PSYCHOSOCIAL AND EPIDEMIOLOGICAL CONCEPTS IN MEDICINE

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Psychosocial And Epidemiological Concepts In Medicine

This chapter will present some of the concepts of psychosocial medicine as they relate to psychosomatic disorders, particularly in groups. This will involve an examination of the epidemiology of psychosomatic disorders, their frequency and distribution, the demographic characteristics of the afflicted, and changing patterns of susceptibility and illness. Then we will look at some of the ideas about relationships between sociocultural processes and health or illness. In this chapter, the term "psychosocial medicine" refers to the health and illness of groups.

In any discussion of psychosocial medicine, we should be aware of certain unanswerable questions. Can we attribute psychosomatic illnesses and behavioral disorders to sociocultural processes? When a sufficient number of individuals within a group becomes ill, should the entire group be labeled a "sick society"? Can an entire group react, analogous to an individual, in such a way that it becomes ill? Although we cannot find definitive answers to these questions, we know that numbers of persons, groups, can display similar reactions, that they may be predisposed to mental and psychosomatic illnesses, possibly by learning and conditioning, and that certain illnesses may become epidemic as a result of that predisposition, perhaps by conditions leading to shared "definitions of the situation," or even by contagion.

In his introduction to *Psychosocial Medicine: A Study of the Sick Society,* Halliday states that:

> A group, like an individual, may be viewed both physically and psychologically. ... If [the physical] needs are not satisfied its "physical health" declines and the group becomes a *sick population* characterized by high rates of sickness and death due to reasons such as malnutrition, infectious diseases, infestations, and so on. In its psychological aspects a group appears as a society with psychological or social needs. If these needs are not satisfied, its "psychological health," which is also its "social health" declines and the group becomes socially sick, that is, a *sick society.* The medical approach to the study of the sick society is called "psychosocial medicine." [p. 10]

Our concepts of psychosocial medicine extend back to Hippocrates' *Airs, Waters, and Places* which deals specifically with the influence of the environment on the organism—not only physical factors such as climate and the character of the terrain, but also socioenvironmental factors such as the habits and the child-rearing practices of various peoples as they relate to health and disease. His treatise, therefore, may be considered as the first essay on ecologic medicine.

Hippocrates described some specific psychosomatic afflictions and associated their frequency with certain sociodemographic characteristics. For example, in comparison to other peoples, the nomadic Scythians were an infertile group. He attributed their infertility to their constitutions: "They are stout and fleshy in appearance; they have ill-marked joints, and are flabby

and lacking in tone; their lower alimentary canals are moist beyond the ordinary." He related both their constitutional deficiencies and their infertility to their habits and customs. Wealthy Scythians spent almost all of their lives on horseback. The men developed edema and severe varicosities of their lower extremities while the fat, indolent women had menstrual difficulties: "The monthly cleansing process does not take place in proper fashion, but is scanty and of short duration." But the impotence and the menstrual difficulties, Hippocrates noted, were diseases only of the wealthy who could afford horses. The poor, who walked or ran while the tribes moved from place to place, did not have these afflictions. Hippocrates stated that the wealthier Scythians' manner of life was one factor responsible for their infertility. As further etiological evidence, he noted that: "an important proof of this is furnished by their female servants; for no sooner do they have intercourse with a man than they become pregnant, this being due to their lives of hard toil and to the sparseness of their frames."

In this classic, Hippocrates supplied us with an explanatory model for examining populations and their illnesses in a psychosocial context. Life styles, which were directly related to social class (in conjunction with constitutional factors), affected both the men and the women in ways which resulted in infertility in the upper classes. In addition to pointing out that the frequency of infertility varied with social class, he noted that the child-rearing practices were influential. In contrast to other peoples, the wealthy Scythians

did not swaddle their children, but instead, just allowed them to ride in wagons. Although Hippocrates does not state explicitly that the children were neglected by not being swaddled, he intimates that their life style was conducive to the development of their constitutional deficiencies and thus their infertility.

This ancient description of the relationship between sociocultural processes and psychosomatic illness furnishes a background for looking at the psychosocial aspects of psychosomatic disorders. A rationale for this approach is provided by the studies which have shown repeatedly that psychosomatic disorders are unequally distributed within and between populations. Also, at times certain psychosomatic afflictions have been epidemic; some examples are tarantism in the Middle Ages, fainting in the Victorian Era, and coronary heart disease today.

In an editorial in *Science,* Stallones quotes Andrija Stampar: "No matter what the number of physicians may be, they will never improve people's health by individual therapy." Stallones does not minimize the importance of direct medical care but he does assert that the major health benefits of the last century ". . . have resulted from the operation of undirected, nonspecific influences. Advances in medical knowledge and the decline of disease are simultaneous results of a general improvement in the quality of life." He maintains that: "To define, explain, and gain control of the various and

extremely effective determinants of disease requires a deep appreciation of the ecological systems of which they are a part." He concludes that different environmental experiences are responsible for differences in the frequency of illness between different populations and that substantial improvements are possible if ". . . we are able to understand and control the general environmental factors contributing to disease."

Both the unequal distribution of illnesses within a given population and the significance of the social environment have been shown by Hinkle and Wolffs prospective studies of health and disease over a period of more than twenty years. Working initially with a healthy, homogeneous population, they found that episodes of illness were not randomly distributed; instead, the most frequently ill 10 percent of the subjects experienced 34 percent of the total sickness disability in contrast to the healthiest 10 percent who experienced only 1 percent of the total sickness disability. The ill group was also found to be accident prone. A positive correlation was discovered between what was characterized as a "good attitude and the ability to get along with people" and a low frequency of illness. No differences in the childhoods of the two groups were found but the group with the highest frequency of illness was characterized as "unhappy, insecure, discontented, and with a large number of interpersonal problems." The difference in the rates of absence from work was hypothetically explained by the correlation between the frequency of illness and both unfulfilled expectations and

perceptions of a stressful life.

The results from their extended work with five different populations (100 Chinese immigrants, 76 Hungarian refugees, 1527 skilled workmen, 1700 semiskilled women workers in New York City, and 132 recent college graduates) were remarkably similar to their earlier findings. Episodes of illness were not randomly distributed among the members of any of the groups; in each of the groups, during twenty years of adult life, 25 percent of the members experienced approximately 50 percent of all the episodes of illness. The healthiest 25 percent in each group experienced less than 10 percent of the total number of illness episodes. Furthermore, differences in susceptibility to illness were not limited to any specific syndromes:

> In every group the members displayed a difference in their susceptibility to illness in general, regardless of its type, or of the causal agents apparently involved. Thus, as the number of episodes experienced by an individual increased, the number of different types of disease syndromes that he exhibited increased also. Although a great many of these syndromes might involve one or two organ systems, episodes of illness were not limited to a few systems; instead, as the number of episodes of illness experienced by an individual increased, the number of his organ systems involved in disease increased also. Likewise, as the number of episodes he experienced increased, he exhibited illnesses of an increasing variety of etiologies. He was likely to have more "major," irreversible and life-endangering illnesses, as well as more "minor," reversible and transient illnesses. Finally, as the number of his "bodily" illnesses increased, the number of his "emotional disturbances" and "psychoneurotic" and psychotic manifestations (here categorized as "disturbances of mood, thought, and behavior") usually increased also.

These findings have been obtained consistently in each of these five groups, regardless of the sex, race, culture, economic or social background, environment or life experiences of the people studied.

Then Hinkle and Wolff found that their subjects had peak periods in which the number of illness episodes appeared as clusters of different syndromes, of varying degrees of severity, and from several etiological sources. They concluded that "efforts to adapt to the social environment are to some degree involved in the majority of all of the illness episodes that occur among the adult population." They emphasize that the state of the host is only one determinant of illness, that a man's susceptibility to illness is influenced by "his relation to the society in which he lives and the people in it." Their studies yielded no evidence for labeling any special category of disease as psychosomatic; instead, they think that all forms of illness are influenced by reactions to life situations and the patient's relation to his environment.

Table 25-1. Frequency and Distribution of Psychosomatic Illness

AUTHOR	YEAR	PERCENT OF SAMPLE WITH PSYCHOPHYSIOLOGICAL SYMPTOMS
General Populations		
Hollingshead and Redlich	1958	7-13
Leighton et al. (Stirling County Study)	1959	59
Srole et al. (Midtown Manhattan Study)	1962	60

Pasamanick	1962	3-65
Surveys of Medical Practice		
Watts	1962	26.5 (Great Britain)
Crombie	1963	40
Kessel and Munro	1964	1.68 (Scottish town)
Finn and Huston	1966	20
Mazer	1967	30
African and Aboriginal Societies		
Leighton et al.	1963	84 (Yoruba)
Kidson and Jones	1968	1.4 (Australian aborigines)

Hinkle and Wolff found, therefore, that illnesses were unequally distributed within the five homogeneous groups they studied. A look at the epidemiology of psychosomatic disorders and psychophysiological symptoms in a number of different populations in various parts of the world reveals varying frequencies in different populations.

Frequency and Distribution

It appears that the frequency of psychosomatic illness, and particularly psychophysiological symptomatology, has been rising since World War II. As shown in Table 25-1, both epidemiological studies and surveys of physicians'

practices have shown that psychophysiological illness is a common affliction (see references). In the Stirling County Study, the psychophysiological symptom pattern turned out to be the most common, present in 59 percent of the total sample. Of the respondents in the Midtown Manhattan Study, 60 percent had somatic complaints. In their study of psychiatric treatment patterns in New Haven, Hollingshead and Redlich reported psychosomatic reactions in 7-13 percent of patients in various social classes. In a survey of Baltimore households, conducted in 1961, Pasamanick found a prevalence rate of 3.65 percent for psychophysiological disorders.

In our epidemiological study of a southeastern county which is in the throes of social change, we are finding that large numbers of people are ill with various types of diseases. In a preliminary random community sample of 322 adults, 31 percent were rated as impaired according to our criteria of social psychiatric impairment; 42 percent reported psychophysiological illnesses; and 42 percent were rated as having some degree of physical illness (27 percent mild and 15 percent moderate or severe).

Of the more than 1600 respondents in our major community sample, 7 percent reported that they had had peptic ulcers, 3 percent asthma, and 8.6 percent reported having had hypertension at some time in their lives. About 6 percent reported having a “nervous stomach,” 8 percent symptoms of indigestion, and almost 10 percent headaches at the present time.

Physicians' surveys also attest to the high frequency of psychosomatic illnesses and psychophysiological symptoms. Finn and Huston's analysis of medical practices in Iowa disclosed that about 20 percent of the adults consulting physicians had psychosomatic illnesses. In a study of psychiatric conditions in general practice, Mazer reports that 30 percent of the medical patients were diagnosed as psychophysiologic. Kessel and Munro's summary of surveys from Scotland, Australia, and London, and Watts' study of general practitioners in Britain report a great variability in one-year-period prevalence rates in various communities, ranging from 1.68 percent in a small Scottish town to 26.5 percent in Britain. Maintaining that a strict enumeration of psychosomatic disorders in medical practice is misleading, Crombie concludes that 40 percent of patients going to practitioners had mixed organic-emotional illnesses.

These findings, notwithstanding variations in methodology and results, illustrate that the prevalence of psychophysiological illnesses is a health problem of substantial magnitude. Furthermore, evidence of the increasing frequency of psychosomatic disorders, e.g., peptic ulcer, diabetes, and especially coronary heart disease, indicates that these illnesses can be regarded as epidemic, at least in Western societies.

It may be argued that this increase is more apparent than real because the population at risk is larger for a number of reasons; e.g., many would have

formerly died early deaths from infectious diseases before antibiotics were discovered. Spain, however, concludes from an analysis of vital statistics that there is considerably increased morbidity and mortality from psychosomatic illness, and that the base has moved toward younger age groups.

Early investigators believed that psychophysiological illnesses were unevenly distributed throughout the world, prevalent in industrialized societies, but relatively rare among primitives. Studies by Kidson and Jones, Leighton, et al., and Seguin, for example, found great variability in primitive societies, ranging from 1.4 percent in Australian aborigines to 84 percent in the Yoruba in Nigeria.

With increasing industrialization throughout the world, parity may be reached in terms of distribution of psychosomatic illnesses. However, data concerning this distribution and particularly transcultural comparisons, are difficult to evaluate and are obviously subject to erroneous interpretations because the epidemiological task is complex and social psychiatry is in its infancy.

Demographic Characteristics of the Afflicted

Age

Table 25-2 summarizes the findings of major epidemiological studies

with reference to age and psychosomatic disorders. Although psychosomatic disorders do occur in children, they are generally considered to be afflictions of adult life. The authors of the Midtown Manhattan Study found that psychosomatic symptoms increase with age. However, they did not sample subjects aged sixty and older. In our preliminary community study, we also found a linear relationship up to the age of sixty; psychophysiological illness was present in 37 percent of those under the age of thirty, 41 percent in those between thirty and forty-four years old, and 51 percent in the forty-five- to-fifty-nine age group. But in those over the age of sixty, the percentage with psychophysiological illnesses dropped to 43 percent. It should be noted, however, that most of our respondents over the age of sixty, about 80 percent, had physical illnesses of some type; as the percentage with psychophysiological illnesses among the elderly diminished, the percentage with physical illnesses increased. The elderly, as a group, are more and more plagued by ill health. Harrington, in discussing "the golden years," paraphrases Yeats, "(This) is no country for old men."

Table 25-2. Relationship of Age and Psychosomatic Disorders

AUTHOR	YEAR	AGE GROUP	RESULTS
Leighton et al. (Stirling County Study)	1959	30-70	Increase with age
Srole et al. (Midtown Manhattan Study)	1962	All ages	Increase with age

Finn and Huston	1966	15-64 -15, 65 +	Increase with age Prevalence diminished
Pasamanick	1957	-15, 65 +	Prevalence diminished
U.S. National Health Survey	1960	35-54	Highest incidence of peptic ulcer in men
Mazer	1967	45 +	Fewer psychophysiological disorders in men

Earlier, Halliday suggested that a rising frequency of psychophysiological symptomatology in younger age groups was evidence of greater incidence of psychosomatic illness. He found that peptic ulcer affected increasingly larger numbers of young people in Britain in the 1930s. He contended that these age shifts were due to the accumulation of persons who were predisposed to psychosomatic illness because of changes of conditioning during childhood. Studies found somewhat lower psychophysiological illness rates for the adolescent-young adult group and the elderly group. This may indicate an inverse relationship between psychosomatic illness and depressive illness, since the latter appears to be increasing in these groups.

Sex

The male-female ratio for psychophysiological symptoms in recent times has been reported by various investigators as 1 to 1, 1 to 3, and 2 to 3. In our research with medical patients we found that women expressed

significantly greater dissatisfaction with their bodily parts and functions than men. Although we were not attempting to delineate psychosomatic entities, we concluded that women tended to somatize while the men were more stoical. In our recent community study, 47 percent of the women were found to have psychophysiological illness in contrast to 32 percent of the men. Certain illnesses such as peptic ulcer and asthma were more common in the men than in the women, while hypertension, for example, was reported almost twice as often in the women than in the men.

Marked shifts in the sex ratio were described by Halliday as being characteristic of psychosomatic disorders. Surveying this point historically, he notes that there was a reversal of the sex ratio for both diabetes and peptic ulcer from the nineteenth to the twentieth century. In the nineteenth century, peptic ulcer, which Dragstedt has called "the wound stripe of civilization," was a woman's disease, but it became primarily an affliction of men in the present century. Halliday notes that "the official *Medical History of the (First) Great War* did not even mention the term 'duodenal ulcer'." In the United States, although more men than women suffer from peptic ulcer, the ratio has changed in the last few decades from at least 4 to 1 to 2.5 to 1.

In our community study, 10.3 percent of the white men and 5.6 percent of the white women reported having had peptic ulcer at some time in their lives, but in the blacks this large sex differential was not present, i.e., 5.7

percent of the men reported having had peptic ulcers, as compared to 4.5 percent of the women. Coronary heart disease is much more frequent in men than in women, at least 2 to 1, but the sex difference diminishes with increasing age.

Data concerning the disproportionate sex ratios of various psychosomatic diseases have been given sociocultural interpretations by Halliday, Jennings, and others. Fluctuations in sex ratio probably reflect the fact that social change does not exert a uniform influence on both sexes simultaneously. On the contemporary social scene, as women move out of their traditional roles to participate more actively in the occupational and social fields previously dominated by men, they are exposed to added stresses. During this transition, there is greater role conflict and ambiguity, particularly for women. In fact, the "identity crisis," which is being conceptualized as a discrete illness entity for youth, may also have to be applied to many women, at least to the career women and working mothers. As they are subjected to role strain, susceptibility to both well-known and newer forms of psychosomatic illness is likely to increase. Perhaps we will see some convergence of differential psychosomatic sex ratios. But genetic and endocrine, as well as social factors, are influential in determining different reactions; even with comparable social stresses on both men and women, it is likely that some disorders will continue to be more frequent in one sex than in the other.

Social Class

Although Karl Marx once said that: “It is not the consciousness of men that determines their being, but, on the contrary, their social being that determines their consciousness,” and novelists from Dickens to Steinbeck have described the misery of lower-class status, Hollingshead and Redlich’s work called our attention to the inverse relationship between social class and the prevalence of psychiatric illness, including the psychosomatic. Their lower-class patients somatized complaints to a greater extent than did the upper-class patients. Crandell and Dohrenwend, reviewing both the Midtown Manhattan and Stirling County Studies, concluded that there is “a distinct tendency for lower-class groups to express psychological distress in physiological terms.” Table 25-3 summarizes the findings regarding social class from a number of studies.

Most observers of our social scene have found that the lower class is afflicted with a greater frequency of illness of almost all types. We found that psychophysiological illness was much more prevalent in lower-income groups, i.e., present in 52 percent of those with annual family incomes of less than $3000 per year, and in 66 percent of those with incomes between $3000-5999 per year; but the figure dropped to 25-30 percent in the higher-income groups. A larger percentage of our lower-income respondents than those with higher annual family incomes had physical illness and also more

lower-than higher-income respondents were rated as having social psychiatric impairment. For example, 67 percent of those with annual incomes under $3000 and 45 percent of those with annual incomes of $3000-5999 per year had physical illnesses, in contrast to 21-30 percent of those with annual incomes above $10,000. And 49 percent of those with annual incomes of less than $3000 and 42 percent of those with incomes from $3000-5999 were rated as having some degree of social psychiatric impairment, but impairment rates declined to about 15 percent in higher-income groups.

Table 25-3. Relationship of Social Class to Psychosomatic Illness

AUTHOR	YEAR	RESULTS
Hollingshead and Redlich	1958	Frequency of psychophysiological reactions inversely related to social class
Leighton et al.	1959	Psychophysiological disorders more common in poorly integrated communities
Stamler et al.	1960	High frequency of coronary heart disease in males in all socioeconomic groups
Srole et al.	1962	Inversely related to class Arthritis Hypertension Neuralgia Positively related to class Colitis Hives Hay fever Other illnesses showed only erratic relationships with class

		Bell-shaped curve for hypertension
Pasamanick	1963	U-shaped curve for hypertension

Just a few years ago, Coles reported that the physical health of migrant laborers “deteriorates early in life.” Comparisons of certain illness rates in families with incomes under $2000 and those over $7000 reveal that heart disease, arthritis, mental and nervous conditions, hypertension, and some physical impairments are two to four times more common in the lower-income group.

Race

Prior to World War II psychosomatic illnesses were believed to be relatively infrequent in Negroes. However, Rowntree’s evaluation of 13 million selective-service registrants in World War II showed a “marked increase in incidence of psychosomatic disease in the Negro, who in peacetime appeared relatively immune.” Halliday, in 1948, astutely recognized that the Negroes have always been a “second nation” within the United States and he also noted that the incidence of psychosomatic disorders in Negroes was rising abruptly. Death from hypertension is seven times more common in nonwhites than in whites. This variation may be due to genetic differences but, as Stamler has indicated: “The patterns of discrimination and segregation which Negroes experience in the United States may induce

psychologic stresses, strains, frustrations, etc. These primary central nervous system effects may be responsible for the greater occurrence of hypertension in this racial group."

We found that fewer blacks than whites reported a history of peptic ulcer, but more blacks, especially the women, reported hypertension. Certain symptoms such as headaches and no appetite, were reported more frequently by the blacks, complaints of headache were particularly common in the younger black women.

The work of M. Schwab on hallucinations points to the difficulty in evaluating certain symptoms in black groups. Our preliminary community study showed that hallucinations were reported about twice as frequently by blacks than whites. In a small, southern, black community, she found that reports of hallucinations among the blacks were limited primarily to elderly men and young women. The elderly men's hallucinations could be interpreted as coping mechanisms since the themes centered on peaceful, religious topics; in contrast, the young women's hallucinations, usually filled with terrifying themes, were regarded as evidence of psychopathology and personal distress.

The facts showing that there are greater amounts of illness of all types in the lower class point to the plight of the nonwhites in the United States today who comprise the overwhelming majority of the low-income families.

In our countywide study, we found that the higher rates of social psychiatric impairment and poor physical health in the blacks were correlated with poverty and little education. This correlation between lower social status and illness has been found consistently in other studies.

Although the physical and cultural deprivation associated with being poor and uneducated is apparent to observers of our social scene, we found that social structural factors, such as low incomes, did not account completely for the high rates of social psychiatric impairment in the young blacks. Strikingly, 52 percent of the younger blacks were found to be impaired, as compared to 33 percent of the whites. Comparative analyses for sex, age, education, and income revealed that the high impairment rate in the younger blacks was not as strongly related to low income as was true for the older group.

We suggest that the young black adults have been exposed, during their formative years, to the sociocultural change that has taken place in the last two decades. In their youth they witnessed the turbulence of America in the 1960s, and participated in the struggles accompanying desegregation. But their opportunities were limited for sharing in the life styles and material benefits of the wider society displayed by the media. At the same time the protective traditional cultural patterns of the Southern blacks were being assailed on two fronts, i.e., subordinated and exploited by the dominant white

society on one hand and challenged and repudiated on the other by groups stressing African heritage and black power and scorning the former accommodations to the caste system.

Some of the blacks, e.g., the younger age group, can be seen as experiencing a conflict between competing sets of conditioned responses, such as parental restraints on assertion and aggression versus growing emphasis on pride in individuality and ethnicity. Such a situation produces cognitive dissonance and the dilemmas of the "marginal man." Marginality, a concept developed by Park and elaborated by Stonequist, describes persons caught between two different and often antagonistic cultures. Spiritual instability, intensified self-consciousness, restlessness, and malaise were noted by Stonequist as characteristic of the "marginal man."

But some changes in the social position and the health of the blacks can be expected as the nonwhites follow various paths to alleviate their distress. Within the decade of the 1960s, the nonwhite social scene changed rapidly.

This group, once sociologically perceived as a homogeneous subcultural entity, is composed now of diversified groups, socially stratifying within themselves as they develop new ideologies and allegiances. We now see four different patterns in the black population: (1) the militant separatists; (2) the nonviolent protestors; (3) those moving toward middle-class status; and (4)

the poor, apathetic group. The Negro who is attempting to obtain a share of the goods of middle-class America by adopting the dominant white value system frequently becomes psychosomatically ill in following this path. The apathetic group, analogous to Marx's "Lum-penproletariat," will probably continue to have at least as much illness as always, unless the caretaking functions of the government intervene. What will happen to those who are expressing their current discontent—both the aggressive separatists and the nonviolent protestors—remains to be seen.

The "second nation," the nonwhites, therefore, is rapidly becoming one composed of groups. We would expect, then, to begin to see differential manifestations of psychosomatic disorders within these groups as they become increasingly heterogeneous.

Changing Patterns of Susceptibility and Illness

Many observers of our medical scene have repeatedly maintained that there are continuing changes in both individual and group susceptibility to psychosomatic as well as to other diseases. These may be attributed in part to sociocultural transformations. Many changes in types of disease have occurred within our lifetime. For example, tuberculosis, once a scourge, has declined drastically throughout the Western world. This decline paralleled higher living standards. However, a rise in tuberculosis has been noted in the

ghetto population of New York in the last few years.

Some other infectious diseases, considered to be under control a few years ago, are reappearing as public-health menaces. Recent outbreaks of diphtheria, typhoid fever, and poliomyelitis can be traced to deteriorating public-health standards and facilities relative to the increased population, crowding, and migration, and to apathy resulting from overconfidence in the belief that immunizations and other precautions are no longer necessary. But the sharp rise in VD rates is probably one of the clearer examples of psychosocial influences. The massive movement of young men to and from Southeast Asia for a decade and the emergence of penicillin-resistant strains of gonococci are only in part responsible for the increasing frequency of gonorrhea in the United States today. Numerous complex social and cultural processes have been converging to facilitate the spread of this disease. One of the most noticeable is the change to freer sexual mores. But this is only one aspect of a vast mosaic which includes the intergenerational conflict, with protesting youth living in communes and at times openly practicing polygamy, or even androgyny, as they reject the establishment's values. Moreover, promiscuity among adolescents and the large numbers of divorces even among the middle-aged reflect the changing social structure. The technological triumph represented by *the pill* may be the significant factor underlying the changes on the social scene which are linked to the spread of venereal disease.

Although changes in the incidence of carcinoma are still enigmatic, they may be related to dietary and smoking habits. Carcinoma of the stomach is now rare, while carcinoma of the lung has become prevalent. Quisenberry believes that ethnic variations in distribution and types of carcinoma in Hawaii are due to sociocultural forces, as well as genetic factors, but that with increased intermarriage and integration, the epidemiological picture will become more uniform.

Increased susceptibility to psychosomatic disease is taken for granted as a hazard of urban and suburban living. Cities, of course, have been regarded historically as sources of illness as well as social evil. In *The Prelude*, Wordsworth described urban distress with the words: "Among the close and overcrowded haunts/Of cities where the human heart is sick. . . ."

Today, psychosomatic illness may be considered one of the American "crowd diseases," particularly among the mobile population. Stamler points out that hypertension is much more common in Negroes who have moved to urban centers. In their epidemiological studies of hypertension, Geiger and Scotch note a tendency toward high blood pressure in urban groups.

In many respects most of the world is being westernized, at least in terms of urbanization and technological change. In Nigeria, for example, Leighton et al. found a higher incidence of psychophysiological illness in

towns than in villages. Scotch's comparative study of Zulus in rural and urban settings confirms these findings. Seguin has described a marked increase in psychosomatic illness among Peruvians who migrate from the Sierra to the cities of the plain; according to him, they are undergoing "psychosomatic dis-adaptation."

Malzberg found that mental illness was more common among Negroes who migrated from the South to the North, than among those born there. In our preliminary county study in the Southeast, we found the highest rates of social psychiatric impairment (including psychophysiological illnesses) among the "hypermobile," i.e., those who had moved nine or more times in the last ten years. The lowest rates were found in those who had moved only four to eight times during the last ten years.

More than a century ago, De Toqueville remarked that the Americans were restless in the midst of their prosperity: "A man builds a house in which to spend his old age, and he sells it before the roof is on ... he settles in a place, which he soon afterwards leaves *to carry his changeable longings* elsewhere." (Italics ours.) That restlessness may be an American trait, but if so, it appears to be intensifying with contemporary social change. We found that mobility was associated with low rates of social psychiatric impairment when it was not carried to the extreme of hypermobility. Geographic mobility demands changing life styles affecting interactions with relatives and friends; especially

for whites, it involves minimizing if not severing reliance on kinship networks. For our mobile, low-impairment group, it appears that the social interaction necessary to maintain adequate mental health is provided by the rapid acquisition of new friends whose life styles are similar or compatible.

Our initial findings on mobility are in keeping with Kantor's conclusion that there is no simple, direct relationship between migration and mental illness. Adjustment to migration, she found, varies with: (1) the individual's social characteristics, attitudes toward moving, and preparedness; (2) with the sociopsychological aspects of the situation; and (3) with the characteristics of the sending and receiving communities. With the "National Incorporation of the South," the new elite is at home in Suburbia, U.S.A., in the North, South, East, or West.

Not only are patterns of illness changing but new forms are emerging and others are disappearing. Syncope, once an appropriate social response, now occurs rarely. Of 1628 respondents in our community study, only eighty stated that they had ever fainted and only seven men and one woman reported that they had fainted during the preceding year. Schulte maintains that fainting is not an adequate form of emotional discharge in our more complex society in which a wide variety of psychophysiological cardiovascular disorders occurs. With the widespread prevalence of coronary heart disease, complaints of chest pain communicate distress and ensure that

the sufferer will receive sympathy and medical attention. We could view syncope as a conditioned social response in the nineteenth century, particularly in Victorian Britain, and chest pain as its equivalent in our current era.

Accident proneness is an everyday phrase, understood by laymen as well as professionals. Smart and Schmidt's finding that ulcer patients had more traffic accidents per capita than the general driving population supports Halliday's thesis regarding the association of psychosomatic affections. Also, a rising frequency of posttraumatic neurosis, in Modlin's terms, the postaccident syndrome, appears to be directly related to our rapid social and technological expansion. Modlin described the patients exhibiting this syndrome in both social and medical terms; they are integrated into society before the trauma but, in reality, they cannot adapt to the rate of technological change. After the accident they cannot cope because of limited "intrapsychic capacities which, in a crowded world of swift mobility, precipitant crises, and incredibly intricate technological innovations, render them disablingly vulnerable to the inevitable hazards of *living* in such a world."

The most common type of psychophysiological reaction that we see in our Psychiatric Consultation Service at the University of Florida does not have a label, indeed it is difficult to define as an entity. These are the "garden

variety" medical patients equivalent to those whom Von Mering and Earley call the "problem patients" in medical practice. A typical patient complains of numerous conventional and occasionally bizarre somatic complaints; his diagnostic workup may reveal minor or borderline abnormalities; he appears both anxious and depressed; and when questioned, he tells of interpersonal difficulties, discontent, frustration, and despair. The patient's personal problems are often compounded by the effects of medications, drugs, and alcohol which he has taken in an attempt to alleviate his distress with life and enable him to cope with the complexities of everyday living. Such patients, who, in von Mering and Earley's words, display "undifferentiated health aberrations," are becoming more and more numerous throughout the Western world.

Exotic diseases such as those produced by voodoo and hex, formerly treated only in isolated areas by root workers and witch doctors, are now seen in Negro migrants to ghetto areas. Ellul, in *The Technological Society,* tells of a new disease, "brought on by modern city life . . . which might be called urbanities." During the 1960s, a number of reports of epidemic hysteria appeared.

Relationships

The psychosocial relationship of social factors, such as income levels, or

cultural habits and customs, to health or illness is, of course, debatable. But certain relationships between the social environment and either health or illness have been established. In their review of more than forty different studies, Dohrenwend and Dohrenwend conclude that "low socioeconomic status within a community is consistently found to be associated with relatively high overall rates of (psychological) disorder."

Whether the high rate of illness in low-income groups is due mainly to genetic factors, "drift" down the social scale, or causative social processes, is a major unanswered question. But the climate of poverty does include crowding, contact with the noxious and the infirm, nutritional deficiencies, physical and cultural deprivations, and often a quality of despair, if not desperation.

Sociocultural deprivation, as well as physical deprivation, appears to influence health and illness. Thoroughman and Pascal showed by both retrospective and prospective studies that ulcer patients with intractable symptoms who scored high on a scale for environmental deprivation responded poorly to surgical treatment. In East European countries, deprivation is also a concern for research. For example, Mester and Mester reported from Budapest that surgical success for the treatment of biliary disease is less frequent in patients who come from large poor families. Chertok et al. and Destounis concluded that economic difficulties were

possibly responsible for vomiting in pregnancy.

The frequency of object loss preceding many illnesses has been related to socioeconomic changes. Mutter and Schleifer found that object loss frequently preceded the onset of physical illnesses in children and that in many, family disorganization was rampant. They concluded, ". . . changes in the psychosocial setting interacting with the psychological and social organization of the child and his family are relevant to the onset of somatic illness in children."

Animal studies show clear-cut relationships between the social environment and various types of illness and disorder. Rats separated from their mothers early in life were found by Ader and Friedman to have a higher mortality rate from inoculated carcinosarcoma cells than did controls. Henry et al. found that mice socially stressed by aggregating and mixing responded with hypertension. Calhoun's classic study of the overpopulation of rats in a confined area demonstrated that crowding is associated with higher mortality rates, prematurity, and massive disorganization.

Principles of psychosocial medicine hold that man and his environment (which is now almost exclusively a social, man-made environment) are inseparable, interacting, and mutually influential. Thus, sociocultural processes, role functions and expectations, the personality and the self, with

its instinctual and social needs, comprise a mutable, complex system. From this point of view, it is difficult to speak about exact etiological factors, especially as constants over extended periods of time, since the entire system is an interacting one, and we are always in the midst of social change and culture lag. Moreover, the epidemiology of psychosomatic and mental disorders is still in an embryonic, but developing, phase. In view of the lack of sound, descriptive epidemiology, inferences about etiology may be premature. Psychosocial medicine does consider that health and illness are relative conditions on a continuum, that they reflect the social-self system and that groups, as well as individuals, exist in varying states of health and illness.

Halliday developed the concept of a psychosomatic affection as an illness produced by multiple etiological factors and also as one which is characterized by "a *synergy* of causes" (italics ours). He proposed an ontogenetic theory of psychosomatic affections which was grounded on the "progressive unfolding of a 'life' in historical time in accordance with the orderly mode of development characteristic of its species." Particularly during the stages of infancy both the physical and emotional development of the child depend upon approval and disapproval by others, freedoms and frustrations, adaptations, and defenses, which are eventually woven into patterns of psychobiological reactivity that relate to health and illness.

In his *Concept of a Sick Society,* Ollendorff asserts that: "Society as a

whole is fundamentally responsible for the phenomena which are reproduced in every human being." He emphasizes, in Reichian terms, that character formation occurring in infancy and childhood results from ". . . the endless process of structuring as promoted by the impact of society as a whole." Thus, the influence of society is seen fundamentally as being much greater than that of the immediate family, which can be viewed as just a more or less faithful transmitter of the prevailing social forces. Ollendorff also notes that character formation too frequently involves the development of character armor as a result of the prolonged series of incessant bombardments to which the infant and the child are exposed.

Brody notes that in Western cultures there is an oversocialization of middle-class and undersocialization of lower-class children, particularly in terms of expression of feelings, training for identity, and communication. He thinks that the underprivileged group should be evaluated in terms of "multiple impairment" and "cultural exclusion," referring to those who do not have the "opportunity to share fully in the symbolic experience of the society."

The child-rearing practices employed by groups may be the vital determinants of psychosocial health or illness. Hippocrates' observations on the manner in which the Scythian children were reared and its relationship to the sexual and menstrual disorders in adult life, therefore, presage the tenets

of modem social psychology and social psychiatry.

Halliday related the changes “in the worlds of the child and of the adult that took place between the 1870s and the 1930s in Britain” to changes in the incidence of various illnesses. Hysteria, common in Victorian England and frequent among enlisted men in the British Army in World War I, was seen much less often during World War II. Halliday describes the physical environment of the infant in the 1870s as appallingly bad; lack of sanitation, overcrowding, poverty, etc., led to high rates of bodily impairment and infant mortality. But viewed psychologically, he emphasizes that infants and young children were allowed a great deal of freedom; babies were breast fed, carried in the arms or swaddled (the perambulator first appeared only in the 1880s and was owned only by the wealthy); toilet training took place “in its own good time.” The “vital drives” of early childhood were not inhibited; Halliday associates these child-rearing practices with fewer physiological dysfunctions. But he also notes that the frustrations imposed on the older child during the Oedipal period, and the problems with the patriarchal father were probably responsible for the high incidence of hysteria.

In contrast, the infants reared in the 1930s were fed from bottles according to schedule; “the ‘infant in arms’ had become the ‘kid in the carriage’ ”; bowel training was instituted early and thoroughly. Since there were fewer children, they were more noticeable and thus more closely

watched and controlled. The family was based on the parental dyad. Physically, the environment had improved so that the infant mortality rate had fallen drastically. But psychologically, Halliday thinks that the imposed system of conditioning in child-rearing practices was conducive to physiological dysfunctions which became psychophysiological illnesses in later life. Furthermore, he notes that the stern father of the 1870s became the "daddy" in the 1930s, and that this also may be in part responsible for the decline in the incidence of hysteria.

Presciently, Halliday pointed out that certain changes in the world of the adults between the 1870s and the 1930s were also conducive to the development of the obsessive character type who was afflicted with numerous tensions and physiological dysfunctions. Many of these changes, which Halliday described in the 1940s, became the cries of alarm heard in the late 1960s. He described them as: (1) increasing separation from the outward roots in Mother Earth; (2) increasing disregard of cosmic and biological rhythms; (3) increasing frustration of manipulative creativity; (4) increasing pace of change in the structure of society; (5) increasing standardization and repression of individual expression; and (6) increasing absence of aim and direction.

Halliday compared the indices of communal physical health (general death rate, infant-mortality rate, and certain infectious disease rates), which

declined between 1900 and 1939, with indices of communal, psychological, or social health (infertility rate, suicide rate, certain psychosomatic-illness rates), which rose sharply between 1900 and 1939, and concluded that Great Britain was a "sick society." He attributed the psychosocial illness which afflicted Great Britain and which was present elsewhere in Western societies to the "failure of the integration of the social group (which) is attended by failure of integration of the 'psychoneuroendocrine system' of its members." He stated that "the 'causes' of the weakening of those 'psychological bonds that enable the members of a community to live and work together' are therefore to be sought in the 'causes' that disintegrate social patterns in such a manner and to such a degree that the social equilibrium of the community cannot be restored." He regarded social disequilibrium as the first stage of functional breakdown which is succeeded by social disintegration with a further weakening of the psychological bonds necessary for health.

As theorists of social change maintain, the causes of social disintegration may be produced by external forces, e.g., defeat in war, or from inner tensions, e.g., class conflict, or from decay as a natural phase of its life cycle. Halliday believed that the accelerated changes concomitant with the industrialization of Great Britain in the nineteenth century brought about rapid changes in family, religious, cultural, occupational, and economic patterns so that the "total social system became changed at an ever-accelerating rate, until a point was reached when the national equilibrium

was so seriously upset that disintegration set in." How social disintegration affects individuals or groups to produce illness, of course, has never been precisely determined. The Leightons correlated increased psychiatric illness with community disintegration in the Stirling County Study. They postulate that sentiments are a bridging concept for analyzing relationships between the sociocultural environment and mental health or illness. Of particular importance are the "essential striving sentiments" which concern physical security, sexual expression, giving and receiving love, spontaneity, a sense of orientation in relation to society, of belonging to a moral order, etc. Thus, "sociocultural situations can be said to *foster* psychiatric illness if they *interfere* with the development and functioning of these (striving) sentiments, since the latter, in turn, affect the essential psychical condition." Therefore, an individual reacts to a disturbance in the essential psychical condition ". . . by seeking to remove the disturbance. When the process of this removal is inadequate (maladaptive to the personality), this fact is manifest in symptoms and impairment. . . . Symptom formation, however, is not the inevitable outcome."

A number of models have been developed, but not tested, which relate sociocultural processes to the self. As evidenced by the work of Parsons, Goodenough, and Thomas and Bergen, these models emphasize the importance of role theory and focus on the influence of role expectations, role participation, and role strain as determinants of behavior which have

implications for psychosocial health and illness.

In *Toward a General Theory of Action,* Parsons proposes an overarching series of constructs which embrace personality and society. He emphasizes that the personality and society are systems and that role participation is at the boundary, linking the individual personality and society: "One particular crucial aspect of the articulation of personality with the social system is the organized system of interaction between ego and 'alter' based upon role expectations." Parsons refers explicitly to the degree of integration or disintegration being, in effect, located at the points of articulation of the personality and social systems. Thus, role expectations and role participation are subject to strain when there are sufficient dislocations in the social systems or disturbances within the personality. Parsons' concepts have implications for health and illness, indeed, for societal conflicts. He states that: "The group of problems centering around conformity, alienation, and creativity are among the most crucial in the whole theory of action because of their relevance to problems of social stability and change."

In *Rethinking Status and Role,* Goodenough distinguishes between personal identity and social identity. He insists upon flexible and dynamic concepts of status and role which emphasize the importance of boundaries and identities for the health of individuals and groups. In her book, *Purity and Danger,* Mary Douglas describes, from an anthropological perspective, the

significance which certain groups have placed on boundaries as necessities for ensuring societal integration and cohesion.

Thomas and Bergen propose a model which relates social change to psychological malfunctioning. Social processes define roles and role expectations; personality organization at several levels mediates between role expectations and the instinctual and social needs of the self. Social roles, particularly expectations, embody approval and disapproval in our interpersonal relationships, and elaborated rewards and strains. Tensions and strains become particularly visible when roles and barriers diffuse, when values shift, and when the rate of social and culture change accelerates. Furthermore, Thomas and Bergen maintain that social and culture change affect the way an individual expresses the needs of the self, either by approving or by limiting the number and the modes by which the needs of the self are expressed. Either way, sociocultural processes require flexibility and changes within the personality organization in order to reduce tension within the group, within the social-self system, and/or within the individual.

At least implicitly, these schemata which attempt to explain how the social environment influences health or illness equate illness with maladaptation or see it as the result of stress. Equating illness with maladaptation, basically a Darwinian concept applicable to evolution, runs the risk of being tautological. Furthermore, we should be aware of

Kluckhohn's appraisal of adaptation as applied to social man: "We require a way of thinking that takes account of the pull of expectancies as well as the push of tensions, that recognizes that growth and creativity come as much or more from instability as from stability, and that emphasizes culturally created values as well as the immediately observable external environment."

The stress-strain model of illness, which uses a metaphor from a simpler mechanistic era, suggests an essentially mechanical relationship between man and the environment. As explained by Langner and Michael in *The Midtown Manhattan Study,* noxious, or potentially noxious, factors constitute stress, and the reaction to the *stress* is termed "strain." They compare to a situation in engineering, in which a structure is tested by subjecting it to induced stress (e.g., tension, compression, etc.). The object may become deformed under such stress. This reaction—the deformation—is strain. Then, in reference to humans, they say: "We know that personality, the sum of a person's relatively reliable ways of acting and reacting, can become deformed because of stress."

Langner and Michael recognize the limitations of this model: "People are not wooden beams or iron bars." Instead, humans are unpredictable; they symbolize, attach meanings to objects, situations, etc., and react to those meanings or ideas. "It is primarily this capacity of man to symbolize that turns a similar event into a catastrophe for one and a blessing for the other. If 'one

man's meat is another man's poison,' how can we define stress in terms of the stimulus rather than the reaction? We can make some generalizations about what stress is because there are cultural and societal uniformities of 'meat' and 'poison' that are somewhat broader than the individual variations." Some factors, constitutional, physical, and emotional, mediate between stress and strain to determine whether the outcome for a given individual will be health or illness. Socioeconomic status, for example, can be viewed either as a factor which is potentially stressful (e.g., poverty) or as one which mediates between other types of stress and strain (e.g., affluence).

In terms of the stress-strain model, illness, or simply symptoms, are seen as reactions to noxious environmental forces. This is a useful frame of reference, especially for the study of fairly large populations, i.e., symptoms would be most common in the groups which are under the most stress, subject, of course, to elaborate mediating factors.

During the last few years, scales have been developed which evaluate the number, kinds, and significance of life events which are associated with the onset of disease. These scales are based primarily on the work of Schmale and others in the Rochester group which related object loss to the onset of physical and/or mental illness. The theoretical construct is based on the assumption that certain life events, usually considered to be adverse, are stressful and thus require psychological and social readjustments.

The most widely used is The Social Readjustment Rating Scale of Holmes and Rahe which contains forty-three items "indicative of the life style or of the kinds of events occurring in the individual's life . . . [which] involve an adaptive response on the part of the person affected." The forty-three events range from death of spouse, divorce, and marital separation to a change in eating habits, vacation, and minor violations of the law. Each item is weighted in numerical Life Crisis Units (LCU)—death of spouse receives 100 LCU, while a minor violation of the law receives eleven LCU. Thus the subject receives a total score; higher scores ostensibly reflect greater stress and have been found to be associated with illness and presumably "high risk."

Paykel and his colleagues at Yale have also developed a life-events scale which contains thirty-three items which are comparable to those in The Social Readjustment Rating Scale. In a controlled study, they found that depressed patients had a general excess of life events before the onset of depression. Moreover, the depressed patients had significantly more losses or exits from the social field than the control group, who, in contrast, reported more entrances into the social field.

Both of these scales are being standardized with minority groups and used in cross-cultural epidemiological investigations. Their simplicity and ease of scoring are attractive features. But, an event that is defined by one individual as adverse, or even catastrophic, may be regarded by another as a

relatively minor, meaningless, or even fortunate occurrence, depending on his "definition of the situation." The common use of these scales, however, yields precise information about the relationships of life events to illness and thus adds to our knowledge about the stress-strain model and, particularly, the significance of the social environment in health and disease.

The various models which relate psychosocial processes to illness in the individual and the group can be criticized for the risk of being tautological, because they are so all-inclusive that they cannot be adequately tested, or because they ultimately fall back on Thomas' definition of the situation. He asserted that: "Preliminary to any self-determined act of behavior there is always a . . . *definition of the situation* . . . gradually a whole life-policy and the personality of the individual himself follow from a series of such definitions." This is a fundamental tenet of social psychology and how the situation is defined accounts for individual variation. Moreover, Thomas emphasized that there is "always a rivalry" between the individual's spontaneous definitions and the definitions of situations furnished him by society.

When carried to its logical extreme, this thesis, with its emphasis on the individual, appears to contradict concepts of psychosocial medicine which emphasize group reactivity in response to socioenvironmental stresses. Moreover, the thesis cannot explain such undisputed facts as epidemics. But we should not dismiss Thomas' insights so quickly; particularly in our

contemporary era when we are witnessing sociopolitical polarization and group coalescence, subject to the impact of instant visual communication, we can postulate that shared definitions of a situation account for collective behavior, epidemics, etc.

The studies of Hinkle and his colleagues of relatively large populations demonstrate that the "reaction of a man to his life situation has an influence on all forms of illness."

Other studies have shown that even a *single* adverse event such as real, threatened, or symbolic object loss, as presented by Schmale, Adamson, and others, or bereavement as shown by the work of Parkes, is followed by illness of various types and severity. Furthermore, in a theme that reminds us of Halliday's concept of a psychosomatic affection as one having *multiple* etiological factors and one which is characterized by a synergy of causes, Christenson and Hinkle state that the interactions between man and his world are so complex ". . . that it is a gross oversimplification to attempt to explain 1 or 2 of their categories of illness simply on the basis of the way that they ate, how much they smoked, what happened to them in their childhood, or the way that they react to their present occupations." This point of view about etiology is emphasized by Stallones in his editorial on community health. He deplores a reductionist approach, advocates a "synthetic systems-oriented approach" to the study of illness, and exhorts us to be concerned

with “clusters of causes and combinations of effects.”

A general systems approach, expressive of the metaphors of our technological era, has become a fashionable way to view man and the universe, to try to comprehend man and his ecosystems. Such an approach states explicitly that the systems, biological, social, and even cosmic, are open ones. But Abelson, in an editorial in *Science* commenting on D. H. Meadows et al., *The Limits to Growth,* reminds us that to some extent, “the concept of earth as a closed system is an appealing one, and in some respects it is valid.”

In addition to considering the evidence which indicates that we are dealing with closed systems, e.g., the quantities of oxygen are limited, among certain animals overpopulation leads to social disorganization or death, and our cities decay after reaching a certain size, we should keep in mind Hinkle’s statement about taking “a unitary view of the man-environment relationship” and abandoning “the needless dichotomy of a ‘physical’ and a ‘social’ environment.” Moreover, in discussing the relationship between the internal and external environments, he compares biological and social organizations. Just as individual cells or organs are sacrificed to maintain the organism, “the lives of individual men are subordinated to the requirements of the societies of which they are members.” He points out that social groups behave “as if the primary duty of the individual is to fulfill the various social roles in which he finds himself.” Thus, Hinkle stresses the importance of role functions and

expectations in our modern society and he foretells that: "In the future we can expect that no small part of human illness will be determined by the interaction of men with other men, and by their adaptations to the social roles that are thrust upon them." This unitary concept of man and his environment, the reaffirmation of Spencer and Durkheim's view of society as a living organism, and the focus on social roles as determinants of health and illness, make a strong case for the increasing relevance of psychosocial medicine in our contemporary era. Our epoch has already been described by Allen Wheelis as *The End of the Modern Age;* with the discoveries in theoretical science, dating from Niels Bohr's work on the structure of the atom in 1917, it appears that the principle of uncertainty is just as applicable to the movement of an electron as it is to the vicissitudes of ordinary existence for human beings. The dire conclusions drawn in *The Limits to Growth* indicate that we are, indeed, creatures whose biological, social, and other systems are not only closed ones but may be finite. This acknowledgment is implicit to the concepts of psychosocial medicine.

This discussion of the relationships between social processes and psychosomatic illnesses from a psychosocial point of view has centered on many aspects of current social-science theories, particularly role functions and expectations, and the stress-strain model of illness, as well as the concept of adaptation. However, the presence of new epidemics such as coronary heart disease and the recurrences of epidemic hysteria compel us to consider

contagion as a possible mechanism for transmitting psychosocial illnesses.

Contagion and Epidemics

In his classic work, *The Epidemics of the Middle Ages,* Hecker described behavioral and psychosomatic disorders as well as diseases such as the black death. He tells that the dancing mania "was propagated by the sight of the sufferers, like a demoniacal epidemic over the whole of Germany and the neighboring countries to the northwest, which were already prepared for its reception by the prevailing opinions of the times." This strange affliction, characterized by wild dancing, screaming, bodily distortions, mental aberrations, abdominal pain, and even convulsions, affected entire communities between 1374 and the beginning of the seventeenth century. Hecker reports that at one time it affected 500 inhabitants in Cologne and that once the streets of Metz were filled with 1100 dancers. In discussing the causes of this "mental plague," he mentions that the wretched and oppressed populace had been subjected to great natural disasters, famines, and the "incessant feuds of the barons" which resulted in miserable conditions, club law, and the corruption of morals. Furthermore, Hecker maintains that the disposition of mind, peculiar to the Middle Ages, accounted for the long duration of this "extraordinary mental disorder."

In Italy, tarantism prevailed as a great epidemic in the fifteenth and

sixteenth centuries. The predominant symptoms were melancholia, weeping, death resulting from paroxysms of laughter or tears, diarrhea, and a sensitivity to music. In fact, dancing to the tarantella relieved the symptoms. Hecker believed that these strange disorders, as well as the mass outbreaks of hysteria which he described, spread by "morbid sympathy" until they became real epidemics. He states that "imitation—compassion—sympathy, are imperfect designations for a common bond of union among human beings—for an instinct which connects individuals with the general body." Thus, in the midst of societal disintegration, these strange diseases were spread "on the beams of light—on the wings of thought."

Although we would like to explain psychosocial illness by scientific theories, we cannot entirely dismiss the part played by sympathy and contagion. There is some evidence that psychosomatic illnesses spread by interpersonal contagion. Winkelstein, as cited by Spain, investigated the household aggregates of hypertensive patients, composed of both blood-related and nonrelated persons. The blood pressures of the nonrelated persons in these "hypertensive" households were higher than those of controls.

In 1955 an epidemic occurred at the Royal Free Hospital in London. Over 300 staff members became ill with severe malaise, slight fever, the subjective features of hyperventilation, and both evanescent and bizarre

neurological symptoms which often followed a glove and stocking distribution. The term “benign myalgic encephalomyelitis” has been applied as a diagnosis to about fifteen such outbreaks. McEvedy and Beard have reviewed these epidemics and conclude that they are psychosocial phenomena which should be termed “myalgia nervosa.”

In 1943 Schuler and Parenton, in reporting on an epidemic of hysteria in a Louisiana high school, noted that descriptions of such phenomena were abundant in the medical literature in the nineteenth century but that publications on the subject had become rare; in fact, they could not find “a single publication in the United States for over 40 years.” They concluded that the “phenomenon of the ‘mental epidemic’ is not exclusively historical, nor is it confined necessarily to ignorant and backward populations.” In 1958, Taylor and Hunter described an epidemic of hysteria which occurred on an open hospital ward among female patients who suffered mainly neurotic and psychosomatic symptoms. Since then, mass hysteria associated with fears of having been bitten by insects was reported among the workers in a textile plant in South Carolina in 1963.14 This is reminiscent of the epidemics of tarantism in Italy during the late Middle Ages, when the victims imagined they had been bitten by tarantulas.

During the 1960s a number of outbreaks of epidemic hysteria were reported in the United States and Britain, particularly among high school

students. Comparable epidemics have also been reported in nonwestern nations such as Taipei and East Africa. In discussing these mass outbreaks, Jacobs emphasizes that the "social and cultural contexts are most important in defining why they take place when they do and where they do . . . ." Other authors such as Kagwa refer to the basic similarity of such affections, "in man at different psychosocial developmental levels regardless of race or locale."

Redl has indicated that an occurrence of contagion does not occur unless there are restraints to be reduced. This insight helps to explain that epidemics occur not only at times when unfavorable social conditions are conducive to the outbreaks, but also at times when repression is manifest. From this point of view, the epidemics of hysteria in the Victorian Era can be seen as miscarried revolts against the sexual repression of that time. We are concerned about the increasing sociopolitical repression in the United States today which may lead psychosocially to mass outbreaks of various mental and behavioral phenomena.

Drawing on the works of these writers since Hecker's day, we can also note that, in addition to social restraints and repressive forces, adverse conditions of life and a certain disposition of the mind are conducive to epidemics. Taylor and Hunter explain that, "It often requires the adoption of a particular idea by a pluralistically stirred group before the accumulated emotions can be freely expressed. This idea will then appear to have been

'infectious' and to have aroused 'collective' emotions."

The high acceptability ratings given by various study groups to illnesses such as ulcer, arthritis, asthma, diabetes, and heart disease, relative to the low acceptability ratings for tuberculosis, alcoholism, and mental illness in Tringo's study can be interpreted as evidence that we are a psychosomatically oriented society. Moreover, it was explained that the psychosomatic illnesses were acceptable because of their high frequency and "lessened shock value."

The increasing incidence of coronary heart disease indicates that it has now become an epidemic of immense proportions. Mathers and Eliot point out that 500,000 Americans die every year from ischemic heart disease and the latest figures indicate that 675,000 persons will die from coronary heart disease in 1974. Harris states that: "We are again in the age of the great pandemics. Our plague is cardiovascular."

The shift of the age base to younger groups is further evidence that this disease is now epidemic; for men between the ages of twenty-five and forty-four, the death rate from coronary heart disease has risen from forty-six to fifty-two per 100,000 between 1950 and 1972.

Ironically, Hinkle notes that this disease appears to be "the outgrowth of several features of our society that we regard as most desirable." These include a high standard of living with an abundant diet which is rich in fat and

protein, a highly developed technology which reduces the demand for physical labor, a longer life expectancy with continued exposure to the abundant diet and lack of exercise, social mobility with its demands for alertness, and cigarette smoking to relieve consequent anxieties and tensions.

In a comprehensive review of over 160 papers dealing with the psychological and social precursors of coronary heart disease, Jenkins has come to the following conclusions: Seven general categories of social psychological factors can probably be considered as correlates of this illness. Although no consistent relationship has been observed between a single social-status index and coronary heart disease, status incongruity or inconsistency (discrepant levels of occupation, education, and income for an individual) appears to be associated prospectively with the disease. Although the evidence about social mobility is not definite, a positive relationship has been found between coronary heart disease and intergenerational mobility, and for migration. Higher levels of anxiety and neuroticism seem to precede coronary heart disease although the relationship between manifest anxiety and denial may complicate these conclusions. Life dissatisfactions and environmental stress are reported frequently by coronary heart disease patients. The coronary-prone behavior pattern (Type A) is related to increased risk. This pattern consists of the following traits: competitiveness, striving for achievement, impatience, and other characteristics—"consistent with the 'Protestant Ethic,' with urbanized Western civilization. . . ,"

The frequency and acceptability of diseases such as ulcer and coronary heart disease, the prevalence of psychophysiological symptoms, and the mass outbreaks of hysteriform illnesses with various somatic manifestations reflect the social environment. Our contemporary scene is: "Swept with confused alarms of struggle and flight/Where ignorant armies clash by night." The rampant aggression, internal as well as external, which is now a part of everyday life, the lowered morale, and the national loss of confidence (expressed by political leaders, liberal and conservative, Democrats and Republicans) and the turbulent intergenerational conflict can occur only when a society is undergoing disintegration or at a juncture in history when an era is drawing to a close—when its forms are outworn and rejected, when its ethic is obsolete.

Concepts of psychosocial medicine hold that societies or groups exist in varying states of psychological health and illness; that sociocultural processes determine the state of a society's health; that the availability of the material necessities of life is a requisite for health; that shared sentiments both promote and reflect the health of the group; that through child-rearing practices and learning, societal patterns are reproduced in individuals, and that groups react like individuals. These concepts are extensions of Aristotle's statement that, "Man is by nature a social animal. . . . Society is something in nature that precedes the individual. Anyone who either cannot lead the common life or is so self-sufficient as not to need to, and therefore does not

partake of society, is either a beast or he is a god."

Basic concepts of psychosocial medicine also affirm that man's environment, now almost exclusively a social and a man-made one, can be pathogenic. Many of the indices of a society's psychological or social health, which Halliday used to characterize Great Britain as a "sick society" in the 1930s, are applicable to the United States in the late 1960s and early 1970s. Particularly, the increasing incidence of coronary heart disease and the rising suicide rate among the young show that our social environment can be lethal as well as pathogenic.

Once a society has been diagnosed psychosocially as "sick," Halliday states the methodology for investigating the nature and the etiology of the social sickness then calls for studying the three following questions:

1. What kind of social group is this, that is, what group characteristics are relevant and causal?

2. Why did the community become sick when it did, that is, what are the causal and environmental factors?

3. Why did the community take ill in the manner it did?

When we find answers to these questions, then we can develop "social therapeutics— whose aim would be to alter etiologically relevant group characteristics and etiologically relevant factors so that reintegration could

be secured and a sick society restored to health."

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