

TREATING PATIENTS FOR BOTH IS THE HEALER'S ART

Illness and
disease

ERIC J. CASSELL

Generally speaking, when someone in our society is ill he assumes that he has a disease, but how he feels is ill. When a great many people in two different cultures (New York City and rural Jamaica, West Indies) were asked what the phrase "being ill" meant to them, virtually all of them—little children, adults, the aged, and even physicians—responded by saying simply that it meant not being healthy. Being healthy was being fit, they said, being able to go or do when you want to. Being ill was being unfit or unable to do. No diseases were mentioned (except by very little children who talked about cuts and tummy-aches and the like).

On the other hand, if you do feel ill and someone asks you what is the matter, you will commonly respond with the name of a disease. You will say, "I have sinusitis;" instead of, "My head is clogged and I have a postnasal discharge." Or, rather than telling of the griping pains in your abdomen, you may say that your colitis is acting up. In other words, you will supply disease terms to explain the feelings of illness and assume that all such symptoms are caused by some disease or another, or that they are "emotional" in the sense of not being real.

However, the assumption that illness and disease are the same is, I believe, culturally derived. The assumption may be based on what has been repeatedly and objectively demonstrated, but it has also become a part of the beliefs of the culture of the so-called Western societies. As such, the assumption no longer depends for its existence on continued proof. It is now an article of faith against which other assumptions can be tested. It can be used as a basis for talking to your neighbor about your complaints, for teaching in medical schools, for delivering medical care, and even for providing kinds of health insurance. Since these last three activities seem to be in some trouble now, this might be a good time to examine the article of faith. Certainly, if disease and illness are not the same, curing and healing may well be very different functions; and what is good policy for one may not be good policy for the other.

I suggest that there is a distinction between the disease of an organ of the body and the illness of the whole man. We certainly base many of our complaints about doctors on just such a difference. We

say, "All the doctor seems to care about are my kidneys; he doesn't care about me"—and we know what we mean, or think we do. From this point on, let us use the word "illness" to stand for what the patient feels when he goes to the doctor and "disease" for what he has on the way home from the doctor's office. Disease, then, is something an organ has; illness is something a man has.

Although the word "disease" literally means "removed from ease," we generally use it to mean a disturbance of the organs or body fluids characterized by structural alteration or biochemical change. We have come to speak and act as though without the evidence of such alteration or change there is no illness—nothing justifying medical attention: "If someone doesn't have a disease, he shouldn't be wasting a doctor's time." (When the American Medical Association gave alcoholism the status of a disease, it became all right to remove its victims from jail to the doctor's office.)

The important thing to recognize is the definition of disease on which we act, on which the functions of both physician and patient, and their manifest interactions, are based.

It is certainly not so in every culture. In primitive cultures when people are ill (unfit, unable to do) and seek help, neither they nor those who will help have a similar conception of disease to ours. Nonetheless, some framework exists to "explain" the illness and on which to base a remedy. More important, though the practitioner may be deprived of the benefit of Western science, his remedy is often effective (among the people of any culture, no practitioner lasts long who does not return patients to health).

In 1955 a Navaho medicine man who was also a tribal leader spoke at a monthly meeting of white physicians gathered at Fort Defiance. "There are some things which we medicine men know the white doctor is better able to cure than we, such as appendicitis and tuberculosis; we have given up on these. Then there are such things as snake bite, which

ERIC J. CASSELL, M.D. is Clinical Professor of Public Health at Cornell University Medical College and a Diplomate of Internal Medicine in private practice. This article is adapted from *The Healer's Art: A New Approach to the Doctor-Patient Relationship*, to be published in May by J. B. Lippincott Company. Used by permission. Copyright © 1976 Eric J. Cassell, M.D.

both the medicine man and the doctor can cure, each using his own method. But there is still a third kind of illness which only the Navaho medicine man can cure—for example, a person might have lightning illness, caused by his being nearby when lightning struck. You white doctors wouldn't know that person is sick and so it wouldn't occur to you to treat that person. But, in the Navaho way of thinking, it is just as important to treat him as it is to treat the person in pain with appendicitis."

In every culture unfitness is presented to healers in ways that depend on the beliefs of the particular culture. In our culture the only form of unfitness that can be acceptably presented to physicians is that which can be called disease. Yet I believe that we, too, have disabilities that are not specifically connected to disease (to alteration of body fluids or structures) and that in the past, in conformity with cultural convention, were hidden in the symptoms of disease and were treated by doctors as such.

The drama of medical care is carried out in the arena of society; and while the primary roles are played by a patient and doctor, other members of the social group also play active roles. In our culture the rules for this interplay seem to have been stable for a long time, but today the rules are changing because of the technological revolution of our times. In the last generation profound changes in disease patterns and the hope of cure for the first time ever in the world's history have forcibly separated illness and disease. The success of medicine has created a strain: the doctor sees his role as the curer of disease and "forgets" his role as a healer of the sick, and patients wander disabled but without a culturally acceptable mantle of disease with which to clothe the nakedness of their pain.

In the days when frontiersmen fought the American Indians, both occasionally contracted pneumonia and sometimes succumbed. It is one of the things that can happen to animals with lungs. The frontiersman had "pneumonia," which his doctor could define in anatomical and pathological terms. Certain objective causal relationships were established, and the whole provided a structure of reason from which the doctor could act and could answer the pioneer's inevitable questions. On the other hand, the Indian who had the same symptoms was invaded by spirits. His doctor and his culture had also established causal relationships and had even, perhaps, provided more satisfying answers to the question of why the Indian had his illness. It is very necessary to remember that in those days the white doctor's treatment really may have been no more effective than the medicine man's treatment!

With good cause, we have great confidence in the biochemical and cellular basis for disease revealed by our scientific method. But to understand it in the present context, to make the vital distinction between illness and disease, between healing and curing, it is necessary to abstract ourselves from this concept of disease sufficiently to realize that it is also a cultural

development. In broad terms, there has been no time when we did not think that we knew where disease came from.

We have always had explanations, and we have always believed our explanations correct. Indeed, it is one of the miracles of optimistic mankind that again and again it has had such faith in the "facts" of today when, if there is one thing the history of science should have taught us, it is that our most dearly beloved scientific beliefs are fragile in the face of time.

The success of medicine has created a strain: the doctor sees his role as the curer of disease and "forgets" his role as healer of the sick, and patients wander disabled but without a culturally acceptable mantle of disease with which to clothe the nakedness of their pain.

As we briefly trace the development of scientific medicine, we shall see how the two functions of physicians, healing and curing, have become separated and how, at least in part, it is the overwhelming success of curing that has caused the breach.

Our system of explanations, our rational basis of medicine, like so much of the basis of our rational Western culture, we owe in large part to the Greeks. Hippocrates is called the father of modern medicine primarily because he introduced the use of observation as a basis for the diagnosis and therapy of disease and rejected a system of medicine that depended entirely on magico-religious beliefs. He introduced objectivity into medicine as part of a culture that was similarly using observation to lay down a basis for rational and systematic development in many areas of man's activity.

It is little wonder that many of Hippocrates's observations are so valid today; a fractured ankle in 400 B.C. and a fractured ankle in 1976 A.D. look the same because the anatomy of the ankle is the same. While perception may indeed be influenced by the social context and the ankle may be differently clad in different cultures, the ankle remains the ankle. We may borrow, in this regard, Hippocrates's impatience with philosophers whose view of the body rested more on speculation than on observation.

Hippocrates's theory of medicine was based on the physical philosophy of his time, which believed in a spiritual essence diffused through the whole works of creation and striving to preserve things in their natural state and to restore them when they became deranged. "Nature," said Hippocrates, "is the physician of diseases." How congenial that sounds to us, though his theories of cause and of the elements and humors (fire, water, black bile, etc.) are totally foreign. During his long life Hippocrates described, classified, and suggested rational therapies for a large number of diseases with lasting accuracy. He also provided the

image of the ideal physician that has persisted (at least in the minds of patients) to this day—calm and effective, humane and observant, prompt and cautious, at once learned and willing to learn, pure in mind and body, and fearing only lest he fail to serve. (While I use the name of Hippocrates as though I were writing of one man, it seems clear that the writings of Hippocrates are the work of many physicians of the same school of thought.)

Thus the age of Hippocrates was the age of medicine in which magic gave way to reason based on observation. But while we tend to remember the acuteness of his observation, we are apt to forget that throughout all writings were recognition of and great respect for the therapeutic effects of the unknown healing forces of nature.

One of the ironies of the history of medicine dating to classical Greece that still profoundly affects us is that the Hippocratic school of medicine, sharing the rationalism of the Golden Age of Greece, no longer looked for the causes of disease in divine retribution, the invasion of demons, or the disturbance of evil spirits. Diseases, these physicians said, were natural things, arising from natural causes. The causes of disease could be found within the constitution of men and in disturbances in their inner and outer equilibriums resulting from diet or heredity or from a maladaptation to their inner or outer environments. For example, before their time epilepsy was considered to be a sacred disease, a visitation from the gods. And so the following open passage of the book *On the Sacred Disease* from the works of Hippocrates was revolutionary.

It is thus with regard to the disease called Sacred: it appears to me to be no wise more divine nor more sacred than other diseases, but has a natural cause from which it originates like other affections. Man regards its nature and cause as divine from ignorance and wonder, because it is not at all like other diseases. And this notion of its divinity is kept up by their inability to comprehend it and the simplicity of the mode by which it is cured, for men are freed from it by purifications and incantations. But if it is reckoned divine because it is wonderful, instead of one there are many diseases which would be sacred; for, as I will show, there are others no less wonderful and prodigious, which nobody imagines to be sacred.

In such words lie the roots of Western scientific medicine. The irony comes from the fact that the same school of physicians, with their drive for rationalism and objectivity, were casting aside the use of the spoken word in medicine and were laying the basis for the modern physician who does not speak to his patients.

The origins of the lack of communication between doctor and patient, the Spanish medical historian Pedro Lain Entralgo shows us, come from two sources. The first was that the Hippocratic physicians were so eager to separate themselves from the superstitious and popular medicine they superseded that

they disavowed the spoken or sung charms, chants, and incantations that were formerly the primary modes of treatment. The use of the word in treatment was suspect, since it smacked of those earlier superstitions. The second source of silence was the fact that the Hippocratic school based its diagnosis and treatment on objective measurement. While objective measurement included the information of the senses, it decidedly did not include much of what the patient said, since that was merely opinion. Thus Virgil called medicine "the silent art." And all this in the age when Aristotle was developing the importance of the word and when men were valued most highly for their ability to speak and convince through the use of the word, which was seen as the bridge between men. As medicine laid aside the word, it also laid aside part of the connection between the patient and his disease and the patient and his doctor.

In looking at the history of medicine, we are tracing the history of Western culture's attempt to answer the questions illness raises in the sick person: What is wrong with me? Why did it happen to me? What is going to happen because of this thing that has gone wrong?

There is both a narrow and a wide class of answers. The narrow class of answers is specific to the problem. "What is wrong with me?" To the wider question, "Why did I get epilepsy?" the answer prior to Hippocrates's time would have been, "It is the royal sickness." The wider class of questions has to do with fate and the relation of man to his universe. This latter formulation sounds mysterious precisely because of the direction the development of science

... the Hippocratic physicians were so eager to separate themselves from the superstitious and popular medicine they superseded that they disavowed the spoken or sung charms, chants and incantations. . . . As medicine laid aside the word, it also laid aside part of the connection between the patient and his disease and the patient and his doctor.

and medicine has taken. Before Hippocrates, and probably for most of the other cultures of our present world, *only* the problem of fate, the wider question "Why *me*?" was pertinent, and the answers were provided by religion or mysticism.

When Hippocrates introduced the rational basis of medicine, he did not deny the cogency of the wider question. Rather, he introduced a systematic method of understanding and answering the narrower questions. What is the matter with the ankle? What should one do for the ankle? What will happen to the ankle?

In the period that followed classical Greece, the two classes of questions became muddled in the the-

ological overgrowth. But with the birth of science during the Renaissance, the classes of questions split again. For society as a whole, God and Christianity gave weight to the soul and answered the seemingly mystical personal questions of illness.

For many of the scientists of the time such "simple" answers did not suffice, and in the seventeenth and eighteenth century a number of theories about the basic forces of life were advanced in an attempt to bring those forces within the realm of reason and to deny their mysticism. There was Descartes, who said that life could be explained on a mechanical basis; there were other scientists who attempted to explain all animal activity on a chemical basis; and finally there were the vitalists, who believed in a mysterious life force, a sensitive soul, a "phlogiston" whose effects were brought about by chemical process. To Descartes the body was a machine; to the vitalists it was the quintessence of nonmachine. While modern science has long surpassed the research contributions made by the theorists, their questions are still cogent and the basic arguments remain alive and active today—if not in science, then in the questing world.

It is interesting to speculate about Descartes's effect on medicine down through the ages since he formulated the mind-body duality. A cynic may see the Cartesian duality as a tremendously effective solution to the political problem that weighed down the development of science—the Church. By dividing man into mind and body as separate realities and by giving the body over to science and the mind (soul) to philosophy and religion, scientists were able to work without invading the province of God. Whatever the basis of the duality, it is more a part of our cultural unconscious than most of us ever realize. In any event, science emerged from the seventeenth century dedicated to a method of thought and having a mission to measure the finite. From that thought mode and mission it has not since deviated. Furthermore, it was in that same historical period that science laid its hand on medicine with a subsequently ever-tightening and jealous grip.

To understand the history of modern medicine (since the eighteenth century), one must visualize the world of disease in the 1700s. Disease and death were the commonplace of life. To say merely that life expectancy was short would be to miss the meaning of shortened life. In the eighteenth century infant mortality was devastating, and infection and its foster parent, malnutrition, underlaid the carnage. But infection did not stop in infancy. The diseases we dismiss lightly today, the ordinary contagious diseases of childhood, were then commonly fatal. Young adults died of pneumonia, streptococcal infections, and the nonspecific diarrheal diseases. Epidemics were common (the Great Plague of 1665 killed more than 68,000 people in London), and bubonic plague and smallpox, far from confining themselves to sweeping through the land in fatal waves, remained in constant threatening residence. By the time they reached adulthood, the large majority of the popula-

tion had already had smallpox. (At one time in Europe, almost everybody who was anybody had syphilis.)

The threat of these infectious diseases, as we all know so well by now, is greatly increased by crowding and improper hygiene. The industrial revolution with its rush to the cities helped foster disease in the rising populations. Sewage ran in the city streets. The slums were crowded beyond belief; there were no toilets and no running water, and lice and hunger and filth were everywhere. Modern travelers to India are shocked by similar scenes that nonetheless represent a distinct improvement over London or Paris in the eighteenth and early nineteenth centuries. The gap between rich and poor was huge, but the plague-bearing flea jumped it lightly.

Contagion was not the only threat. The diseases with which we are familiar were also prevalent. Minor trauma held the danger of blood poisoning, and simple fractures led to permanent disability. Cancer, appendicitis, and ulcers all occurred and commonly doomed sufferers to early death because surgery lay weighted down by unbearable pain and mortal infection.

Throughout this period mankind looked to God for surcease from disease and death. In earlier times the flagellants protected themselves from plague by incredible self-punishment. The source of disease, they said, lies within each man; the good will escape.

In retrospect, it seems that the people did well to look to God because doctors were not of much use. The treatment of individual cases was a horror. The tools available to physicians were rarely effective, and treatment consisted largely of bleeding, purgatives, and emetics. Fads in therapeutics rose and faded, based on the authority of their innovators rather than on acceptable evidence of usefulness. And yet, then as in ancient times, physicians made some patients better—but how?

In the late 1600s Thomas Sydenham, an English physician, began to bring order into the art of medicine. Following the Hippocratic tradition, he rediscovered the importance of knowing the natural history of disease; he also appreciated and wrote of the healing force of nature. He began to separate the fevers and gave accurate and beautiful descriptions of disease. His lead was followed by others, and by the beginning of the nineteenth century diseases were well catalogued and delineated. The step was essential to the development of treatment and the systematic teaching of medicine. Disease was catalogued in terms of the organs afflicted, the types of fevers, the presence of tumors—in other words, in terms of the patient's symptoms and the doctor's findings in his physical examination; the description was individual and largely subjective. Illness and disease were the same because disease was defined in terms of the types of unfitness.

By the mid-nineteenth century mankind was already being lifted out of the morass of disease—not by cure, because there was none, but by preventive

medicine. The first advance was vaccination, but much more important was the great sanitary revolution that started in England in the 1830s; it was initiated by laymen, and physicians played little part until it was well along. The sanitary revolution is responsible not only for modern water supplies and sewage, government departments of health, and sanitary laws, but for our entire attitude toward cleanliness and health. That attitude, now deeply ingrained in our culture, wards off disease with greater force than does chlorine in the water or any law.

The germ theory of disease that was developed and gained acceptance largely through the work of Louis Pasteur, Joseph Lister, and Robert Koch in the late 1800s began to give scientific answers to questions of disease causality. It had been known for a long time that there was an infectious principle—some manner by which certain diseases were transmitted. But muddled in with this concept were all sorts of vagaries including moral judgments that related the acquiring of a disease to the sufferer's intemperance or turpitude. To scientists that deplorable inexactitude ended with the discovery of bacteria as a cause of disease. Born was a clean exactness—one cause, one disease—which is now only beginning to be superseded by our increasing awareness of multiple causes.

Somewhat earlier than the development of the germ theory of disease, the German pathologist Rudolf Virchow laid down the cellular basis of disease. In essence, the theory states that in all diseases there are structural changes at the cellular level and those changes are specific for each disease.

The germ theory and the cellular basis of disease together determined our present definition of disease. Diseases are entities in which there is structural change and for which unique cause can be found. The further history of medicine, for all its incredible advance, has changed the definition only by adding to it biochemical change (and underlying genetic defects).

The age of cure might be dated from the advent of the sulfonamides in the 1930s. From that time forward the rate of development of effective therapy has increased exponentially. The individual effectiveness of the modern physician against diseases can be described only in superlatives. Not only in treatment but also in diagnosis, technological progress has made the neophyte physician of today far superior to the experienced specialist of a generation ago.

The tools are magnificent; the drugs are fantastically effective; the electronic technology is a wonder to behold. And yet it is in the midst of this justified hyperbole that we find it necessary to see what has gone wrong. So let us look again at the structure of the history of medicine.

The way in which we now speak of diseases as things, as independent entities, represents the outcome of a long struggle between the physiologists and the ontologists that took place from 400 B.C. to the nineteenth century. The ancient physiologists held that disease was an imbalance of the "humors" of a patient and came about primarily from an abnormal

relationship of man and his environment. In more modern terms, it would be said that the cause and the nature of disease are determined by the nature of the sick individual and can be understood only in the context of the individual's environment. (See how congenial that sounds to us today.) In contrast, the ontologists believed that diseases had their own being, that they were entities or things that invaded the sick person. You can readily see that the germ theory of disease was the victorious weapon of the ontologists, which sounded the death knell for the view of the physiologists. Even though Virchow knew the danger of confusing the cause of a disease (for example, the germ of tuberculosis) with the disease itself (tuberculosis), he was a complete ontologist. To him diseases were things that could be seen in the microscope. (It is one of the ironies of medical history that the work of Virchow, who himself was an ardent humanist and balanced thinker, drove humanism—a primary concern for the sick person—underground with such force that we are just now beginning to recover the balance.)

The key difference between the physiologists and the ontologists was the importance of the sick individual.

There have been three lines of growth in the history of medicine: the search for exact definitions of disease, the search for causes, and the search for cure. The route these searches have taken is the bequest of science and the ontological viewpoint to medicine. Our science is based on the measurement of the finite, the rendering of phenomena into numbers. It is common to confuse the question we are asking with the method we use to get the answer. Yet the method used determines the nature of the answer. If we were asked to describe a rose and we were given only a ruler to do it, the picture of the rose that emerged would be solely in terms of inches. The picture would be true but incomplete. If a ruler were our only way of describing things, we would not know that the picture was incomplete. Our knowledge of the universe is a function of our technology, and technology is a function of our philosophical view of the universe.

The three searches—*what, why, what can we do about it*—are universal. But illness is a special phenomenon. It has both objective and personal aspects, and thus the questions have both an objective and a personal meaning. The search for definitions of illness was essential to provide a basis for any further inquiry, but it is clear to anybody who has ever been ill that the ontological definitions of disease that have emerged from our history are an incomplete picture of illness.

Similarly, the question "why" asked by the person who is ill is of much greater dimension than the question "why" asked by the medical researcher. The person is really asking: "Why me? What did I do that causes me to get sick?"—to which wider questions the germ theory of disease offers only narrow answers, vitally important but incomplete.

Since the development of cure is dependent on knowing the *what* and the *why* of disease, it is clear that cure will be directed only against those objective manifestations of illness that our science has defined as disease. Thus curing the disease will be effective in resolving the illness in proportion to the degree that the illness is explained by the disease. Where all the symptoms and disordered feelings that make up illness are explained by the disease, as in streptococcal sore throat, the cure of the sore throat will resolve the illness. But in tuberculosis, where the disordered feelings, disconnectedness from the society, and numerous other ramifications of the disease are widespread and pervasive, curing—killing the tubercle bacillus—represents only part of returning the patient to health—a vital part perhaps, but only a part.

The following examples may make the relationship between disease and illness clearer.

Through most of our adult lives most of us have a disease called arteriosclerosis. We are, for the large majority of that time, not ill from it. Similarly, hypertension and diabetes exist through the majority of their natural history without associated illness. Even cancer, as we all know, can be present for long periods without symptoms.

On the other hand, it is possible to have illness without disease. While hypochondriasis may leap to mind, it probably represents a less common example. We are talking about not feeling well, about having symptoms. In those terms all of us have been ill without having disease. Sometimes we went to doctors and were reassured that we had no disease. More

The distinction between illness and disease has been buried, first, by the overwhelming prevalence of disease that had been our heritage and second by the rise of scientific medicine, whose methodology and philosophy have tended to deny the existence of that which it cannot measure and to disclaim the importance of the individual in relation to his sickness.

often, we went and were given diagnoses such as low blood pressure, tilted uterus, or hypoglycemia with which to keep our symptoms honorable (although such diagnoses do not represent disease). And often we just felt ill for a few days, and our discomfort passed without our visiting the doctor. The continuing need for diagnoses such as hypoglycemia is made clear by the persistence of that diagnosis. Into and out of popularity it passes. No matter that objective evidence rarely supports it; back it comes with the regularity of locusts. Its current vogue can be attributed to articles in the lay press, primarily in women's magazines, that tell us, "Doctors do not understand how common the problem is because they have not been trained to discover the diagnosis." It

is certainly true that doctors do not give legitimacy to the diagnosis as a disease (except rarely) because it does not fit our exacting criteria. But in the demand for this diagnosis, see how important it is that illnesses be given a legitimate name, that a sufferer have a mantle for his distress that society will accept.

There can, of course, be coexistent illness and disease. For much of the world's history and for much of the present world population, that is probably the most common form. Even here, however, things are not so simple. The huge incidence of infant and child wastage in the underdeveloped countries comes largely from the diarrhea-pneumonia symptom complex (64 percent of all deaths in the age group 1 to 4 in Egypt). Despite repeated attempts, it has been impossible to demonstrate that one bacterium or virus is responsible; the symptom complex seems to result from a mixture of problems of hygiene and nutrition. It is not caused by a "named" disease but rather represents a classical example of the interaction of culture and biology leading to death.

Even when illness and disease coexist, it is possible to demonstrate their distinction from each other. An elderly man, after his wife died, continued to work at his job in a department store, but his clothing and personal habits became sloppy and his appetite was poor. He caught a cold that persisted, with a cough that grew increasingly worse. After about two weeks he developed a fever; he was found to have pneumonia and admitted to the hospital. Despite apparently adequate therapy and an initially good response, his fever persisted and he lay listless in bed, saying that he didn't care what happened and would as soon be dead. His doctor delivered a scathing lecture to him based on the patient's lifelong religious and moral beliefs, and the next day that old man was obviously better. On the day after that, free of fever and almost free of his cough, he signed himself out of the hospital. However, he was furious (perhaps rightly so) at the doctor for not allowing him to give in to his illness.

The distinction between illness and disease has been buried, first by the overwhelming prevalence of disease that had been our heritage and second by the rise of scientific medicine, whose methodology and philosophy have tended to deny the existence of that which it cannot measure and to disclaim the importance of the individual in relation to his sickness.

The rise of psychiatry in the twentieth century established that there is validity in what we cannot measure. Certainly, the growth of psychiatry during this century and the contributions of Freud must be counted as a major medical advance. Freud showed us for the first time in a systematic way the presence and many of the operations of the unconscious mind. He made clear, in an undeniable manner, the influence of early childhood experience on subsequent behavior. He introduced a mode of therapy comparable to no previous way of making people better.

Many of the facts of unconscious behavior are apparent to any person with open eyes, an open mind,

and children. Our world has changed because of these revelations, and we shall never go back. No people at any time in the world's history have ever had such self-awareness. Yet we argue about many of these concepts as though they hadn't been around for more than fifty years and the illnesses described by them hadn't been known since the beginning of time! They do not fit any concept of disease that has evolved since Hippocrates, although the influence of emotions on bodily change had been appreciated even before Hippocrates. Indeed, we even find Freud banished from popularity in some circles.

These concepts cannot be quantified; there is no structure to examine under a microscope and, with few exceptions, no chemical to find altered in a blood test (not for lack of trying to find these changes, I assure you). They do not, in short, fit a philosophy of disease that took a long time to evolve. There are other reasons why they are difficult for doctors to accept (doctors being persons and these being very personal phenomena), but at least in part the profession's difficulty with these concepts stems from the fact that they are so "soft," so difficult to measure.

The technical revolution in diagnosis is also upsetting the previous balance between illness and disease. More and more we are presented with disease not associated with illness; indeed, that is the thrust of preventive medicine. The yearly checkup is meant to reveal disease before it has a chance to produce illness. On the other hand, the so-called multiphasic health-screening programs, which are semi-automated checkups, have produced many findings (such as high uric acid in the blood or even slightly elevated blood sugar) usually associated with disease; but because they are found so "early," physicians are often in doubt about their significance. They do not know whether to tell the patient about the findings or what to tell him to do about them if he does know. Despite such problems, the multiphasic health-screening techniques, now experimental or at least in their youth, are going to be a major presence before long, pre-packaged and sold by industry in volume.

Finally, technical advance has upset the balance between illness and disease (and healing and curing) because of the drastic changes in the disease patterns that it has wrought. For most of us in the Western world, premature death is no longer imminent. The death of infants is unusual, the death of children rare, and the death of young adults so improbable that it must be removed from the realistic possibilities of young life. The change is most clearly to be seen in women. Unwanted pregnancies and life-endangering abortion have been, or are, disappearing as threats to life. The necessity for many pregnancies to ensure a few surviving children has been eliminated by the decline in infant and child mortality. Disability resulting from gynecological disease has gone the way of the infectious diseases: increasingly rare, avoidable, or easily treatable. For the aged also, the pattern has changed; thus we commonly see persons in their seventies who are healthy and functional and no

A patient is a person with both an illness and a disease; the patient is made better to the extent that both the illness and the disease are made better.

longer "old" by the standards of our world.

The fact that these changes in disease patterns have occurred coincidentally with the rise of technological medicine has enhanced the belief that technological medicine was responsible for the changes. There may be, as Dr. Warren Winkelstein has pointed out, good reason to dispute "the underlying belief among both the lay public and people in the technical professions that the quantity and quality of medical services are directly related to the health status of the population." This contention is perhaps best illustrated by the failure of experiments in which the resources of modern technological medicine have been brought to bear against the disease-ridden poor of some "backward" indigenous group in this country or elsewhere. These studies indicate that modern medicine is unable to alter significantly the basic pattern of prevalence of disease that existed prior to the experiments. Although the failures are often attributed to the unwillingness of the group under study to accept Western medicine or its tenets, at least one excellent investigation—the Navaho-Cornell Field Health Research Project, conducted from 1955 to 1960 and extremely well received by the Navaho Indians—makes it clear that such an explanation is too simple. Working in close cooperation with the tribal leaders, the study group brought modern medical services to the Navaho Indian reservation, providing a well-equipped ambulatory care facility, physicians, nurses, and trained Navaho health aides, and transportation for hospital care. All of this was introduced into an extremely poor environment, among non-literate people in extended families living in windowless, one-room log-and-mud dwellings with dirt floors.

Both the Navahos and the study group were pleased with the day-to-day achievements of the medical services in the reservation. By objective criteria the project had some successes to report: tuberculosis, a common problem among the Navahos, was sharply reduced, and so was the incidence of significant ear infections among children. But the really startling findings were on the negative side. Except for the above decreases, at the end of five years there was virtually no change in the overall disease pattern and little, if any, change in the death rates, including a shockingly high infant mortality rate that persisted at three times the national average. The investigators concluded that the disease and mortality patterns of the Navahos were a result of the way they lived and could not be changed until basic changes took place in the tribe's way of life.

Apparently medical care alone, no matter how well

delivered or technically complete, cannot be expected to lift the burden of sickness. This point is further illustrated by the trends in the patterns of disease over the past two generations in America. Since the common infectious scourges of the past have disappeared more or less simultaneously with the growth and development of modern medicine and its technical wizardry, it is commonly believed that the dramatic improvement in the health of our society was brought about by the achievements of physicians and medical science. By and large, however, this is not true.

At the beginning of the twentieth century the pattern of disease in the United States and other Western nations showed a high overall death rate (about 28 deaths per 1,000 population per year, as against the present rate of about 9 per 1,000 per year) with a certain monotony of cause: pneumonia and influenza, tuberculosis, typhoid fever, and the various dysenteries. This high rate of mortality, as well as the specific pattern of diseases, was in part traceable directly to the urban social conditions brought on by the industrial revolution. Mass shifts of the rural population into the cities had resulted in poverty, crowding, and poor sanitation, providing fertile ground for the transmission of disease. In the United States the problem was compounded by the continuous influx of poverty-stricken immigrants.

In 1900 the annual death rate from tuberculosis in the United States was 200 per 100,000. Throughout the next five decades the death rate fell rapidly and steadily, so that by the 1950s, when the first effective antituberculosis drugs became available, the annual rate was already below 20 per 100,000. Prior to the advent of the new drugs, whatever treatment was available was frequently ineffective and was restricted primarily to those who could afford it. It seems reasonable to speculate, then, in the absence of any clear evidence to the contrary, that the improvement in the mortality rates that took place before the 1950s resulted in large part from improved living conditions, including better nutrition and diminished crowding. (It is also true of an infectious disease such as tuberculosis that its decreasing incidence promotes a further diminution in the disease, simply because the fewer individuals carrying it, the lower are the chances of contracting the disease through contact.)

As with tuberculosis, so with typhoid. After 1905 cases of typhoid fever became steadily less common in American cities, so that by the time effective drugs became available typhoid was already a very rare disease. In years past it was usual to attribute the decrease to typhoid immunization, but we know now that the vaccine at best is not very effective; rather, the improvement can be traced to the introduction of good sanitation, to chlorination of the water supply, and to improvements in personal hygiene.

Perhaps the most gratifying change of all was the decrease in infant mortality during the early decades of this century in the United States. By far the greater part of this decrease can be attributed to the sharp reduction in the diarrhea-pneumonia complex that,

as Dr. Walsh McDermott has noted, "occurred before there were any antimicrobial drugs at all; neither were there any vaccines for this disease complex. . . . The fall occurred during a time in which biomedical science and technology could put no specific, no decisive therapies or preventatives into the hands of our clinical physicians." Here again, no single reason for the improvement can be pointed out, but it can be noted that it occurred during a period in which standards of living, education, nutrition, and sanitation all improved.

Our present pattern of death and disease, of course, is not merely what is left over after we have escaped the ravages of infectious diseases. Along with affluence and the good life for many of us have come a new pattern of disease: cancer, heart disease, stroke. Yet, just as medical care played a minor role in reducing death rates in the past, so we should not expect that it alone will relieve us of our present burdens. In fact, after fifty years of consistent decline in the mortality rates, we witnessed in the 1960s a new upward trend, particularly among white males. The connection of a single personal habit—cigarette smoking—with one disease, lung cancer, seems to have been proved. In the case of our worst epidemic, coronary heart disease, however, the chain of causation is more complex. Diet, level of activity, cigarette smoking, stress, as well as other factors, are so inter-related here that it is fair to say that a whole style of life is involved—the life-style characteristic of an affluent society. It would be naïve to expect that medical science by itself can "cure" us of this condition. Even if present surgical techniques were perfected, the value of a new or repaired heart in the body of a patient whose life-style remained otherwise unchanged would not be very high.

The general health of populations, then, is not directly dependent on medical services. Medical care did not get us out of our past troubles, and it will not get us out of our present ones. These propositions should be self-evident, yet widespread confusion still remains on the subject. And the confusion continues to foster the belief among both laymen and physicians that doctors treat disease and that it is by treating disease that individuals and whole societies are made better. *Doctors do not treat disease; they treat patients who have diseases.* That distinction is obvious, so obvious that we often give it lip service without inquiring what the difference is between treating a disease and treating a patient with a disease. A patient is a person with both an illness and a disease; the patient is made better to the extent that both the illness and the disease are made better.

There is yet another reason why we have to dig and probe to separate illness and disease. The non-disease elements of the sick person arise with the course of disease in the patient, but they are also separate from it. Just as dependency that occurs in sickness is also an independent entity that may persist past recovery from the disease, so, too, may these other elements remain when the biochemical or struc-

tural alterations that constitute the disease have returned to normal. The separateness of the elements of sickness can be clearly seen by the fact that in disease we do not have to be physically reconstituted to be well again. The amputee, minus his limb but again able to function, is again well.

The nondisease elements of sickness can have several possible combinations: disconnectedness, loss of the sense of omnipotence and omniscience, and loss of control, in greater and lesser degree, may arise in illness caused by disease. These factors may arise from other causes and themselves be the cause of illness and perhaps of disease. We have seen how sickness brings forth these other elements; now let us see how they may promote illness.

The object is not to see how the factors that we have identified combine with the pneumococcus to cause pneumonia, although that is an intriguing thought, but how they present themselves in a culture whose system of illness is epitomized by pneumonia. The factors themselves, arising as they do from the structure of man much like the gallbladder, are presumed to be culture free, a universal attribute of the human organism. But when they are sufficiently intense to cause pain and thus to cause someone to search for help, they must be presented according to a system of illness congenial to the culture in order for the cry for help to be correctly identified and some therapy offered that will provide relief.

Loss of connectedness is as universal as loss itself. It is obvious that it is not only physical modalities such as the senses that bind us to the world but our emotional connections as well. These latter, though more difficult to define, play an even greater part in preventing us from "falling off the world." Our place in society, group identity, and our loved ones allow us to define ourselves. Without them we are nothing. What is important to recognize is that our very existence is defined by our relationships—our connection to life itself.

That this is true in more than a figurative sense seems clear from the lethal effect of forced separation, as occurs in voodoo death. While that example is extreme, all of us have experienced, in one situation or another, the sharp distress caused by forced loss of connectedness. Few things provoke such intense pain. The pain of loss is described as physical: a constriction in the lower chest and upper abdomen; a feeling as though there were a very heavy weight in the abdomen. When we think of the distress of loss, however, we think of it in emotional terms: sorrow, depression, anxiety, fear, anger. But coincident are disabilities that are physically expressed: the pains noted before, loss of appetite, inattention, inability to work effectively, changes in pulse and blood pressure, and so on. We assume these to be the result of the emotional distress—a visceral expression of emotion. But for the moment and for understanding the function of healers, we are better served to see them as occurring alongside the verbalized emotional response. We are accustomed to examining these re-

sponses verbally (if only to ourselves)—that is, with language. We use the word "sad" to identify for ourselves and others the emotions and their physical counterparts. "How do you feel?" "My face is heavy-browed and slow, my shoulders are tensed, my chest contracted and my stomach tight, my limbs heavy and clumsy." We don't say that; we say, "I am very sad."

With such words we inform others but, at the same time, reassure ourselves. We are reassured because, by identifying the sensation with the emotion, we contain the symptoms within the frame of rationality provided by language. But although associated, the physical feelings and the verbally expressed emotion are separate. One person may have all the physical sensations but may not verbalize the emotion. Others may verbalize the emotion, but we suspect that they feel none of the sensations. Thus far we are on familiar ground; that is, most of us recognize both the emotion and the associated sensations.

But let us picture the beginning of all this, the infant. At this period the entire learning experience is sensorimotor. As growth occurs and the infant begins to make distinctions between inner and outer self and between self and objects, previous learning is not obliterated. Until the time of speech, communication with the world is nonverbal, and the infant is not just a passive receptor.

Well before speech develops in the child the physical definitions of comfort, security, love, fear, loss, inadequate control, sense of omnipotence, and so on are laid down; therefore, well before speech the individual has become acculturated in what are acceptable modes of physical expression.

The fit person is at home in his world, connected to the people around him and in control of his body, his actions, and his world without necessarily being aware of any of these things. The sick person qualitatively differs in all these respects. . . .

Piaget says that when speech comes along, the child does not merely take his old experience and apply words to it; rather, he regresses somewhat and relearns much behavior, now in the symbolic terms of language. The old set of physical relationships with the world (and with the inner self) fades into the past, but I do not believe that it disappears. We act from there on as though things for which we do not have words do not exist. The kind of intelligence that appears with language, as Piaget shows, supplants the previous sensory intelligence or rational physicality—the ability to do or react with the environment in a repetitively effective way.

It must be remembered that the kind of thinking represented by language is not the only way to relate to the world; it is just more effective. Language or

thought allows for a kind of experimental symbolic action interposed between the impulse and real action.

With increasing language comes increasing acculturation and thus knowledge of the ways in which distress will be accepted by one's particular world. It is now easier to see why we use the word "sad" to stand for the array of physical feelings that may accompany loss or disconnectedness. It should also be easier to see why there may be many disordered sensations connected with loss that are not identified with the symbolic word in our awareness, since they may present culturally unacceptable responses.

Disconnectedness, of which loss is just one example, can, then, be associated with many physical feelings that are not present in the healthy, "fit" person. We can call these physical feelings "symptoms" and understand that they may be presented to a doctor as such, but it is highly unlikely that they would be presented to the doctor as "disconnectedness." The origin of the symptoms is buried deeply in the development of the patient, inaccessible to his awareness and equally inaccessible to the awareness of his physician.

Failure of the sense of indestructibility is another problem of the sick person. But a feeling of omnipotence is necessary to daily functioning. It is equally assaulted by automobile accidents and business failures. It helps keep our brave face toward the hostile world. It, too, plays a part in the development of symptoms, since the person with a shattered sense of omnipotence is ill—not fit. A shattered sense of omnipotence is not a suitable diagnosis for our medical marketplace. In the same way the inability to control our world may be a cause of unfitness, just as it may result from disease, but it, too, will not be acceptable in the medical market.

Such lack of fitness must be presented in terms acceptable to the patient, the doctor, and the society around them. Symptoms of disease are acceptable in our culture. In years past, legions of patients carried labels such as low blood pressure, low blood sugar, anemia, weak heart, heart murmur, arthritis, high blood pressure, and underactive thyroid to explain their symptoms and offer a basis for treatment. Now we know why the diagnosis of low blood sugar keeps coming back into vogue.

In recent years the symptoms of emotional disturbance have become acceptable terms for presenting unfitness in much of our society. The patient is allowed to be nervous, depressed, "emotional," and so forth, and he will still be well received. In New York, at least, these terms have become so acceptable to laymen and even to some doctors that they threaten to depose bodily disease. Fifteen years ago it was necessary for the doctor to be quite delicate in implying that someone's basic problem might be emotional; now, even with blood gushing from a wound, it is difficult to convince many that it is not emotional.

It is vital to remember that just as some "organic" disease may be merely a culturally acceptable package in which to hide causes of illness of which the

patient is unaware, so, too, "emotional" disease can become an acceptable loss of fitness. When this occurs, the patient does not present the physician and the world with a problem truly related to his unfitness but rather adapts his real unfitness to predefined problems acceptable to the group. "When this happens," says Lévi-Strauss, "the value of the system [in his discussion, psychoanalysis] *will no longer* be based upon real cures from which certain individuals can benefit, but on the sense of security that the group receives from the myth underlying the cure and from the popular system upon which the group's universe is reconstructed." (My italics.) The concept of emotional disease becomes part of the body of cultural myths, as do cures and therapies based on it. It does not matter whether the source of the illness or the cure is "true"; accepting it as the source is an act of faith.

For the most rational among us, purely abstract reasoning about bacterial diseases and their cures is virtually impossible; we simply do not have enough information. A case in point is the ease with which viruses have been accepted as the cause of virtually everything not otherwise explained. Illness, as we have seen, disturbs the individual's own intactness, since it threatens his connectedness to his group and world. Illness in an individual also threatens the group, since it exposes them to the possibility of the same threat to themselves. It does not matter whether the source of the disruption is "real" (as in bacterial pneumonia) or otherwise, since neither the individual nor the group really understands the "real" (the causative bacteria), any more than having an awareness of the other hidden sources of illness. The group accepts the germ theory of disease and as such, to paraphrase the quote from Lévi-Strauss, "the value of the system [now real bacterial and viral etiology of disease] is no longer based upon real cures from which certain individuals can benefit, but on the sense of security that the group receives from the myth underlying the cure and from the popular system upon which the group's universe is reconstructed."

The fit person is at home in his world, connected to the people around him and in control of his body, his actions, and his world without necessarily being aware of any of these things. The sick person qualitatively differs in all these respects, although obviously to a varying degree. These differences may arise from disease or from another source; but whatever the source, help is needed to draw the person back into the group. The exact nature of the help needed is unknown to the sufferer, since the real nature of the disturbance is below awareness or beyond reason.

Rational thought processes, at least as they are communicated, are useful only in handling material that is known and that can be converted into language. Analytic reason operates on symbols. But the nature and source of the disturbances that we have seen to be present in illness are beyond the limited confines of language for several reasons: because some of the factors involved arose during a period of individual

