Health Challenges of the Future

By George E. Ehrlich

Abstract: Health challenges of the future include: scientific advances and their social consequences, delivery of medical services to all mankind and achievement of technical solutions to concrete problems. Social control of medicine—codified in the remote past—became less necessary in recent times. In many parts of the world, it is being reapplied in the delivery of health care and will be applied even more as scientific advances of awesome proportions raise ethical questions. There will be occasional conflicts between possible legal solutions and traditional duties of the physician. Potential conflicts exist in the application of eugenic programs, genetic alterations, population control and ecological influences on life and death. New methods of health care delivery actually may require fewer, rather than more, physicians. Albeit relatively neglected at the present time, the crippling diseases present more of a problem than do the increasingly controlled killer diseases. Solutions to all these problems should include the contributions of physicians; by virtue of their training, they are able to weigh alternatives more objectively than anyone trained in pure, natural or social sciences.

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This paper is dedicated to Sir Peter Brian Medawar.
THE predictions of Sir Thomas More, Edward Bellamy and even Jules Verne should have taught us by now that prognostication of ideas and concepts is easier than prognostication of events and technological advances. Verne obviously recognized that man would some day reach the moon; he could not anticipate the scientific discoveries that would accomplish this aim. Bellamy optimistically assumed that within little more than one hundred years, man would learn from his mistakes. He predicted that by the year 2000 everyone would enjoy "magnificent health." 1 While our youth are taller and live longer, the social advances Bellamy foresaw—the end of individualism, which he believed necessary—exist today only in caricature.

History often provides a poor guide to the future; I cannot agree with Santayana that he who does not know the past is condemned to repeat it. Rather, I concur with Menen that "a thorough knowledge of the past could lead a profound scholar to predict the future course of history with great accuracy, provided that it did not turn out quite differently." 2 The pace of medical research has quickened to such a degree that discoveries announced next week could make all my speculations idle. Still, like the shadows on the walls of Plato's cave, future events may already be reflected by present-day realities.

Health challenges of the future include: scientific advances and their social consequences, delivery of medical services to all mankind and solutions to concrete problems that may be technically achievable but will raise ethical questions. Among these are genetic control, effects of death control upon population growth and environmental contributions to health and disease. We have successfully increased the quantity of life, both in span and number, without contributing materially to the quality of life. This tampering with the natural order cannot be shrugged off as a problem for others to solve. The health professions must consider the broader implications of the solutions to dispell the opprobrious supposition of indifference to them that, understandably, if unjustly, beclouds medical care today. Too much of society now thinks of the medical profession in the calumniating terms once reserved for some missionaries: They came to do good and stayed to do well. While the accusation is unfair, it reflects a prevailing attitude that medicine will have to overcome in the future.

MEDICAL EDUCATION

In most parts of the world, the function of medical schools and those of allied disciplines is oriented around the patient. The faculties teach medicine in preceptorial fashion, while treating patients. When time permits, research is an additional pursuit of the hospital-based physician and must, perforce, confine itself to clinical areas in most instances. The more basic research needed to advance recognition of principles underlying causation and pathogenesis of disease is generally performed in institutes, created for that purpose, and in universities. Until about twenty-five years ago, this was also the pattern in the United States. Then, large government grants became available; thus the seeker into basic principles was rewarded with adequate funds for his research and—not so incidentally—with salaries. Most American medical schools eagerly recruited those capable of amassing grants, as the expense for such faculties was obviously

borne by third parties—chiefly by the government and sometimes by private foundations. A whole generation of physicians was trained in medical schools that pronounced research the highest goal of the physician and left medical care to those who would not, or could not, compete successfully for grants. The laboratory, not the patient, became the focus of medical education. There is no question that our graduates now have a better grounding in the fundamentals of medical science, but, until recently, they were less capable of dealing with the patient and had even lost sight of the important principle that the patient plays a role vis-à-vis the health professions. The depersonalization and fragmentation into organs and smaller units increased the distance between patient and doctor and led to the paradox that, while we are capable of cures and successful treatments that earlier generations of physicians could only dream about, our patients become increasingly more dissatisfied with our performance.

It would be wrong to turn back the clock, but a reactionary trend has already set in. Our schools will be forced to retrench in the next quarter century; patient care and teaching will be their chief missions. Basic research will probably become more centralized as governmental support dwindles. However, the breakneck pace of discovery may not become perceptibly slowed. An enlarging population will provide increasing numbers of scientists: more scientists working, even if at reduced rates, will assure an increased total output.

**Delivery of Health Care**

One of today's shibboleths is that there is a shortage of doctors. That may be true in archaic terms. However, it would be more accurate to say that many potential patients have difficulty obtaining proper care—which is not the same thing. Modern transportation methods, the lessons learned in evacuation of sick and wounded in Vietnam and computer technology will consign the contemporary system of medical care to obsolescence. It will become increasingly foolish to place a physician in every village and at every corner—as advocated by those who see geographic redistribution as the solution. Rather, the life-saving and health-saving methods that have been developed will be applied best by teams of doctors in groups, clinics and hospitals, to whom the patients can be brought quickly. Even now, electrocardiograms can be taken by technicians at one location and read accurately by physicians geographically remote. Similarly, most life-processes will be able to be monitored from a distance; soon, the majority of diagnoses will be possible without the physician's, necessarily, encountering the patient. It may well be that advances in telephones and closed circuit television will permit the physician, from his office, to examine patients, in their homes. Only a small technical advance is needed to measure blood constituents and to transmit roentgenograms from a distance. Thus, only the most seriously ill patients will need to be transported to hospitals; physicians, increasingly more expert, can cluster in such centralized facilities. Patients needing urgent attention will be brought to these facilities by helicopter or other emergency evacuation methods.

The computer will play an increasingly important role. Problem-oriented records are already being developed to assist computer analysis. The clinical and historical features of patients' illnesses will be analyzed by computers and correlated with the stored memory of the patient's medical past. Appropriate laboratory and other ancillary
data will then automatically be ordered, obtained and interpreted; diagnostic probabilities and therapeutic approaches will be developed. The role of the physician will be one of clarification, sorting out and application of those measures still requiring human contributions. Physicians will probably be required only at the centralized facilities; specially trained assistants will provide the data from the patient.

Such a system may be depersonalized, of course. But it will seem no more depersonalized than our present system appears to those who remember the kindly doctor whose long hours of sympathetic attendance compensated for his lack of cures. When antibiotics can cure infections that once killed, who would wish to return to the bedside vigil? While the new systems of health care may militate against the development of human bonds—which we call the doctor-patient relationship—they will offer more medical care to more people.

The retreat to general practice is an exercise in nostalgia designed to provide time consuming sympathy which people look for in their physicians. Disciplines other than medicine may be developed to provide this service. As the public recognizes the increased capabilities of contemporary medical care, it is likely that the anti-intellectualism underlying protest against specialization will subside. Such care will become the province of teams, rather than of single physicians. Milieu therapy excels for chronic diseases, which are on the increase, as acute illnesses yield to scientific progress.

In many technologically advanced countries—and in some not-so-advanced countries—medical care has already come under control of government or social organizations. I have been told by an influential member of the Congress that the inevitability of national health care in the United States is now taken for granted; the only remaining question is when it will be instituted. It is true that the cost of health services and care has recently risen at an alarming rate. An equalization of salaries for health employees—to meet the standards set by other employed groups—and an expensive technology cause such costs, more than do exorbitant fees. Nonetheless, the spate of discussions in the media suggests and stimulates a public dissatisfaction that probably will require such political solutions. The domain of private practice will shrink; however, such practice will not disappear altogether, as it has not in most countries where socialized systems have been introduced. Unfortunately, socialization of nationalization of health care will not assure a halt to the inflationary spiral.

Even today, before the perfection of new techniques on a global scale, many people are not getting the available medical care they should have, because cultural factors prevent their seeking it. Antagonisms, ignorance and superstition can yield to education. Although something is recognized as feasible, it need not necessarily happen; furthermore, its desirability does not necessarily assure its acceptance.

**Concrete Scientific Problems**

The control of killer diseases is an obsession of our times. Franz J. Ingelfinger has termed some of these diseases the "haves," and contrasted them with the "have-not" diseases—those that, nonetheless, interfere with the quality of life.³ He deplores "putting money selectively into the study of diseases that generally keep older people from

getting older. He identifies "conquest [of diseases]" as "unassailable goals profitable for the politician seeking votes or the specialty organization collecting money. As a result, not only are cancer and cardiovascular diseases between them responsible for the deaths of 70 percent of us, but, in addition, we are never allowed to forget it."8 The other diseases that have recently attracted private and governmental attention have become important, not because of their high prevalence, but because of activities of pressure groups "often but not invariably organized on an ethnic basis."9 All these "have" diseases drain money from the "have-not" disorders, as a total ceiling on expenditures seems a reality for the foreseeable future. What are these "have-not" diseases? Most of them are cripplers, rather than killers, and many afflict massive numbers of people, sometimes even the majority of the population. Among these "have-not" diseases are arthritis, emphysema, asthma and ulcerative colitis.

Funding research in the "have" diseases is not synonymous with achieving results. "Not all these diseases are ready for the moon-shot approach."7 Some of them may "need more basic research, the type of research that thrives on communality, an opportunity for haphazard pollination, and on the promotion of work not tied to some specific end point."8

The ultimate conquest of death of the individual will probably never be achieved. In the meantime, as Philip Wood has pointed out, the killers remove the patient as consumer shortly after he ceases being producer; the cripplers leave the patient as consumer long after he ceases being producer.9 Such a situation is dispiriting to the individual, wasteful to his family and society and, often, unacceptable as an alternative. "Death is preferred by many to prolonged suffering, especially when prognosis appears hopeless. It is time that national health care adopted the values of individual health care and realized that it is more important to live a certain way than to die a certain way."10

I have quoted at length from Ingelfinger’s editorials, because I see no immediate upturn in the fortunes of the "have-not" diseases. If, in the near future, ways of keeping a few more people suffering from killer diseases alive are found, they will then have more time to develop and suffer from the crippler disease. I would like to think that, within a quarter century, the pendulum will swing in the other direction, increasing life space and life content for those not now so fortunate. But as long as the rewards, the glamour and the star system prevail, we shall continue to see immunologists favor cancer over the rheumatic diseases and surgeons eschew the routine operation for heart transplantation. It is worth noting that the most difficult job in heart transplantation falls not to the surgeon, although he is the star of this technically not too difficult operation, but rather to the physicians who have to prevent rejection of the foreign body without killing the patient.

Spare-part surgery will continue, and the problem of rejection will probably yield to medical science before the end of this century. Artificial organs,
rather than transplants from living or dead donors, represent one possible solution; ultimate prevention of the various diseases would take longer, while presenting a more acceptable alternative. Genetic predetermination—built-in longevity of the various bodily parts—may be the method of prevention. Spare-part surgery and other treatment can then be reserved for the occasional unexpected catastrophic event.

Problems of Population Growth

Death control will increase the in-exorable growth of population. More people capable of procreation means more people are born, even if some self-restraint is practiced. And it is by no means sure that the sophistication necessary for such restraint exists, or will come to exist, within the next quarter century. While population growth must be halted, advocacy of birth control for the whole world meets considerable resistance in some countries and by some subgroups. At present, negative population growth could prove harmful to humanity. People in underdeveloped nations, poor people or people constituting various ethnic minorities, who have previously not shared in their nation’s prosperity, mistakenly see population curbs as an attempt to perpetuate their under-privileged or minority status; understandably, they reject this prospect. For some of them, population has been held in check by disease and famine; control of these phenomena could vastly increase their numbers. They must be induced to curb their population growth, by voluntary controls. However, negative population growth must be applied everywhere, if it is to limit successfully the total population. Since the concept requires a measure of sophistication, the more educated will reduce their numbers in future generations; the more naive, including the majority of the unintelligent, will not understand the argument and will continue to reproduce in greater numbers. Genetic determinants will precipitate the continuing fall of man’s intellectual level. As has been pointed out, unless the program of absolute birth control is made compulsory—a horrifying thought—mental defectives, the immature, those with no sense of social responsibility and the poor—who know no other security than the numbers of their progeny—will be the most likely to increase their numbers. For an increasing number, this will result in genetic and environmental defects—including the least adequate economic and nutritional enviroment or unsuitable psychic and intellectual milieus. An inversion of eugenics would result, a Gresham’s law effect.

It is not certain whether the data derived from observations of animal behavior are directly transferable to human behavior. When population density increases beyond a critical level, social structure breaks down in most lower animals: some species develop aggressive antisocial traits; some lose maternal instincts; some become suicidal in behavior patterns, as illustrated by the rush into the sea of the lemmings; some have their instinctive protective skills—beaver dams, mole burrows—distorted to the degree that they no longer serve their purposes. Behavioral distortions seem to have their counterparts in the increasingly crowded and hostile environments of some of our cities. Such crowding is, in part, the result of redistribution of populations; but in large part, also a product of overpopulation, to which medical advances contribute.

12. Ibid.
It should be apparent to all of us by now, that certain overriding ethical questions go hand in hand with the medical advances that will permit better distribution of medical care, more effective death control and greater chance of survival for greater numbers. If population growth has a potential for contributing to social ills, then birth control must be developed and population control advocated by the medical profession. Perhaps, the basically humanitarian tradition of medicine can help find a middle ground.

**Genetic Manipulation**

Estienne’s classic paradox will soon yield to medical advances. “Si jeunesse savait; si vieillesse pouvait” may stand without the if-clause, in the foreseeable future. If a reordering of priorities in research takes place, the enfeebling diseases, the cripplers, the degenerative disorders will yield to medical science. Flagging powers and aging need not run parallel courses. Knowledge may come to the young without the laborious process of learning; it has been hypothesized that messenger ribonucleic acid may be able to transmit learned behavior. An experiment with flatworms, hardly intelligent creatures, suggests that the learning process for desired behavior can be stimulated by donor RNA in untrained worms. Man’s mind is much more complex, but the direct induction of learned behavior by “brain food” is at least theoretically possible.

The manipulation of genetics will soon be achievable; this awesome possibility must lead us to decide on necessary controls now. Already, some animals can be reproduced exactly, by the asexual method called cloning. A single unfertilized cell can yield a complete individual that exactly reproduces the genetic makeup of the donor. This method would permit the cloning of great mathematicians, talented musicians and superior athletes. The new individual would have to be taught, of course, but cloning assures that those features dependent on genetic makeup will already be present. By the same token, we shall be able to clone individuals suitable only for menial tasks, repetitive tasks, drone-like existences—a servant class out of H. G. Wells’s *The Time Machine*. This distortion of natural procreation is morally abhorrent to us at present. Will that always be so?

Some have speculated that all evolution requires mutation—the alteration of the heritable, genetic, makeup by accident. Mutations that have reduced the chance of survival have caused, by natural selection, the bearer to compete less adequately, while those conferring advantages have helped the survival of the fittest. Some of our diseases are the results of mutations that have had both good and bad effects. For example, sickle cell anemia proves disadvantageous to those afflicted in our country, as: it weakens the individuals, makes their survival less likely and affects them with symptoms that hamper their chances for success. Barring the introduction of new mutations, if it is true that genes producing disadvantageous status gradually lead to their own extinction, why then are there so many bearers of this disadvantageous gene? In sickle cell anemia, red blood cells have an elongated, sickle-like shape, which conferred advantages in tropical Africa and other parts of the world where a deadly form of malaria was endemic. The malaria parasite attacks normal red blood cells, leading to early death of those who contract the disease. Those who carry the sickle-cell, however, are not subject to this malignant form of malaria; even if not robust, they survive to procreate. The transplantation of the gene to our
shores and the eradication of the threat of falciparum malaria have removed the reasons for the gene's existence, but not the gene itself; thus, afflicted individuals have inherited a genetic disadvantage.

A number of factors can produce mutations, including: radiation, chemicals and viruses. The impending increase in use of nuclear energy and the contemporary emission of radiation from some color television sets, microwave ovens, X-ray machines and other sources, all increase the danger of untoward mutation. Problems which confront us are caused by the increased use of drugs and medicines—whose genetic effects cannot be predicted in man on the basis of animal experiments—and the large number of untested chemical additives in our foods; the thalidomide-induced anomalies are only one of the more obvious manifestations. The blanket of pollution surrounding the globe may lead to gradual heating of the atmosphere, with rising of the seas and reduction of the habitable land. The chemical and thermal pollutants will increase the carcinogenic potential of our atmosphere, stimulating bizarre transformations of cells, in the same way that smoking and air pollution have contributed to an increased incidence of lung cancer. Viruses can alter nucleoproteins of cells; thus, these cells can reproduce in altered form and lead to mutations and cancers. Already it has been considered feasible that a desperate power, seeking to wipe out its enemy, may use the weapon of viral warfare to produce massive genetic changes.

Modern medicine can prevent the death of many who are genetically handicapped and would have died in former times. Their survival and potential procreation means that natural selection no longer destroys the unfavorable genes; increasing numbers of genetic cripples may result. However, it is now possible to analyze, at least in part, the genetic makeup of the human embryo during its development, by removing a small amount of amniotic fluid from the gravid uterus. Many genetic abnormalities can be detected; soon, the full genetic makeup of the developing individual will be ascertainable. What, then, will happen? Will parents—or, more properly, mothers, since fathers will become unnecessary—choose to abort fetuses that do not meet desired genetic or sexual specifications? Will this be voluntary, or can it be demanded by law? Will a birth license, based on genetic qualifications, be required as one solution to overpopulation? Such a step would make the doctor an agent of the courts and demand his intervention on legal, not medical, grounds. Will a woman who becomes pregnant without a birth license, and does not conform to criteria that determine a capable parent and meet societal needs, be forced to abort her illegal pregnancy? These questions need to be asked regardless of religious considerations. Our medical capabilities increasingly lead to moral, ethical and social questions that can be answered less readily than the purely technical scientific questions.

Restructuring Man

To date, eugenics means alone have been available to correct nature's errors in man. Euthenics attempts to compensate for genetic disadvantages through environmental manipulation. In other words, the abnormality is corrected, not prevented. For example, hearing aids, corrective eye glasses, artificial limbs and implanted pacemakers minimize hereditary or acquired defects. On the other hand, eugenic methods would encourage reproduction

of desirable genes and prohibit reproduction of undesirable genes. Eugenics has been used sparingly: testing programs for Tay-Sachs disease and other inherited abnormalities permit application of eugenic principles. Response to discovery of unfavorable genes is voluntary, at present. Will laws relating to eugenics be passed in the future?

Future efforts may be aimed at the genetic complement in attempts to alter it; euthenic corrections would no longer be necessary, since eugenic enhancement of the population could result. In theory, we already possess the knowledge and means to carry out such major corrections. Undoubtedly, a harmless virus could carry into a target cell the desired genetic material, which is lacking or abnormal in the cell. Substitution of a whole nucleus carrying favorable genetic traits for a nucleus known to carry genetically impaired materials is also possible; the nucleus from an egg, extracted and replaced by a more desirable nucleus, results in a cloned individual. While man can be improved by such means, they represent a power potentially as destructive to humanity as the perverted applications of atomic fission for war.

This somewhat oversimplified summary suggests that we have made, or are on the verge of making, technological advances which will permit restructuring of the individual and of the environment. In their book, Only One Earth, Barbara Ward and Rene Dubos have raised the question of the future of the environmental features of our planet. If something is feasible, who is to decide whether it should be accomplished? If the atom can be split, who is to decide whether such fission should create new energy to fuel the world, or whether the energy should be used to blow it apart? Some scientists have argued that their function is to discover, while others must control; other scientists have publicly agonized over the consequences of their discoveries and the uses to which they have been put. Here, medicine fares rather well. A physician judges the potential morbidity and mortality of a patient's ailment: in effect, arrives at a prognosis. Based on the diagnosis, the doctor reviews the treatment options, weighs the potential gain of applying a particular treatment against its potential dire consequences and then balances these factors against the expected consequences of the disease in question. If the untoward results of the treatment are greater than those of the disease or if the expected gains are minor compared to the potential toxicity or failure, such a treatment is not employed. It is the constant application of such judgments that separates medicine from other sciences; it is in a unique position, straddling pure and applied science on one hand and social science on the other. Clemenceau's dictum has often been paraphrased: "Medicine is too important to be left to [the judgment of the] doctors." Considering the advances in technology and the lag in man's social conscience, this is probably no longer true. More respect should be shown to clinical judgment—a good dose of it might be very healthy for the body politic.

NEW AVENUES OF ENVIRONMENTAL RESEARCH

The battle against disease has employed increasingly more potent weapons. The immunosuppressive agents, developed to combat cancers which can
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kill, are being applied to control of some disorders of the skin and connective tissues. The development of resistant microorganisms that survive the standard antibiotics requires ever more powerful anti-infective agents. Arteriosclerosis and other degenerative disorders call for manipulation of the internal environment by modifiers of metabolism that are not without dangers of their own. Therefore, medical science is turning to other scientific disciplines for clues. For example, medical scientists are collaborating with geo-chemists in an attempt to define the influence on life processes of the natural and man-made environment.

In many respects, we are quite ignorant about the effects of our geochemical environment on human and other life in our ecosystem; however, evidence is beginning to accumulate that trace elements, introduced by nature or by man, may play a more important role than has been recognized. The ten most abundant elements comprise 99.2 percent of the continental crust of the earth. The next ten contribute about 0.5 percent. All the remainder, in other words, traces, account for about 0.3 percent. Several trace elements have been reported to inhibit neoplastic growth. These include: arsenic, copper, iodine, platinum, selenium and zinc. Their use for cancer control will be further investigated and might provide safer means of treatment than those now available. Others encourage cell division; depriving bacteria of these elements may offer new weapons to fight infection. Some metals are potent carcinogens; in some studies, their presence in soil and water, as a result of natural or industrial factors, has been correlated with increased incidence of cancer. Cardiovascular diseases may be more common in soft water, rather than in hard water areas. The geo-chemists are telling us: you are what you eat and drink. Such statistical relationships offer inferential evidence, not proof. Perhaps, medicine is guilty of post hoc, ergo propter hoc reasoning. The rash conclusions that first etiologically related arteriosclerotic heart disease to cholesterol, and later to other fat metabolites, are examples of such constructions. We tend to relate conditions that concur statistically; however, the limitations imposed by our inability to test for—even to conceptualize, at a given time—all other potential factors militate against conclusions about cause and effect. Rarely is disease unifactorial. Nevertheless, our ability to test for many geochemical, biochemical and immunochemical features, undreamed of only a few short years ago, opens avenues for future research.

We are beginning to recognize the biological consequences of the industrial revolution, now that pollutant sub-

stances are natural features of the environment. Our material possessions and comforts have been made more numerous and widely available, because of industrialization. At the same time, the potential dangers to our species multiply. Chemical pollutants increase the risk of disease, while medical advances help swell our numbers. Population pollution, combined with physical pollution, reduces the enjoyment of life. In the near future, control in all these areas should be feasible. Can we be asked, even forced, to give up our freedom to choose our destiny, the size of our families and the number of creature comforts we now enjoy? Can the density of the population in our immediate environment be controlled voluntarily? Medical judgment may yield appropriate answers. To help even more, the selection of medical students from among those who have shown an interest in science, rather than those who have expressed their inclinations for social science and the humanities, should be revised.22 The medical ranks need both natural and social scientists.

If these brief comments suggest anything, they should suggest my preference for the thesis that the physician is a social scientist. The future, as seen by H. G. Wells, George Orwell and Aldous Huxley, is not one which medical doctors would have created; Bellamy's optimism, with which I began, is closer to the mark. We have begun to create interdisciplinary medical teams recognizing that disease occurs in people in society in a natural environment, which man can modify. The future health challenges are larger than either the mere maintenance of health or the prevention and cure of diseases. Mankind as a whole is the patient. Let me conclude by adding two words to the subtitle of Only One Earth to summarize my remarks: The Care and Maintenance [of life] of a Small Planet.


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QUESTIONS AND ANSWERS

Q: I would like to point out that I believe the American people pay a larger amount of money per capita for their medical care—that's for doctors, hospitals, drugs, nurses and so forth—than in any other country in the world. Even that doesn't give us the best health status. Of all the highly industrialized countries, we are one of the worst in health; Russia is one of the best. I believe one can see why that is, when the approach is considered. The American doctors have very little nutritional training; they are mostly oriented to treating disease with pharmaceutical drugs, which are poisons. In Russia the stress is put on prevention of disease.

Also, I would like to ask another question. During the Eisenhower administration—due to the alarming increase of heart disease, cancer and strokes—President Eisenhower had a very well-qualified panel of doctors study the problem. The report, completed after nearly two years, was never released for the public; it was generally given only to doctors. My question is, why? Finally, what can we do to get better results for American money spent on health care?

A: I guess I am on the spot. As far as the simplest question is concerned, I heard it said earlier this evening that:
commissions are set up by governments when they don't really want to make a decision, as a way of diffusing the political process and giving a semblance of doing something about the situation. So, perhaps, that answers your second question. Furthermore, the report arrived at no secret or particular decisions. The panel that you referred to came up with answers that were well known; they merely reiterated what was extant and, unfortunately, like most commissions, filled many pages which can be found in libraries. A control program for these ills has been developing as an outgrowth of the report.

As far as the former question is concerned, I am afraid you're laboring under a common misconception—that medical care in the United States is poorer than that of other industrialized countries. There is no exact comparison between a country like the United States and countries like, say, Sweden or Denmark. These countries, with a different social system, nevertheless have a much simpler health care problem. We have the problem of various populations in vastly different areas of the country. There are sparsely populated areas and there are overcrowded slums, as everyone is aware. Bringing good medical care into areas of poverty is not simply a matter of providing physicians. Sometimes, there is resistance in these areas to the medical care that is available—either because it does not begin with free choice or conform to local culture and habits. Admittedly, if we look at the United States as a whole, our infant mortality is higher than that of, say, Sweden; however, in certain areas of the United States, we find that infant mortality is lower than in Sweden. We have some of the best medical care in the world, but this standard isn't uniform throughout the country.

I am not going to discuss either political systems or forms and approaches to diet. Medication is subject to argument; even in the Soviet Union a good deal of medication is dispensed. Preventive care is something that all of us think is desirable—the best way to treat disease; I would welcome more attention in that particular area. In recent years, preventive care has generated new enthusiasm; then, as so often happens, a lack of enthusiasm followed. None of this, incidentally, was the result of medical decisions, but is, as Dr. Brown has indicated, the result of some political realities.

Q: Physicians do not hesitate to call in a specialist when faced with a situation that they are unable to cope with individually. Has the medical profession allowed the calling in of specialists from the social fields to deal with the problems in the area of preventive medicine? Is not the doctor obligated to seek the advice of an expert on the environment, who is aware of the social ills that are creating the problems that the doctor has to treat?

Furthermore, why is there a hesitancy on the part of a physician to recognize that his patient might know the difference between a median nerve and a sore finger, an anterior and posterior dislocation of the shoulder, heartburn and a cardiac condition? Is it that a doctor will discount this information for fear that the patient's passion may obscure his ability to diagnose the situation?

A: First of all, when we speak of "a doctor," we are using a generalization. Some doctors are obviously aware of social ramifications; others are not. I can assure you that we attempt to teach our students to listen to their patients; we tell them, right at the first, that the
patient may tell one the answer to the problem. So, all of us, perhaps, even the majority of us, are not unwilling to listen. We are not unwilling to take the social context into account.

Again, I don't want to either defend free enterprise medicine or advocate specialized medicine. I don't think that's my function. Both can offer excellent medical care; both are subject to flaws. But, I can assure you that medicine has traditionally attracted people who have a strong individualistic strain. Taking on the responsibility for the health—even the life—of another person is a rather large undertaking. There are very few professions that demand so much. Someone willing to take on such responsibility must be dedicated and, perhaps, a bit egotistical. As a result, such a person may be less likely to listen to other people's arguments or concepts.