The Position of Psychiatric Illness in Biomedical Theory: A Cultural Analysis

HORACIO FABREGA, JR.*

INTRODUCTION

In contemporary society, the positing of a disease such as diabetes occasions relatively little controversy either in the lay population or the medical community. Such a disease is viewed as costly and problematic, and controlling or treating it constitutes an important aim and concern which society entrusts to physicians. On the other hand, the positing of a mental disease such as depression is the object of much social controversy. Even the very idea of a mental disease sounds counterintuitive, since it suggests something subjective which is also extended. Moreover, the discipline whose primary concern is a disease like depression is subject to a great deal of criticism both by the lay populace and the medical profession (Werner and Fabrega 1979).

Many of the criticisms about psychiatry can be seen as directives urging that its broad area of concern should be narrowed. The criticisms are frequently stated in terms of the medical model; specifically, is it being appropriately applied in psychiatry (Szasz 1964). The more radical critics state that psychiatric problems are not really illnesses but merely problems of living, and that because of this the discipline should not be part of medicine. Others, diametrically opposed to this position, state that if emphasis in psychiatry were limited to bona fide disease entities, such as depression, then psychiatry’s concerns would be properly “medical.”

Implicit in these criticisms is the view that much of what psychiatrists deal with is really “social,” and that “disease” and “medical” involve (biologic) phenomena that are radically different in character. The criticisms, in short, reflect different epistemologies; that is, sets of orientations and aims which are grounded in different intellectual traditions (Fabrega 1974). One epistemology, herein termed “biological,” is dominated by a concern with the physical

* Professor of Psychiatry and Anthropology, University of Pittsburgh.

* The Journal of Medicine and Philosophy, 1980, vol. 5, no. 2
© 1980 by The Society for Health and Human Values. 0360-5310/80/0502-0005$1.93
substrates of disease. In this tradition, genes and neurologic processes seen in physical terms are the primary data of psychiatry and social and psychological behaviors viewed in relation to them. A second epistemology, herein termed "sociocultural," seems dominated by the symbolic nature of psychiatric problems. In this tradition, illness behaviors which make sense in a psychosocial, cultural, and political context are the primary data of psychiatry, with genes and neurologic routines accorded a minor significance. Neither of these epistemologies is wrong, but each if applied in an exclusivist way yields analyses and conclusions which are in conflict. The criticisms involving "mental diseases" and the discipline of psychiatry are very much tied to these rival and conflicting epistemologies.

The criticisms about mental disease and psychiatry are judged here partly as logically grounded in the theory of illness which is evolving in the Western world, the elements of which are insufficiently recognized. This paper provides a discussion of this theory and its implications and also an analysis of how the biophysiologic and sociocultural epistemologies are linked in it. This is accomplished by first developing the theme that illness and disease represent social phenomena and that societies as entities _sui generis_ deal with them in characteristic ways. Peculiarities of the Western theory of illness are then examined from this comparative perspective. Whenever possible, the psychiatric disease depression is used as an illustration when the status of psychiatric illness in the biomedical theory is discussed.

ILLNESS AND DISEASE IN BIOLOGIC THEORY

What we refer to by terms such as "illness" and "disease" are universal happenings in social groups. The phenomena referred to by these terms are ubiquitous and recurring. All peoples not only develop disease-illness, but they also, it seems, want to be rid of these.

Disease and illness can also be seen from a purely biologic standpoint. The conditions for illness-disease are prescribed by the synthetic theory of evolution. That is, key concepts of evolutionary biology, such as genetic variability, environment, adaptation, and natural selection, are sufficient to explain occurrences of illness and disease. In a strict biological sense, disease-illness is a factor which influences the operation of natural selection. It is one of the sources of adaptive variability which determines which organisms are selected; and if genetic factors underlie the disease-illness (in evolutionary theory, the expression of a poor organism-environment fit), these will be underrepresented in future generations.

Since man is a member of the class of living animals, one would think that the idea of disease would have scientific utility in general biology. However, though the idea is used, its meaning is ambiguous and its explanatory power can be questioned. In a previous paper, I have analyzed inconsistencies in the way the idea of disease-illness is used in biology, medicine, and social discourse more
generally (Fabrega 1979e). The discussion led me to the conclusion that a general definition of disease-illness which provides one with conditions for using the idea of disease in a human-practical as well as in a general biological frame of reference may not be possible. One needs to make explicit specific kinds of phenomena which require explanation and develop guidelines for using ideas with reference to them. I proposed that we give the general idea of disease alternative meanings. In some circumstances these meanings would be separated and in others fused.

The idea of disease as “illness” may be used to signify purely behavioral changes. In a general anthropological sense, it is a set of behaviors, judged as undesirable and unwanted in a society, which is considered as having medical relevance. It is changes in the behavioral sphere in the form of symptoms which initially concern members of a social group and lead them to seek help. Relief from these unwanted behaviors is very often the end point of treatment. Disease as illness, then, may serve as a suitable idea for explaining certain changes which are of special significance to human groups.

An idea or concept was also felt to be needed in general biology to describe an emergent set of changes in the structures and internal processes of living forms which underlie and account for their failure to adapt. The strict (reductionistic) biomedical meaning of disease seemed useful here. In referring to abstract (e.g., chemical, molecular) structures and internal processes which underlie and account for failures in adaptation and reproduction, the biomedical idea of disease can be used to describe organisms of any type. Because of its special meanings and the fact that it is used with reference to all types of living forms, the idea of a biomedical disease has a restricted utility in a human social and valuational frame of reference. The biomedical “disease” may be especially relevant for explanations about biologic evolution, whereas the social-medical “illness” seems relevant for explanations about the complementary process of social evolution.

ILLNESS IN ETHNOMEDICAL THEORY

We use the term “illness” frequently and mean by it an impairment in health and well-being. All peoples have ideas roughly analogous in meaning to ours of illness. In order to compare the perspectives of the social and biologic sciences with respect to medical problems, it is useful to stipulate a general anthropological definition (Fabrega 1974, 1976c). The term “illness” will be used to refer to a negative state or condition of the individual which is judged on the basis of social and cultural conventions to require corrective action. Inferences about the individual’s state are made on the basis of an assessment of his mode of functioning, which involves verbal reports of the person (e.g., pain, body functioning, etc.), the observations of others, and/or various “medical” procedures which the society has developed. The process of assessment of illness is called diagnosis, and requires establishing whether a person’s condition deviates. Two types of norms seem to be used to establish that a deviation is present: norms
set by the person across time (i.e., personal norms) and norms set by a relevant
group to which the person belongs during the present time period (i.e., group
norms). From a general anthropological standpoint, deviations of this type
constitute necessary but not sufficient conditions for claiming that someone is ill.
The class of ill persons of a society is actually a subset of those classed as deviant
(Fabrega 1974). As already stated, cultural conventions about well-being and
health are used to classify deviance as a general social category and illness as a
subclass of this. It is important to stress that the term "illness" refers to
dysfunctions of whole persons and has a behavioral appearance of some sort.

Illness poses a problem with which all societies grapple. The basic directives
are to prevent and treat illness and to provide a means for minimizing its social
impact. In the process of trying to control the problems associated with illness,
societies develop an understanding of their sources, their manifestations and
consequences, and of the actions (be these in the form of procedures, medicines,
symbols, or psychosocial influences) which are necessary to prevent and treat
them effectively. The total organized effort which a society generates in order to
control illness is reflected in the workings of its medical care system (MCS): a
composite of knowledge, personnel, established medical practices and resources,
behavioral expectations of practitioner and patient, and even the spatial configura-
tion of physical settings where illness is studied and treated. The MCS, it should
be noted, is a component of the society's culture, but also reflects its social
structure, level of development, and mode of ecologic coupling.

Not only in a historical sense, but also in a practical sense, the targets of any
MCS are occurrences of illness. To accomplish this, MCS has available what one
can term a "theory of illness." Through such theories, causes of illness are
explained and treatment programs rationalized. It should be reemphasized that
"theory of illness" refers to a cultural trait. In other words, it is an attribute of the
social system—specifically, of the medical care system of a particular society.
The theory of illness is what the "experts" of the society use and develop to treat
illness. This formal body of knowledge can be distinguished from the "informal"
(folk) system for understanding illness which the lay populace rely upon.
Hypotheses about the relations between these two facets of a group's MCS have
been proposed (Fabrega 1975, 1976a, 1976b). The formal theory of illness of a
group, together with folk understandings, gives a distinctive ideological cast to
what was termed the group's medical care system, which in turn can be viewed as
the group's social approach to illness. Social scientists and historians are the
individuals principally concerned with the analysis and comparison of how
societies orient to and handle illness.

GENERAL PROPERTIES OF THEORIES OF ILLNESS

Explanation about the causes of illness which are derived from theories of illness
may be viewed as providing a picture of how entities and happenings in the world
connect with the person (see below). How these entities interact and which ones
can be and are operative as posited causes of illness will differ across cultures and even within a culture across time depending on factors that need to be made explicit. This means that by analyzing and measuring how medical theories are constituted and used, one might be able to compare groups in terms of their understanding of illness. Together with additional information about the group’s adaptation, the overall adaptive value of the theory might be determined.

One can differentiate three broad semantic domains which to varying degrees are implicated in explanations of illness and directives for treatment: the domain of the person, the domain of the worldly environment of the person, and the domain comprising the other worldly or preternatural environment of the person.

With regard to the domain of the person, processes or forces eventuating in illness, whatever their nature or source, must ultimately establish contact with and then transform the person, for it is he who becomes ill. Since such processes alter the person in complex ways, this means that to varying degrees, medical explanations may elaborate on just how the person is altered. This touches on the question of a group’s symbolizations about personhood. The manifestations of illness, their bases, and their mechanisms in the person will be reflected in explanations which to varying degrees of explicitness go into the matter of how the self is constituted. One may naturally be led to expect that the sheer importance and complexity assigned to the region of the person will differ across cultures.

It must be emphasized that the accuracy or correctness of the way the person is represented in explanations of illness is not important in this type of analysis. What is important is simply the degree to which the individual is brought into the explanation as a physical and psychological structure. The implicit assumption is that social groups have to relate to a relatively complex natural world which includes the concrete person. This natural world lends itself to degrees of differentiation and codification. It is the individual by means of his culture who partitions the world and specifies its attributes along varying dimensions, though regularities in the world and in his apparatus may themselves serve to pattern and set boundaries on the processes of perception and cognition. This applies to the individual himself and to the changes produced in him by illness. In short, in the way illnesses are held to transform the individual (viewed as a concrete entity), a culture will “demonstrate” a feature of its theory of illness.

The same reasoning may be used to analyze the part of a theory of illness which involves what was termed the domain of the worldly surroundings of the person—the physical and social environment. An explanation of an occurrence of illness invariably involves agents and processes external to the individual, and theories differ in terms of how they incorporate these. Thus, the influences which are held to bring illness can stem directly from the environment or may simply have to cross it in order to reach the individual. Among nonliterate, the communication between what may be, on the one hand, preternatural influences, and on the other the actor proper, may, of course, be direct and unimodal. In many (perhaps most) instances, however, the presumed way in which such
influences establish contact with the person involves more elaborate connections in the worldly environment.

When one accepts the premise that the entities and processes of both the physical and social environment of man can be differentially implicated in illness, one is entitled to ask the following question: In a given explanation of illness which is derived from the group's theory, which of the many types of ecological elements are implicated, at what level of abstraction, and how richly and systematically are they linked with the concrete actor? Indeed, by initially simply weighing the extent to which one or the other of these worldly elements (i.e., social vs. physical) is implicated in illness, an important analytic requirement would be accomplished. A review of the literature of primitive medical systems discloses any number of ways in which the worldly region of the person is held to cause illness, and each of these "environments" involves different numbers of elements and mechanisms. As in the discussion above, one may disregard the notion of the validity of the explanation—the so-called scientific truthfulness of either its premises and/or key concepts—and focus instead on its properties as a symbolic system; that is, on the quality and degree of specificity of the symbols and on the degree of intricateness in the way they are used to produce appropriate explanations of illness. Alternatively, one would be searching for the degree to which the symbolic system articulates a differentiated environment and the complexity of the rules which explain how entities work and interact to produce illness.

Clearly, the preceding approach to the study of medical theories could also be applied to the third of the domains that can be implicated in an occurrence of illness, namely, that termed "otherworldly." It has been stated that the examination of this region involves dealing with preternatural phenomena: material, entities, powers, and the presumed modes of action and aims of phenomena seen other than as natural (Fabrega 1976a). In comparing medical theories, this "region" needs to be dealt with independently. In other words, many of a people's explanations of illness involve, in the analyst's operational model, preternatural assumptions. However, because in the people's model they are represented as natural occurrences, they are included in the worldly domain. It is those events and processes which they themselves see as outside the natural world which are included in the preternatural domain. It should be, in theory, possible to enumerate, weigh, and classify such types of preternatural agencies and apply the principles of analysis discussed earlier—namely, degree of articulation, differentiation, and systematization. The sheer number of classes of spirits and demons which can cause illness can be expected to differ. The actions of these may stem from complex deliberations which they have among themselves. There may, in fact, be limits to the ways in which these preternatural agents can produce illness. It may be possible to render by way of formulas or logical calculations what these limits are such that this region of medical taxonomies can be weighed and compared across people.
THEORIES OF ILLNESS VIEWED FROM THE STANDPOINT OF INFORMATION

In light of the discussion so far, explanations of illness can be seen as formulas which are produced by means of the group’s theory. Each “formula” contains measures which are derived from each of the three semantic domains mentioned. Because these semantic domains can be represented in different ways, an explanation may be judged to reflect “cultural information” about illness. The simplest representation of such a “formula,” which takes into account the degree of complexity inherent in the way the three semantic domains are ordered, would appear as first-order equation $I_i = S + N + P$, where $I$ is the total amount of cultural information entailed by an explanation of an illness $i$, and $S$, $N$, and $P$ stand for the amount of information “located” or tied to the preternatural (or supernatural), natural, and personal domains of the theory, respectively. One assumption that is made is that this information can in principle be quantified. Another one is that the complexity of the three domains of the theory of any one group differ (i.e., their amount of information), and, moreover, that groups differ among themselves in this regard.

In light of the preceding rationale, each occurrence of illness may be judged to pose a variable degree of uncertainty to a group. The occurrence of illness, which is problematic and disruptive, requires identification and resolution, and the explanation (arrived at by means of the theory) in a sense accomplishes this: the explanation is the group’s way of making understandable that occurrence and in doing so provides a rationale for treatment. This way of conceptualizing the way a medical theory functions should in principle be measurable. One might then see the explanation when suitably “quantified” as expressing how much uncertainty was implicit in the occurrence of illness and in turn “removed” by that explanation in that particular group at that particular point in time. Alternatively, one could say that an occurrence of illness in space and time contains a variable amount of information that members of the group or culture can use and interpret, and that they in fact do so in diverse ways by means of their medical theories. In this view of the matter, the explanation (suitably quantified) expresses how richly the group or culture has availed itself of the occurrence—that is, the extent to which group members have delved into the occurrence and ferreted out information which they judge is present and which then guides their attempts at resolving the occurrence.

Ordinarily, occurrences of illnesses are visualized as involving chemical and physiological changes and as occasioning such things as pain, disability, and emotional problems. It is important that one keep separate these sorts of matters from those which involve what has been described as the uncertainty and/or information implicit in the occurrence. The former set of issues involves the concrete burdens of illness to an individual and by extension to his group. On the other hand, the notion of information or uncertainty contained in an occurrence of illness implicates the mode of functioning of the social system of medicine of the
group: that is, how the theory is used to explain and arrive at a course of action to resolve the occurrence. In this instance, the occurrence of illness is viewed as a point source of difficulty in the group which requires interpretation and which is dealt with symbolically in the group. Although these two aspects of how illness is dealt with are here viewed on analytic grounds as separate, it should be clear that in an empirical sense they no doubt are interrelated. A science of ethnomedicine should concern itself with a capacity for relating measurements between these two aspects of illness and medical treatment (Fabrega 1976a, 1976b).

THEORIES OF ILLNESS IN A SOCIAL EVOLUTIONARY FRAMEWORK

The special human capacity for the elaborate use of symbols appears necessary for the ideas of illness, vulnerability, finitude, and death to arise. These ideas, and the experiences which they realize, together with other human social accomplishments give rise to ideas of religion, sanctity, and ethics, all of which then institutionalized may play a role in blunting strict natural selection as posited in biologic evolution. The sum of this, human culture and experience, allows for the persistence of illness in human groups as opposed to nonhumans. In other words, illness-related behaviors and medical care activities are to some extent (see earlier discussion) emergent phenomena in humanoid and human groups. Implicit in this reasoning is the drawing of a clear distinction between the processes of biological as opposed to cultural or social evolution (Cloak 1975). In the former, the concept of disease has currency, since at stake is the selection of basic biologic traits which are realized in genes, chemistries, and/or physiologies. On the other hand, in the complementary process of social evolution, one is dealing with the selective retention of key ideas and correlated social institutions which prove advantageous to the individual (and by extension, the group), and in this context, the concept of illness may play an appropriate role.

This discussion makes clear that social policies in the group regulate and certify criteria and standards of illness. Because medical theories and MCS are socially sanctioned, they are subject to political, economic, and historical influences as well. Moreover, because the social-medical practices of a people are situated in an evaluative scheme, one is allowed to make moral judgments about whether the criteria of a particular illness are sound, good, proper, practical, and useful. The discussion to this point applies to all types of societies regardless of how “primitive” or “advanced” they may be. A society’s theory of illness and its system of care (MCS) obviously change across time. The processes of variation, selection, and retention which are judged as integral to biologic evaluation can, when applied to social evolution, be seen as involving medical cultural traits of a society.

THE BIOMEDICAL THEORY OF ILLNESS

Western societies have evolved what one can term a biomedical MCS. In the biomedical theory of illness a key importance is given to physical, chemical, and
physiological changes which take place in the bodily systems of the individual. In light of the earlier discussion, one could say that in the biomedical theory of illness exclusive significance is given to the domain of the person and worldly environment. The emphasis given to the domain of the person is mirrored by the special biomedical concept, termed disease \((D_t)\), which refers to disorders of chemistries, physiologies, and anatomies. In contrast to illness, which refers to whole persons and has a structure and appearance which is behavioral, disease has a more abstracted focus: its structure and appearance is biophysiologic and rendered in a physical metric. The concept disease, since it predisposes to (or "causes") specific types of illness, may also be viewed as providing a means for reducing the amount of uncertainty (information) in occurrences of illness.

In biomedicine, a disease is held to "cause" illness or at least to explain it or to underlie it. More specifically, there is a transformation from disordered bodily organ systems (i.e., disease) to negatively valued changes in behavior and function (i.e., illness). This transformation is partly determined by the nature of the organ systems which are diseased and by the nature of the cultural system which provides symbolic conventions and codes vis-à-vis behavior. The appearance of illness involves brain-behavior interactions, and cultural factors are operative in some way (Fabrega 1977, 1979b).

In the biomedical theory of illness, a disease is held to have a more or less specific cause, and its eventuation in illness has a temporal structure of some sort which varies from illness to illness. In our system of medicine, disease (i.e., \(D_t\)) plays a critical explanatory role, but it is important that one view it also as a culturally distinctive concept (see below). In biomedicine, disease seems to be defined independent of illness: A person may never have experienced manifestations of illness to claim ownership of \(D_t\) and, moreover, if he receives optimal treatment, may never show symptoms (i.e., develop illness) during his lifetime. Nonetheless, if procedures of biomedicine (laboratory studies, family studies, etc.) generate the necessary diagnostic information, an individual can be said to "have" a particular \(D_t\) (or show probability of ownership) and for this reason to be prone to develop illness (a set of symptoms of various types) in the future and be the recipient of medical care.

The relationship which is posited to exist between disease and illness in biomedicine is diagrammed in figure 1. In this diagram a logical distinction is

![Fig. 1. —A biomedical model of disease and illness](https://academic.oup.com/jmp/article-abstract/5/2/145/899760/5214589760)
indicated between four elements, causes \( (C_h) \), diseases \( (D_i) \), and illnesses \( (I_j) \)—all of which are operative during a particular time period \( (t_k) \). The model of the biomedical theory of illness indicates that during any time interval, causes antedate a disease state which logically underlies and antedates an illness. The duration \( t_k \) applies to the antecedents of illness episodes. It is the latter which biomedicine aims to prevent and/or control. In its effort to prevent and/or control illness, biomedicine develops treatment plans \( (T_t) \) which constitute the fifth element of the biomedical theory of illness. In contrast to the other elements, whose locus in the model is fixed in the sequence described \( (C, D, I) \), a particular \( T_t \) can be placed so that it links with an element or all three of the principal elements in any time period \( t_k \).

Elements of the biomedical theory of illness are obviously not connected in a one-to-one manner, as is shown in the figure. There is not “one” specific cause for each specific \( D_i \) which produces one specific illness picture. And as stated above, the temporal structure of illness is highly variable. A cause of a disease actually refers to a set of interacting causal factors, each of which may operate during different time intervals. Moreover, a particular cause may contribute to the production of several \( D_i \), each of which in turn can give rise to one of several \( I_j \). What this means, in a practical sense, is that in the biomedical theory of illness there are many distinctive chains which link causes with disease processes and then with illness. In a social but also theoretical and scientific sense, it is these illness chains, the composites of \( C_i \), \( D_i \), and \( I_j \) during specific time intervals, which are the critical targets of biomedicine considered as a social system of medicine.

The names which are given to \( C_i \), \( D_i \), and \( I_j \) in the biomedical theory vary greatly and can stem from circumstances linked historically to their discovery. As is well known, the actual names applied to these key concepts of biomedicine often create a confusing nomenclatural system. In a fully mature biomedicine, one anticipates that critical illness chains will have distinctive names which will set them apart from others. Currently, what we term loosely a “disease” refers to \( C_i \), \( D_i \), and \( I_j \) and/or to the set of pathways which traverse through a key station whose name identifies the “disease” in question.

HOW THE APPEARANCE AND STRUCTURE OF ILLNESS IS EXPLAINED IN BIOMEDICINE

One may point to a number of factors which need to be handled separately in order to explain the way diseases lead to illness. These are disease processes, physical signs of disease, level of awareness and well-being (or state of the self), bodily perceptions, sociocognitive orientations, illness theories, theories of personhood, medically relevant environmental happenings, and illness (or illness behavior).

The word “disease” has been defined as referring to physical changes in the body. These changes are elicited or measured using biomedical procedures. Disease processes produce local-specific physical changes in the body (e.g.,
displacement, destruction, secretion, etc.) and (in the case of peripheral organs) distal-general physical changes in the central nervous system which are communicated there directly by peripheral nerves or indirectly by the blood stream. These physical effects include two types of phenomena: changes in the sense of awareness and well-being, and bodily perceptions. By sense of awareness and well-being one means general assessments about self and correlated changes in general cognitive functions (e.g., mental clarity, discrimination, alertness). Bodily perceptions are private, subjective experiences which the individual links to his or her body and which are reported through language. All languages provide users with a means of describing bodily perceptions, the "data" for this description being changes in the peripheral and central nervous system (a product of pancultural uniformities in the way the body is structured anatomically and neurologically) (see, e.g., Fabrega and Tyma 1976a, 1976b). Lexical universals have been demonstrated regarding body-part terminologies—within the body viewed as a concrete object in space—but little comparative data exist about descriptions of internal body states (though there is evidence suggesting commonalities in the semantics of some sensory experiences) (Williams 1976; Andersen 1977).

In semiotics a "sign" is viewed as something which is integral to or a physical part of that which it refers to. One can thus speak of signs of disease and mean by this phenomena which physically indicate disease, such as swellings, discolorations, lumps, and emanations from body orifices (e.g., vomiting, diarrhea, etc.). Many signs of disease are not visible to the naked eye, such as those just mentioned, but rather are hidden from view and observed or measured by the use of instruments which in effect extend one's power of observation. However, the phenomena observed and recorded are equally physical and also constitute signs of disease. Certain behaviors constitute signs of disease, and one can term these "sensorimotor behaviors." In this category are placed behavioral phenomena viewed physically. Reflexes, postural changes, muscular tone, involuntary movements, the coordination of finely graded muscular contractions, and changes in sensation, when viewed purely as physical phenomena, constitute sensorimotor behaviors, as do covert ("hidden") vegetative responses involving the viscera, blood vessels, and organs. In biomedical theory, material discussed above as the "central nervous system physical effects of disease" and "sensorimotor behaviors" appear to be regarded as signs of disease.

The language which an individual uses to describe body changes relates somehow to cognitions about illness and the self which are acquired from one's social group. The word "cognition" is used to refer to manner of orienting or interpreting and not in the Piagetian sense of operations or structures. Generally speaking, cognitive orientations of an individual (and here also, pancultural uniformities have been documented) reflect (1) uniformities in the perceptual system and (2) the organization which exists in nature (Rosch 1978). Cognitive orientations are also partly symbolic; that is, they reflect cultural conventions. Cognitive orientations serve to pattern, order, and regulate the way persons
perceive their physical and social environment and the way they behave socially.

Cognitive orientations about illness and the self are influenced by the theories about illness which a group endorses and also by their theory of personhood, each of which draws on and is complementary to the other. Both types of "theories" can be seen as systems of meanings which are grounded in symbolic conventions. They are thus products of the individual's culture and social experiences. Persons from different cultures are assumed to endorse different theories about self and about illness, and these theories influence how they interpret disease changes and how they behave and act when ill. In our culture, the biomedical theory of illness and the Western theory of personhood (which underlies this theory) strongly shape how the individual behaves during illness.

Medically relevant environmental happenings also have an impact on illness-related experiences of a person. These happenings are proximal or distal in time, are linked either to the physical or social environment, and their importance is partly dictated by the native theories of illness and personhood. In other words, what is happening to a person currently and what has happened to him in the past all can play a role in how a person behaves while ill; they can affect what he thinks of the illness, what he worries about, and how he will respond. And of course, how a person interprets social happenings is influenced by his culture, social position, education etc.—the same kinds of factors which influence the theory of illness and of personhood.

In summary, the term "illness" has been defined here as the totality of social and psychologic behavior changes (including any signs of disease) which on conventional grounds is judged to have "medical" significance in a particular society (i.e., it is disvalued, requires corrective action, etc.). A society identifies many different types of illnesses. A tendency among Western people is to view illness purely as biophysiologic phenomena, whereas it more properly constitutes a condition of the individual which is only partly conditioned by biophysiologic changes. Indeed, the structure and content of any illness (as defined here) may be explained partly as an outcome of distinctive kinds of disease processes in the body which physically alter the regulation and control of (sensorimotor) behaviors and partly as an outcome of symbolic structures or systems involving conventions about self, the body, cosmology, illness, happenings in the world, etc., which color and contextualize behavior. The latter types of structures may be thought of as accounting for the social appearance and meaning of an illness. Material from this section is summarized in figure 2.

**PSYCHIATRIC ILLNESS IN ETHNOMEDICAL AND BIOMEDICAL THEORY**

Illness has been defined as a disvalued state or condition of the whole individual and in a concrete sense is manifested in the sphere of behavior adaptation. The cultural orientations of the person who is ill and of the group to which he or she belongs plays a critical role in how illness will be enacted, interpreted, explained, responded to, dealt with—that is, the meaning given to it. An illness does not
FIG. 2

contain these latter parameters; rather, its meaning is assigned via symbolic conventions. Among some people, for example, a distinction is made between illness of the self or “of the whole me” as opposed to illness of my leg or of my joint. These are conceptualized and handled differently. One must also keep in mind that a “part” of a person is both an anatomical fact and also a social or symbolic fact. Anatomically, all people have brains, livers, hearts, and nerves. In a social symbolic sense, however, Western people are distinguished by having minds, brains, nerves; features of their knowledge base lead them to make these distinctions. A person who is ill in our culture can state that his liver is bad, that his nerves are overactive, or that he has a brain tumor. In another culture, these complaints may not be possible since these concepts are not part of their knowledge of the body. Instead, other peoples when ill will report pain due to a coldness, or to an object which has “entered” the body; weakness may be explained by a supernatural “robbing” of the spirit. The explanation of the cause of the symptom will influence behavior and actions of the person, and so, of course, will the symptom itself, viewed in a strict biophysiologic sense.

As stated above, a key premise in biomedical theory is that illness manifestations result from disease changes in the body. All people, of course, have what one could term “disease-like” explanations of how and why illness occurs. Their concepts which resemble our disease do not necessarily involve physical things, but can include life forces, energies, heat, etc. Another premise of our biomedical theory is that the domain of the body contrasts with that of the mind. Hence, we are able to speak of body and mental diseases and illness. From a general anthropologic point of view, one can say that if a person starts to act strangely and say strange things (i.e., he seems to “lose” his individuality) and also begins to function poorly or erratically in a social sense, the question of illness may arise. Based on one’s theory of illness, one could say that the illness is a result of possession (literally, somebody else is in him); illness is due to influence of the devil; he has an illness of his “mind” (i.e., the locus or essence of his will and volition is ill and disturbed); or, the physical part or organ which regulates and/or which accounts for his behavior, that is, his brain, is physically

<table>
<thead>
<tr>
<th>SOCIAL SYSTEM</th>
<th>Social Responses and Social Recognition (Social Perception—Social Labelling—Social Action)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PERSON</td>
<td>Social Behavior Changes</td>
</tr>
<tr>
<td></td>
<td>Psychological Behavior Changes</td>
</tr>
<tr>
<td></td>
<td>thinking, perceiving, remembering</td>
</tr>
<tr>
<td>SYSTEM</td>
<td>Physical Changes in Body</td>
</tr>
<tr>
<td></td>
<td>Structural-anatomy</td>
</tr>
<tr>
<td></td>
<td>Functional-neurophysiology</td>
</tr>
</tbody>
</table>

(Systems Terminology) (Ontology) (Medical Terminology) (Semiotics)
diseased. Each proposition flows from a different theory of illness. In biomedical theory, a psychiatric illness (like depression) is currently explained as the outcome of distinctive kinds of disease processes which produce neurotransmitter changes in subcortical centers of the hemispheres of the brain and/or lead to asymmetries in hemispheric control mechanisms. Such changes are held to physically alter the regulation and control of behaviors subserving cognition, action, affect, and/or attention. However, as I shall suggest later, from a social and psychologic point of view, the behaviors in question need to be seen as partly an outcome of distinctive cultural conventions (see subsequent sections).

Modern, evolved, Western-influenced societies and theories of illness allow the making of a basic distinction between mental illness and physical illness. One must appreciate the great value of this (cultural) distinction between the mental and the physical. The distinction has helped channel and focus medical research and has promoted the development of the biological sciences, general physiology, neurophysiology, and psychophysics. It is, of course, no accident that mainly modern, evolved, Western societies have a highly structured medical practice system with disciplines such as psychiatry, medicine, and neurology—that is, disciplines whose areas of focus follow our theory of personhood and illness. Cultural assumptions are obviously mirrored in social institutions. In other cultures, persons are not believed to possess minds as opposed to bodies, nor are their bodies held to have respiratory and genitourinary "systems." Man is judged more wholistically, and practitioners have a more unified theory of "disease" and illness. Since there exists a wholistic conception of man, one does not find neurologists, psychiatrists, and internists, that is, disciplines reflecting a physical segmentation of the person.

It should be noted that in this section I have made a distinction between (1) our theory of illness as one cultural theory among many others of the world, all of which serve as a basis for explaining (and rationalizing the treatment of) illness; (2) our theory viewed as one (also of many) system of meanings which individuals of a society learn and internalize and which then comes to influence how they themselves behave and how they (and others of their group) explain their own behavior while ill; and (3) our theory of illness viewed as a scientific (i.e., "correct") interpretation of disease and illness. Each of these is a key epistemological distinction (science as a cultural system, as a system for explaining human action, and as a basis for explaining the way the world operates).

Depression in the Biomedical Theory of Illness

The complexity of terminology involving depression in psychiatry (e.g., primary, secondary, bipolar, etc.) illustrates the point made earlier: the tendency which seems inherent in biomedicine to name disease entities using as indicators of them multiple criteria which are derived from any of the elements of the biomedical theory, namely, causes, physiochemical systems, illness pictures, and/or time course. As an example, so-called bipolar depression owes its specificity to four sets of factors: (1) putative genetic causal influences and (2) neurochemical
alterations in subcortical brain structures (\(D_t\) changes) which (3) can eventuate in three types of illness pictures (marked by excessive depression, excessive elation, or both, together with a range of other related behavioral changes—appetite, sleep, activity, etc.) which (4) are linked across time intervals which mark the duration of any one illness occurrence. The affective disease termed “manic depressive psychosis” is diagrammed in figure 3.

Unipolar depression can also be examined using the biomedical theory of illness (Winokur 1972). To begin with, there is probably general agreement that a state of depression such as indicated by the research diagnostic criteria (RDC) constitutes an entity of some sort, and that if the individual involved desires a form of corrective action, he or she should be allowed to pursue this. Exponents of the medical model in psychiatry would judge depression an illness. In light of the activity of clinical descriptive psychiatrists, neurochemists, and psychopharmacologists, one may reasonably infer that they believe that unipolar depressive illness is the outcome of some neurochemical state or imbalance (i.e., a \(D_t\) of some sort) which itself is the outcome of a set of antecedent causal factors involving genes and environmental factors. Social learning theorists would draw emphasis to a different set of antecedents of depression (Lewinsohn 1979). Although they themselves may not qualify unipolar depression as “illness,” it would seem reasonable to posit a biomedical chain of some sort, insofar as both types of theorists appear to hold that different kinds of interacting variables can eventuate in this condition.

The Biocultural Character of Depression

Depression has been a recurring medical problem in Western European-influenced societies at least since the time of ancient Greece (Klibansky, Panofsky, and Saxl 1964). The long history and persistence of this disease suggest two things. One of these is that basic neurobiological and behavioral mechanisms having a heritable component in Western populations constitute the basic

\[\text{Environmental Change} \quad \text{Genetic Factors} \quad \text{Chemical Changes in Subcortical Structures} \]

\[\text{CAUSE} \quad \text{DISEASE} \quad \text{ILLNESS} \]

\[\text{Fig. 3. — Manic depressive psychosis}\]
substrates which, in conjunction with environmental influences, account for the disease. In studying the neurochemistry, physiology, behavior, and genetics of depression, then, one is also studying a long-standing medical problem which is rooted in the biology of Western populations. At the same time, the long history of depression, viewed now as an illness, points to the important role which certain types of mood and self appraisals have played in Western culture as indicators of health and adaptation. Mood and self descriptors, in other words, have, when qualified as negative, been consistently singled out and linked to illness in a symbolic sense.

Rival perspectives in psychiatry draw attention to these two facets of depression: the neurobiologic substrates of disease and social and psychological aspects of what has been termed illness. Both of these perspectives when overdrawn tend to play down the connectedness between cultural and biological aspects of illnesses of all types—that is, the fact that illness is an inevitable outcome of the process of social adaptation and that both its prevalence and manifestations "make sense" in an ecologic and sociobiologic frame of reference. One can use unipolar depression to illustrate this point.

Consider how culture may affect the etiology of any disease. Habits related to diet, leisure, and exercise are examples in the case of diabetes. It would seem that the "way of life" in modern societies creates conditions which help diabetes "surface" as an illness. In the case of depression, attention has at different times focused on object losses, child-rearing influences, personality types, and life-change events. As with diabetes, one can ask whether the way of life in Western societies has played a role in producing depression (e.g., by changing the structure of the family). A basic point is that culture contributes to the formation of a distinctive ecology, including social conditions, physical-environmental factors, and genetic structures, which combine to yield diseases and illnesses of various types.

The connectedness between culture and biology is illustrated by considering how diseases surface and then are shunted in any one society. If diabetes and depression surface as illnesses, they are likely to be "sent" to private physicians and/or clinics. Obviously, neither of these diseases need be shunted as an illness exclusively: it is the meaning given to the pattern of experience and behavior of the person which influences its pathways. The meaning given to changes produced by depressive disease can influence interpretations about its biology. Thus, a social epidemiologist may "find" cases of unipolar depression in an isolated and "deviant" religious community and feel confident that a biomedical chain has produced this mode of adaptation. However, it is obvious that the individual concerned may not be regarded as ill either by himself or others. In light of what is known about patterns of medical care use in our society, the epidemiologist is likely to find fewer "secondary" depressions and a different sex/prevalence ratio in this setting than if he conducted his search in a medical setting. Any number of "biological" findings may differ in these two groups of
Horacio Fabrega, Jr.

depression, a consequence of mode of adaptation and not just a disease process, creating problems of interpretation. In summary, social conventions play an important role in negotiating what constitutes adaptation and illness and shunting individuals about in the society. These conventions influence the social selection of patients and “cases” which, in turn, can color generalizations that may be drawn about psychiatric illnesses.

The connectedness between biological and cultural factors also applies to the manifestations of illness. In a recent review of the literature reporting on the manifestations of depression across cultures, Marsella has concluded that depression does not assume a universal form (Marsella, in press). This finding is consistent with observations of other culturally oriented psychiatrists (Prince 1968; Kleinman 1977). Of special importance was the finding that psychological aspects of depression (e.g., depressed mood, guilt, feelings of self-depreciation, purposelessness, etc.) seen in people from Western and modernizing nations oftentimes are not seen among non-Western peoples. Somatic aspects were noted quite frequently, regardless of culture. Oftentimes, only when non-Western persons became Westernized did the anticipated psychological aspects of depression emerge. Alterations in somatic functioning—“vegetative depression”—thus appeared not to be correlated with the characteristic emotional experiences seen in Western patients. Whether a depression in the operation of psychological processes (e.g., psychomotor retardation) is commonly found among non-Western persons was not reported.

This review suggests that the traits for depression (the disease) are widely distributed in human populations. However, the close link which appears to exist between depression and special types of mental experiences and social behaviors in Western populations indicates that social and cultural factors of necessity have to be taken into account in trying to understand the significance which depression has in a general biologic context. A basic question which one might ask is why depression “surfaces” with certain psychologic features in one type of society, why it surfaces as a different form of illness in another, and what other colorations it might have in different cultural settings.

On the Appearance of Depressive Illness

Analysis of the appearance of depression is facilitated if one distinguishes between emotion as a basic category of human experience and emotion as a symbolic domain which is lexically coded—which languages “capture” in a direct and explicit way. All indications are that emotions are probably universal, and that the structure of affective experience also has universal features (Ekman 1971; Osgood, May, and Miron 1975). However, the prevalence of linguistic labels for emotions may vary in frequency across societies. By means of lexically encoded emotional terms, one is able to speak and think more precisely and elaborately about internal subjective states. In a fundamental way the domain of emotion and that of the self impact on each other semantically. Besides serving as
If a semantic domain is richly encoded (i.e., if words of a particular category are prominent) in a group’s language, one can assume that the domain is important in a social and cultural sense. The domain, in other words, not only has been clearly demarcated from related domains but has been differentiated as well. This appears to be the case with emotion in our culture, with the effect that social relations, bodily experience, and the self are linked semantically and in an elaborate way through emotion and related mentalistic terms (Prince 1968; Leff 1973, 1977; Kleinman 1977; Marsella, in press).

The points just discussed can be used to illustrate the connectedness which exists between things we describe as biological as opposed to cultural—or, to return to the original theme of epistemologies, to the biological as opposed to the sociocultural side of medical problems. In Western populations, depression (the disease) and conditions of social disarticulation appear to be elaborated in mentalistic and emotional terms. It is very likely that this is partly a consequence of what anthropologists term the “psychic unity” of man. This is to say that all people, regardless of culture, are likely to feel “down” and “bad” when things go awry for them either socially or physically. However, to a certain extent the similarity which these conditions show is also partly a consequence of the fact that the psychic sphere, considered as a semantic domain, is richly encoded and symbolically important in Western cultures. The fact that our (lay, cultural) theories of illness and of personhood draw heavily on emotion and related mentalistic premises serves to further ambiguate the appearance of these conditions.

If one wishes to conduct a comparative analysis of depression the disease and/or to assess its general significance across human populations, a number of factors already mentioned need to be analytically separated. Some of the factors which need to be distinguished are summarized in figure 4. In this contingency table, conditions of individuals (i.e., $A =$ depression; $B =$ social disarticulation) are set against parameters of the social system. Each of the conditions of

<table>
<thead>
<tr>
<th>PERSONAL SYSTEM</th>
<th>SOCIAL SYSTEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurropsychiatric Depression</td>
<td>True Prevalence</td>
</tr>
<tr>
<td>Social Disarticulation</td>
<td></td>
</tr>
</tbody>
</table>

**FIG. 4**

162
individuals can be assumed to be correlated with three sets of changes, namely, subjective states of awareness (in principle, held to be unmeasurable), changes in behavior, and physical states of the body which can be measured biomedically. The complexities which can be created by factors listed in the table can be illustrated by considering conditions of individuals singly and in relation to parameters of the social system. Thus, if the two conditions could be measured unproblematically, then it would be possible to arrive at their frequency in different societies. It should be clear that (1) condition A requires a biomedical metric which could be applied to all societies, (2) condition B requires a social metric which would require consideration of culturally specific factors, and (3) only by the use of both could a true prevalence for these two conditions be estimated (col. 1).

In Western cultures, until only recently, conditions A and B have been compounded largely because suitable metrics for their measurement have not been available. To some extent this is still true, however, and for the three reasons already mentioned: (1) there is not yet available a physical marker that serves as a necessary and sufficient basis for biomedical diagnosis; (2) social factors and cultural conventions lie behind and influence how depressive disease are measured, shunted, and searched for; and (3) mentalistic and emotional terms importantly color the appearance of these two conditions.

These points suggest that measuring the true cross-cultural prevalence of depression is a complex enterprise which will require the application of both biological and cultural modes of analysis. In the figure, the columns marked “behavioral appearance,” “social significance,” and “institutional location” draw attention to areas where cultural factors may prove especially influential in the way these two conditions distribute in a society. The table could be used to study other societies or different social groups within our own society. Thus, it is probably the case that the cells of the table would be occupied by different parameters where men and women of our society are to be compared.

*Generalizations Drawn from a Biomedical Theory of Depression*

Basic concepts of the biomedical theory of illness have been reviewed. These include such things as illness, disease, causes, time interval, culture (including conventions about self, emotion, social behavior, illness, deviance, etc.), social structure, and MCS. The purpose of a theory is to explain phenomena and enhance understanding by guiding empirical research efforts. One may point to six general problem areas to each of which a general theory of illness should be applied: origin and sources of disease, disease to illness transformation, social labeling and responses to illness, social pathways of illness, effectiveness of treatment, and costs of disease-illness containment. As discussed in earlier sections, any of these areas tends to impact on others, and in general both sociocultural and biologic factors are interrelated in most instances (see next section).
The Journal of Medicine and Philosophy

The discussion has emphasized that illness constitutes the basic datum which points to a medical problem and which allows assessing treatment. This point requires emphasis because there is a tendency to presume that research programs with exclusive emphasis on neurochemistry and neurophysiology (i.e., aimed at diseases) will provide the "keys" to solving the problem of psychiatric illness. Such studies are, of course, crucial. However, disease and their causes can only be posited when objective and concrete episodes of illness are prevalent, and an understanding of them (including what gets labeled as illness and how) is obviously an outcome of social and cultural as well as ecological and neurobiologic factors. Moreover, in order to evaluate a treatment plan, one must monitor individuals for possible occurrences of illness and take cognizance of the many controlling influences on behaviors which can signal it. In the case of depression, the researcher has added difficulty of determining whether certain social behaviors signal an underlying disease, represent "natural" reactions to social circumstances, or are used expressively to symbolize an individual's view of his position in life.

Depression appears to pose special problems because its manifestations can be easily masked and also because in any society many of its manifestations may not be viewed as medical or "pathological." This means that individuals at risk and "normals" should be followed systematically and evaluations made of how they cope with bodily, emotional, and behavioral changes which may resemble the manifestations of depression but which may be mistakenly judged as "natural" concomitants of adult life (i.e., as socially expected). Such a course of study must of necessity be interdisciplinary and comparative. Even psychopharmacologic investigations require that social factors be entertained, since social class and ethnic background may be posited to influence (through the mediation of belief systems, coping styles, response sets, etc.) how an individual perceives, evaluates, and is affected by the physiologic effects of any psychotropic medicines he may be taking.

A working assumption is that in all societies and cultures depression constitutes a possibility for illness. A basic question is which of the many types of depression that biomedicine currently recognizes is unique to (or more common in) Western and/or modern societies, and which is unique to (or more common in) other types of societies, and which is universal to all societies. Clearly, cross-cultural studies of a social epidemiologic type are needed in order to establish this. Such studies may also help clarify problems of nomenclature. As an example, were one to study depressions in societies where there exist different opportunity structures involving alcohol, drugs, and deviance models, rates of so-called primary and secondary depressions may appear very different (Winokur 1979). If the distinction between primary and secondary depressions is a culturally spurious one, it is important that this be clarified, for a clearer nosology obviously facilitates research and treatment.
Horacio Fabrega, Jr.

Psychiatry and Its Relation to Social Problems

In the recent past, "social problems (e.g., racism, crime, family instability) have been seen as important concerns of psychiatry. This implied that the problems somehow reflected mental illness or at least the absence of mental health. Enthusiasm for and policies of funding of community health centers seemed predicated on the belief that such centers would eventually "treat" and "correct" the social problems or "illnesses" of the society.

Social problems cannot be loosely equated with mental illness. Each of these "problems" reflects interconnected social processes that are outcomes of technological development and modern civilization in general. Moreover, many of the "social problems" reflect who is doing the viewing and the labeling, as well as the reporting and description. However, although "social problems" are properties of complex social systems and need to be understood in a social science framework, it does not follow that they are entirely unrelated to (and therefore outside of) the concerns of psychiatry and of persons desiring a scientific understanding of illness.

There are several ways in which "social problems" may be said to have a clinical relevance. Individuals who are implicated in and/or touched by the various "social problems" experience obvious personal difficulties as a result. For example, rape, poverty, sexism, and racism can cause hardships to individuals leading them to seek help of various types. The "need" of such people has been a concern of the body politic and in a basic humanitarian sense, compels some form of ameliorative social action. Moreover, given the holistic character of man, it is very likely that such hardships and "stress" when intense and prolonged will be reflected in psychobiologic symptoms, as well as in difficulties in social adjustment. Bona fide diseases of many varieties can be precipitated and/or aggravated. At the same time, the social difficulties can lead to a psychologic demoralization which raises the question of psychiatric illness (discussed earlier). Consultation with nonpsychiatric physicians and psychiatrists, as well as with other types of mental health professionals, can result. Such professionals obviously need to be informed about the nature of the "social problems"—the forms they take, the kinds of people affected by them, the kinds of personal concerns that they draw on, and the effects that they can produce.

There is a second way in which "social problems" have a clinical relevance. It is scientifically defensible to regard the category of persons judged at any one point as deviant and/or maladjusted as a large and inclusive class that may embrace persons ill with diseases not yet well understood. A point made several times is that psychiatric diseases lead to general impairments of social and psychologic functioning and not necessarily to illness as defined socially. Although there undoubtedly exist uniformities in the way some psychiatric illnesses are labeled (Murphy 1976; Neugebauer 1979), studies having a his-
torical, social, and anthropological focus also point to the conventional character of illness, adaptation, deviance, and marginality (Fabrega 1974, 1979a; Lewis 1975). As emphasized earlier, a society's MCS evolves by refining its criteria for illness and (in the West) by discovering new disease processes. The determination of what is illness and how it should be handled, however, is not exclusively a biological question but involves other institutions. As an example, there now exists literature linking asocial behavior to differences in autonomic nervous system functioning. An obvious question is whether these differences are to be judged as the "disease process" which produce the "illness" consisting of asocial or psychopathic behavior (Mednick and Christiansen 1977; Hare and Schalbert 1978). This question is not exclusively biological but also social, legal, and political. As stated earlier, illness is a social category and biological information is but one category of information needed for the stipulation of what illness "is" (Fabrega 1979c, 1979d, 1979e).

In a general frame of reference, a theory of illness is a device which promotes the understanding and control of illness and also facilitates social planning, which is aimed at lessening the burden of medical and related problems. With this in mind, there are at least three ways in which "social problems" are relevant in the biomedical theory of illness. Scientific studies prompted by this theory may show that, what from a macrosociological perspective constitutes a "social problem," to the individual may act as a stressor and either precipitate or aggravate known disease conditions. The theory may also lead to the discovery of causes or disease conditions which account for illness conditions heretofore thought of as deviant behavior or social maladjustment. Finally, studies prompted by the theory may allow quantifying the social impairments linked to illness and thereby provide a means for comparing the cost to society of medical as opposed to social problems. Comparisons of this type may provide empirical data which can be used to set priorities and guidelines for the prudent use of resources.

**SUMMARY AND CONCLUSIONS**

This paper presents the argument that the character of illness in psychiatry requires embracing phenomena which falls outside the area of concern of basic biologic sciences. The argument is developed by introducing the idea of a "theory of illness," a cultural trait of a society, and by examining features of our biomedical theory of illness. The disease "depression" is then examined in terms of this theory. A basic point made is that an appraisal of any medical system involves dealing with social factors and cultural conventions. Another one is that the effective and prudent application of biomedical knowledge requires dealing with neurobiologic as well as social and cultural factors that in a complementary fashion provide understanding about the organization and meaning of behavior. An emphasis on the organization and meaning of behavior, with the aim of uncovering illness conditions which can be effectively controlled, is and very likely will continue to be a central concern of psychiatry.
REFERENCES


Fabrega, H., Jr. "Elementary Systems of Medicine." Culture, Medicine, and Psychiatry 3 (June 1979): 167–98. (a)

Fabrega, H., Jr. "Neurobiology, Culture, and Behavior Disturbances." Journal of Nervous and Mental Disease 167, no. 8 (1979): 467–74. (b)


Fabrega, H., Jr., and Tyma, S. "Language and Cultural Aspects in the Description of Pain." British Journal of Medical Psychology 49 (1976): 349–71. (b)


Lewinsohn, P. M. "Depression: A Social Learning Theory Perspective." Lecture delivered at the University of Pittsburgh School of Medicine, April 1979.


