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Preface to the Fourth Edition

The five years that have elapsed since the publication of the previous edition of this book have been a challenging period in psychiatric science. It has been a period in which there has been an increasing recognition of psychiatry as being basically a science which deals with the psychopathological aspects of human biology. The fact that there has been a greater stress on the role of psychological forces in the developmental pattern of the personality and in its disorders does not detract from the concept that mental expressions of life are no less biological than are physical ones. Even though there has been a greater emphasis in this edition than in previous ones on psychological influences and motivations in the production of personality disorders, yet we have tried to remember that the disordered personality no less than all other biological phenomena is the resultant of many complex and interacting forces. An effort has therefore been made in this edition to present more fully the principles of basic psychiatry. While but little has been added in the matter of descriptive psychiatry there has been a considerable expansion in the presentation of genetic and dynamic concepts and an attempt to apply them to clinical psychiatry. There has been an effort, too, to bring to the student a clearer insight into the psychological mechanisms that operate automatically in all human beings, both those who are subjectively and socially well adjusted and those who are not and are therefore called mentally ill.

The author is grateful for the constantly stimulating influence of the medical staff of the Norristown State Hospital. It has been composed of young men and women who have eagerly sought not only an insightful understanding of the problems, behavior and experiences of their patients but have with equal zeal sought to apply this knowledge to the welfare of these troubled people. It is a special pleasure to acknowledge indebtedness to three members of this staff: to Dr. Maurice E. Linden for the comments on group psychotherapy; to Dr. Amedeo A. Barbanti for his description of the technique employed in insulin shock therapy; and to Dr. George J. Martin for suggestions in the discussion of psychoanalytic therapy.

It will be observed that the classification of mental disorders followed in this edition is quite different from that in previous ones. Since the classification of the Standard Nomenclature was recently given officially recognized status through its adoption by the American Psychiatric Association this will doubtless soon be the one in general use. It is believed, too, that the new classification is more in accordance with present concepts concerning personality disturbances.

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Scope of Psychiatry

Psychiatry may be defined as that branch of medicine which deals with the genesis, dynamics, manifestations and treatment of such disordered and undesirable functionings of the personality as disturb either the subjective life of the individual or his relations with other persons or with society. By genesis one refers to the source and process of origin of these disturbed functionings and malformations of personality; by dynamics is meant the mental forces, techniques and measures utilized in the psychological functioning of the personality. Psychiatry is not merely concerned with the clinical manifestations and treatment of disturbances of human thinking, feeling and behavior but also with the energizing factors and influences that determine behavior. Particularly is psychiatry concerned with the morbid personality and with psychopathology, which may be defined as that branch of science that deals with the principles of abnormal behavior, or as the science of disordered functioning of the personality. Psychiatry is concerned, therefore, with the immaturities, disorganizations and disintegrations of personality. The range of personality maladjustments is broad and their nature complex, but their study and the application of measures designed to prevent, modify or correct personality disorders come within the scope of psychiatry. Viewed a little differently, psychiatry may be regarded as the science which deals with the psychopathological aspect of human biology. The latter considers man not only as a living organism but also as a thinking, feeling and striving one.

The "Mind"

It will be noted that in the definition of psychiatry there was no mention of the word "mind." There need not be, however, any objection to the use of the word provided it is employed as a collective designation for certain functional activities of the organism, particularly those of the organism as an individual personality. As a corollary to this definition of mind the reactions of parts of the organism would be designated as physiological, and mind as the integrated response of the organism to the complex physiological, psychological and sociological forces that impinge upon it. The "mind," therefore, is merely one aspect—the psychological aspect—of biologic functioning of the organism and not a metaphysical entity having an existence parallel with the body. The dichotomy which is implied by mind and body does not exist in the organism. They are equivalent and inseparable expressions of life itself—

the two aspects of psychosomatic existence. They are different phases of one fundamental unity of biologic functioning which we separate only for convenience of discussion. It is in this sense as a biologic manifestation of the organism responding and adjusting as a whole that the word mind will be used in this book. The expression of this reacting unity of function, or mind, constitutes *behavior,* which may be defined as the sum of our responses to stimuli arising from both within and without ourselves. As we shall see later behavior is a product of both conscious and unconscious processes acting jointly. In general, behavior which is determined largely by conscious factors, is flexibly adapted to reality and modified by experience, may be spoken of as "*normal.*" Behavior, including thoughts and feelings, predominantly determined by motivations lying outside of awareness is called *neurotic.* The study of neurotic behavior has contributed much to our knowledge of human motivations and the significance of the everyday behavior of the individual.

Evolution of Mental Functions

We know that the comparative method of examination and investigation has been one of the most useful ways of inquiring into the various biological sciences. Comparative anatomy and embryology, for example, by revealing the genetic continuity of structure, have cleared up many an obscure problem in human anatomy. A comparative study of the functions which we call mental as they are manifested by the serial line of genera in their progress up the evolutionary scale will not be as illuminating as is the case in anatomy. Yet, as we watch the evolutionary ascent of the biological ladder and observe the successively larger patterns of behavior and the constantly increasing capacity for adjustment to life conditions, we may gain a broader view of the development and purpose of those directing, coordinating and unifying functions that collectively we call the mind. Such a survey will assist us also in realizing that the evolutionary development of the mind, like the evolutionary process in organic structures, is one of hierarchical continuity, and that a highly differentiated psyche is derived, not from an original non-psychic element, but from a less differentiated psyche. This aspect of living beings that we know as mental was present from the first and not added somewhere in the process of evolution. It is a part of the biological evolutionary process.

What we call the mind may be looked upon as the adaptive patterns of purpose, of motivation, which have arisen as life has emerged from matter and through evolution have become progressively more highly organized. The psychic element exists therefore in every biological organization, and the higher psyche is derived from the lower. During biological evolution there has occurred an increasing importance of the psychological capacities of living matter and its capacities for knowing, feeling and willing. It should be remembered, however, that psychological and somatic analyses of life are merely two approaches to one and the same thing. There is a fundamental, progressive, and cumulative common character extending from the properties of excitation

and transmission observed in all protoplasm (properties which, it has been suggested, entitle it to the designation of psychoplasm) to the development of a complex nervous system and those functions we call mental. This evolutionary ascent is characterized by increasing differentiation, increasing specialization and increasing integration

Levels of Mental Functions

Since the gradations from a less differentiated psyche to a highly differentiated one are made by imperceptibly progressive steps, any attempt to divide these reactions into fixed and clearly defined levels is quite arbitrary from a biological standpoint although for descriptive emphasis it has value. Biologists and psychologists are not entirely agreed as to where such divisions should be made, but perhaps it is justifiable to speak of four levels constituting a hierarchy of mental functions: (a) The level of tropism; (b) the level of the reflex; (c) the level of instinct; (d) the level of intelligence or reflection. Tropisms are observed most typically in the protozoa; reflex behavior is the predominant type of response in such species as the annelids; instinct reaches its greatest complexity in such insects as the bee; intelligence appears in animals having a cerebral cortex and reaches its maximum development in man with his highly complex neopallium. If space permitted it would be interesting to discuss the phylogenic development of the nervous system as it parallels the progressively higher levels of integration and the accompanying progress in adjustment at the successive psychic levels, but the medical student, from his previous studies in biology and comparative anatomy, will easily refresh his memory.

Tropism

Tropism is a fixed type of behavior, or method of adjustment, characteristic of plants and certain primitive forms of animals in which the integrations are largely at the chemical level. Probably to be regarded as tropistic are certain highly adaptive instances of behavior seen in protozoa—activities some of which in higher animals would be described as examples of "trial and error." Jennings, for instance, relates that a paramecium, if it meets with an obstacle as it swims about, will first retreat and then advance in a different direction until finally the obstacle is avoided. In swimming, too, the paramecium usually advances in wide spirals, but if confined in a capillary tube too narrow to permit this movement it will swim by a rotary movement.

Reflex Adjustment

The earthworm offers a good example of the reflex level of the psyche. The stimulation of a receptor leads to a specific and constant response produced by the passage of the impulse from the receptor to a definite effector by way of determined adjustment center and conductors. While not at all on a conscious level it nevertheless shows interesting capacities for effecting adjust-

ment. For example, it is stated that when attempting to drag a leaf into a burrow the worm will seize it by the narrow end. The vegetative life of man, regulated through the autonomic nervous system and its effectors of unstriated muscle and gland, is conducted on the level of the reflex. At this level we first find inherited networks of neuronal synaptic patterns.

Instinct

In the protozoa we found that tropism represented the mechanism of adjustment, and that in the worm adjustment was secured by reflex behavior. In the insect we meet with much more elaborate behavior patterns made possible by a higher adjustment mechanism known as instinct. Behavior at this level may produce instances of exquisite adaptation. The ammophila, or solitary wasp, for example, affords an interesting example of adjustment effected by this type of behavior. As the egg-laying season approaches this insect digs a hole in the ground about 3 inches in depth, then, having found a caterpillar of a particular species, it stings the worm in one of its important ganglia, thus paralyzing but not killing the caterpillar. The wasp then proceeds to drag the defenceless worm into the burrow that has been prepared. After several caterpillars have been stored in this manner the wasp deposits her eggs upon the helpless worms which continue to live until the eggs are hatched when they are consumed by the young ammophila. Although this striking behavior is apparently intelligent the fact that it is really stereotyped and unmodifiable does not become apparent until the sequence of events (chain reflexes?) is interrupted in some way. If, for example, one pushes aside from the entrance of the burrow a caterpillar awaiting storage the wasp is unable to search for its victim, even though it be within range of sight and smell. The business of nestmaking is either abandoned entirely or the procedure started afresh, beginning with the construction of a new burrow.

From what has been said it might be inferred that reflex and instinct[1] are unallied types of behavior. Such a conclusion is unwarranted as the lower type of behavior passes into the higher by a continuous gradation. Both are innate reactions to stimuli and arise from the adjustment needs of the organism. Complex as it is, instinctive behavior, particularly in the lower forms of organisms, is an inelastic and stereotyped mechanism of adjustment with little capacity for modifiability. This fixity in the pattern of behavior is well illustrated in the case of the salmon, which was probably a fresh-water form originally and made a permanent migration seaward in some remote period. Each year now, when the procreative impulse awakens, it is impelled to return to its ancestral home to bring forth its young, even though the act proves to be suicidal so far as the individual is concerned.

[1] The term "instinct" is unfortunately used in different ways. Here it is used to indicate a genetically inherited and relatively fixed, unlearned pattern of behavior which operates in the service of the organism. The behavior pattern is probably determined by the inherited pattern of neuronal network. In a dynamic psychiatry, however, the word is used in the sense of a hypothetical energy or drive to specific aims on the part of the individual.

The concept that instinctive drives may prompt and direct our behavior is one that persons without biological training are often reluctant to accept. Not realizing that expressions of instinctive behavior may be disguised in the form of laudable activities possessing great spiritual value they feel that such a conception is one that devaluates the motives of our behavior and therefore meet it with a resistant attitude. They fail to realize, too, that if through the process of evolution extending over millions of years nature succeeded in the lower animals in developing exquisitely adapted behavior based on those urging drives we know as instincts she would not, in her most highly evolved species, discard a plan that had served her purpose so efficiently in prehuman species and create a new and untried principle governing behavior.

Any discussion of behavior suggests a consideration of motives and doubtless leads one to ask if behavior should not be interpreted in terms of motives rather than of instincts. To such an inquiry one must reply that motives are but instinctive drives which man because of his capaciy for abstract thought has been able to transform and thereby, in some measutre, conceal.

If throughout the whole range of life the driving or initiating force is derived from instinctive urges, what, it may be asked, is the function of consciousness in behavior? Its office, there is reason to believe, is largely selective and inhibitive, while to a small degree only is it creative. Similarly viewed, intelligence would be an instrument of instinct which remains the fundamental initiating condition of behavior and uses intelligence for determining how the goals of the organism can best be reached. Intelligence plays a much smaller part in determining behavior than we have been accustomed to believe. Behavior is based on a need to react, and needs do not arise out of intellectual considerations. They arise only out of instinctive and emotional drives in search of satisfaction. Intelligence is used in attaining the ends determined by these drives.

Instincts, therefore, have been considered, firstly, from an evolutionary and a physical point of view and, secondly, from a psychological standpoint. Viewed from the first standpoint they have been described as inherited patterns of action, as experience written into patterns of behavior. Psychologically, however—and in psychiatry we deal with psychological concepts—instincts are to be regarded as the innate biological urges or impulsions that drive the organism toward certain ends. They are the dynamic agents not merely for the maintenance of the individual or of the species but for creative purposes in art, philosophy and science. Returning to the use of the singular number we may speak of instinct as the constitutional factor in behavior.

Affects

Other important elements entering into the dynamics of behavior are affects and conation. While these dynamic elements must be discussed separately, their influence in determining behavior is so coordinated that they act largely as one. Affects, which may be defined as feeling-tones, are pain-pleasure ac-

companiments of an idea or mental representation. By stimulating or facilitating some instinctive tendency they exercise a strongly determinative influence in giving direction both to thought associations and to overt behavior reactions. The terms affect and emotion are often used loosely and therefore as if these two aspects of mental life were the same. This is due to the fact that the term emotion is used with many and, therefore, ambiguous meanings. Its use should probably be confined to indicate either the complex biochemical, physiological processes or functions concerned with the somatic expression of feeling, or else the patterns of behavior that express affect rather than subjectively experienced feeling phenomena to which the term affect is more applicable.

There is much to suggest that the processes, activities or patterns which we call emotion appear when there is some bar to the smooth and complete execution and satisfaction of an instinct. If there had been no interference with the satisfaction of the instinct, all the auxiliary activities stimulated by the vegetative nervous system and felt in consciousness as affect would not have taken place. When, however, there is interference with the execution of an instinctive activity the vegetative nervous system initiates such activities of the organs under its control as will assist in carrying out the activity. If, for example, there is obstruction to an activity that would serve the instinct of self-preservation, adrenalin may be poured into the blood, as a result of which the blood pressure is raised, the heart and lungs work more rapidly, the arterioles of the skin contract—all being processes that force blood into the lungs, muscles and brain, where, during the emergency, it will be of maximum service. At the same time sugar is mobilized for the production of energy in the muscles, the coagulability of the blood is increased so that wounds are less likely to be fatal, and the pupil of the eye is dilated so that the field of vision may be widened. All these changes serve to aid the instinct of self-preservation and are fused in the fields of sensation and consciousness into an affect which we speak of as fear. The subjectively experienced feeling aspect of an emotion may be regarded as an *affect*. The physiologic and psychologic aspects are, however, integrated and non-separable.

Conation

Containing components from both instincts and affects, and in many ways merely a name for the urge created by these two dynamic agents, is that striving aspect or urge of the personality for expression known as *conation*. As conations we include those intention sets of the personality having dynamic urges behind them. Here, too, one would include attitudes, or those responses determined with special reference to feeling states. Conation lacks the degree of consciousness which we usually associate with the idea of will or volition, since the individual may not recognize the affective-instinctive sources from which his action was prompted.

The concept that behavior is motivated by the psychobiologic needs of the

organism and that dynamic, striving impulses and tendencies act as prompting agents both in normal and abnormal behavior is one of the cornerstones of psychiatry. The fact that if incompatible they may give rise to neurotic reactions is the best criterion of their psychological strength and importance. Running constantly through the mental life of the individual, behavior has for its purpose the satisfaction of deeply seated, frequently unrecognized, instinctive and affective drives. If these strivings and drives, or goal-seeking impulses, find a harmonious satisfaction in socialized form the result is a well adjusted personality. If, on the other hand, compelling impulses and tendencies find it impossible to exist harmoniously beside each other, the personality may suffer such disorganization that mental disorder is said to exist. A psychology based on an attempt to discover how these instinctive impulses, affective cravings and conative strivings, the existence of which the individual may not recognize, may have been blocked in their efforts to secure satisfaction and how therefore they have sought expression in substitute, often symbolic, forms which constitute the symptoms of the mental disorder is known as a dynamic psychiatry. It is through a dynamic psychiatry that one obtains a penetrating understanding of personality disorders and their expression in behavior. In the light of such a psychiatry the beliefs and behavior of the patient are rendered intelligible. They are studied in terms of cause and effect and reconstructed in terms of beginning and development.

Intelligence

In vertebrates the modifiable and integrative aspects of behavior are greatly increased. In them appears the cerebral cortex developed for the purpose of providing a mechanism capable of elaborating, integrating and controlling impulses and functions more perfectly than had been possible with a more elementary nervous system. In fact, evolutionary stages in development are traceable in the cerebral cortex itself, associated with a corresponding hierarchy of functions. The older part of the cortex, the archipallium, is concerned with olfactory and visceral functions, while the more recently developed portion, the neopallium, is essential for the highest psychic functions. The biological purpose of its development was that the organism might thereby avoid rigid domination by reflex and instinct and secure a more flexible adjustment.

An attempt has been made to show how psychological capacities and functional activities, structures which have made them possible, have developed by successive steps. Like other biological processes they have evolved from conditions of simplicity and diffusiveness to complexity, differentiation and definiteness. They have been traced through the stages of tropism, reflex and instinct—stages, we observed, which merged imperceptibly one into the other. Similarly we find an imperceptible transition from instinct to the highest type of behavior, to that adaptive attribute we call *intelligence*. Since, from a practical standpoint, the intelligence of an organism is fundamentally

its psychological capacity for adapting to, and for making use of, its environment, it is quite arbitrary to say where in the phyletic series intelligence is acquired. In fact, intelligence probably was not at some definite stage of evolution superimposed on earlier instinctive processes but was an outgrowth of them. Those, be they species or individual human beings, that possess the greatest capacity in these respects are the most intelligent.

Consciousness

A prerequisite for that degree of adapting to, and making use of, the environment to which we apply the term "intelligence" is that mental function we know as consciousness. By it we mean a sense of awareness of self and of the environment. Its major biological purpose is to permit the organism to adapt itself to novel circumstances. How this activity develops we do not know, but it seems reasonable to assume that in common with higher mental functions in general it is a special development of lower functions; that its origin is in agreement with the general proposition that if we trace back the higher functions to their primary source we find their beginnings in the general characteristics of the living substance. While any conclusions as to the origin or nature of consciousness cannot be secured by objective observation, one, in his effort to trace it back to properties common to all protoplasm, may speculate that it goes back to the properties of irritability and response. When protoplasm—let us assume it to be in the form of an extremely simple organism such as a protozoon—is stimulated a response occurs. A response, however simple, implies a change, a difference. As evolution progresses and the organism becomes more complex and as the types of stimuli and of responses multiply one can imagine that the organism becomes gradually, but dimly, aware that modifications are induced, that changes occur in itself, a sense of comparison arises, until finally sensations are produced, an awareness of which constitutes the dawning of consciousness. These beginnings of perceptive processes undergo evolutionary expansion from the simple to the more complex until finally a conceptual consciousness with ideative and affective components is reached. Whether the dawning phases of consciousness arose in some such way can only be conjectured, but it seems safe to assume that its development was through an expanding process, a successive integration, which has progressed simultaneously with zoological evolution. At the psychological level is to be found the highest phase in integration in the continuity of nature. Looking back from this phase one notes how the inorganic integrates with the organic, the organic with the biological, and the biological with the psychobiological in which such attributes as consciousness exist. A consideration of the evolutionary process suggests that there is no sharp distinction between the conscious and the unconscious, and that conscious thinking represents the most highly developed and most fully integrated process of organizing and dealing with experience.

DEGREE OF CONSCIOUSNESS. A phenomenon that should be mentioned in the

consideration of the dynamics of behavior is that many psychobiological activities that we term mental occur without consciousness awareness. It was formerly assumed that consciousness, or sense of awareness, was a prerequisite for all those expressions of the organism we refer to as mental. While many of these psychic functions are manifested only under conditions of clear awareness, observation of mental processes, particularly of those occurring in mental pathology, reveals that many highly significant psychic processes operate under widely varying degrees of awareness and even in the absence of awareness. Most students of man's mental life agree that he is greatly influenced by unrecognized psychological forces and that much behavior originates from motives of which one is not aware in his normal waking state. Psychological motivations are undoubtedly due usually to combinations of causes of which those which are least acceptable socially and morally possess the greatest driving force and are farthest removed from consciousness, whereas those which the individual considers the most acceptable are in the forefront of consciousness and are the manifest ones.

"The Unconscious"

In order to explain many mental phenomena the features of which are not manifest, it is necessary to hypothesize the existence of a stratum of the personality referred to as "the unconscious," or unconscious mind, although it is not a mind as we ordinarily understand the term. Zilboorg describes the unconscious as "a bundle of impressions, impulses, feelings and presentations which become what they appear to us to become only when they enter consciousness; otherwise they remain more or less primitive in substance and in form." Undoubtedly there are psychological activities and states which are non-conscious and therefore beyond our conscious command. They operate without awareness and are manifested in such forms as dreams, amnesias, purposeful forgetting, mistakes, split personality and other products. There is abundant evidence that unconscious motivations exercise a fundamental influence upon behavior, feelings, decisions and interpersonal relationships. In psychopathological states it is particularly apparent that unconscious psychic forces may be powerfully active in influencing personality. Motivations often spring from causes too deeply seated to be apparent and may therefore be described as having their origin in the unconscious, *i. e.*, in such a dim periphery of conscious recognition or memory that they do not come within the scope of awareness. Emotional forces of which the individual is unaware may be in conflict and act on him in such a way as to determine his behavior even though he know nothing about them consciously. As will be discussed later conscious and unconscious forces or motivations may pursue opposite goals. Much behavior, in fact, is a complex of conscious and unconscious motivations. It is only through active repression or through dissociation that any sharp division is introduced between the conscious and the unconscious. A great deal of our knowledge concerning motivations has been acquired by the