook of psychiatry nor of the so-called psychosomatic approach to medicine, it deals with those psychological problems encountered in practice which the physician will appropriately handle himself. Four specialties—medicine, surgery, obstetrics, and pediatrics—receive special attention. One chapter deals with the patient who has carcinoma. Doctor Hollender and his three contributing authors—an internist, an obstetrician, and a pediatrician—have produced a book which reflects the authors' varying backgrounds. The practicing physician will find it useful and rewarding. (Russell M. Wilder, Jr., M.D.)

Research in Psychiatry with Special Reference to Drug Therapy. Psychiatric Research Report #9. MEMBERS OF THE COMMITTEE ON RESEARCH, eds. $2. Pp. 181. Washington, D. C., American Psychiatric Assn., 1958.

This is a series of drug research papers covering clinical, psychological, pharmacological, sociological, neurophysiological and animal-study approaches. The discussions following each paper are interesting and stimulating. Abraham Wikler's academic address on a comprehensive survey of the uses of drugs in psychiatric research will serve as an excellent reference source. (Paul E. Feldman, M.D.)

Ego Psychology and Dynamic Casework. HOWARD J. PARAD, ed. $4.50. Pp. 282. New York, Family Service Assn. of America, 1958.

This volume of papers, selected by the Smith College School for Social Work, is of extraordinarily high calibre. It is fittingly dedicated to Florence R. Day and Annette Garrett, "Two great women of courage and distinction who exemplified in their lives the highest ideals of professional service." Gordon Hamilton reviews "Freud's Contribution to Social Work," reflected against the background of the historical growth of casework. There are outstanding papers by Annette Garrett, Florence Hollis and Lucille Austin, among others. Five papers by psychiatrists who have collaborated closely with social workers, and one paper by a sociologist highlight the important interchange of knowledge possible for each profession when it is sufficiently comfortable and secure in its own right to look across the table at what allied professional colleagues are doing. (Arthur Mandelbaum)

Adolescence and the Conflict of Generations. By GERALD H. J. PEARSON. $3.95. Pp. 186. New York, W. W. Norton, 1958.

Drawing on many years of experience and on psychoanalytic theory, Doctor Pearson discusses adolescence as being a repetition of the Oedipal struggle and a battle against strong instinctual drives. These intra-psychic struggles are seen on the background of the conscious and unconscious attitudes of parents and society, but also on the background of present-day American culture. Advice to parents and other adults dealing with adolescents is included, as well as direct