I

Two Watersheds

The year 1913 marks a watershed in the history of modern medicine. Around that year a patient began to have more than a fifty-fifty chance that a graduate of a medical school would provide him with a specifically effective treatment (if, of course, he was suffering from one of the standard diseases recognized by the medical science of the time). Many shamans and herb doctors familiar with local diseases and remedies and trusted by their clients had always had equal or better results.

Since then medicine has gone on to define what constitutes disease and its treatment. The Westernized public learned to demand effective medical practice as defined by the progress of medical science. For the first time in history doctors could measure their efficiency against scales which they themselves had devised. This progress was due to a new perspective of the origins of some ancient scourges; water could be purified and infant mortality lowered; rat control could disarm the plague; treponemas could be made visible under the microscope and Salvarsan could eliminate them with statistically defined risks of poisoning the patient; syphilis could be avoided, or recognized and cured by rather simple procedures; diabetes could be diagnosed and self-treatment with insulin could prolong the life of the patient. Paradoxically, the simpler the tools became, the more the medical profession insisted on a monopoly of their application, the longer became the training demanded before a medicine man was initiated into the legitimate use of the simplest tool, and the more the entire population felt dependent on the doctor. Hygiene

turned from being a virtue into a professionally organized ritual at the altar of a science.

Infant mortality was lowered, common forms of infection were prevented or treated, some forms of crisis intervention became quite effective. The spectacular decline in mortality and morbidity was due to changes in sanitation, agriculture, marketing, and general attitudes toward life. But though these changes were sometimes influenced by the attention that engineers paid to new facts discovered by medical science, they could only occasionally be ascribed to the intervention of doctors.

Indirectly, industrialization profited from the new effectiveness attributed to medicine; work attendance was raised, and with it the claim to efficiency on the job. The destructiveness of new tools was hidden from public view by new techniques of providing spectacular treatments for those who fell victims to industrial violence such as the speed of cars, tension on the job, and poisons in the environment.

The sickening side effects of modern medicine became obvious after World War II, but doctors needed time to diagnose drug-resistant microbes or genetic damage caused by prenatal X-rays as new epidemics. The claim made by George Bernard Shaw a generation earlier, that doctors had ceased to be healers and were assuming control over the patient's entire life, could still be regarded as a caricature. Only in the mid-fifties did it become evident that medicine had passed a second watershed and had itself created new kinds of disease.

Foremost among iatrogenic (doctor-induced) diseases was the pretense of doctors that they provided their clients with superior health. First, social planners and doctors became its victims. Soon this epidemic aberration spread to society at large. Then, during the last fifteen years, professional medicine became a major threat to health. Huge amounts of money were spent to stem immeasurable damage caused by medical treatments. The cost of healing was dwarfed by the cost of extending sick life; more people survived longer months with their lives hanging on a plastic tube, imprisoned in iron lungs, or hooked onto kidney machines. New sickness was defined and institutionalized; the cost of enabling people to survive in unhealthy cities and in sickening jobs sky-

rocketed. The monopoly of the medical profession was extended over an increasing range of everyday occurrences in every man's life.

The exclusion of mothers, aunts, and other nonprofessionals from the care of their pregnant, abnormal, hurt, sick, or dying relatives and friends resulted in new demands for medical services at a much faster rate than the medical establishment could deliver. As the value of *services* rose, it became almost impossible for people to *care*. Simultaneously, more conditions were defined as needing treatment by creating new specializations or paraprofessions to keep the tools under the control of the guild.

At the time of the second watershed, preservation of the sick life of medically dependent people in an unhealthy environment became the principal business of the medical profession. Costly prevention and costly treatment became increasingly the privilege of those individuals who through previous consumption of medical services had established a claim to more of it. Access to specialists, prestige hospitals, and life-machines goes preferentially to those people who live in large cities, where the cost of basic disease prevention, as of water treatment and pollution control, is already exceptionally high. The higher the per capita cost of prevention, the higher, paradoxically, became the per capita cost of treatment. The prior consumption of costly prevention and treatment establishes a claim for even more extraordinary care. Like the modern school system, hospital-based health care fits the principle that those who have will receive even more and those who have not will be taken for the little that they have. In schooling this means that high consumers of education will get postdoctoral grants, while dropouts learn that they have failed. In medicine the same principle assures that suffering will increase with increased medical care; the rich will be given more treatment for iatrogenic diseases and the poor will just suffer from them.

After this second turning point, the unwanted hygienic by-products of medicine began to affect entire populations rather than just individual men. In rich countries medicine began to sustain the middle-aged until they became decrepit and needed more doctors and increasingly complex medical tools. In poor

countries, thanks to modern medicine, a larger percentage of children began to survive into adolescence and more women survived more pregnancies. Populations increased beyond the capacities of their environments and the restraints and efficiencies of their cultures to nurture them. Western doctors abused drugs for the treatment of diseases with which native populations had learned to live. As a result they bred new strains of disease with which modern treatment, natural immunity, and traditional culture could not cope. On a world-wide scale, but particularly in the U.S.A., medical care concentrated on breeding a human stock that was fit only for domesticated life within an increasingly more costly, man-made, scientifically controlled environment. One of the main speakers at the 1970 AMA convention exhorted her pediatric colleagues to consider each newborn baby as a *patient* until the child could be certified as healthy. Hospital-born, formula-fed, antibiotic-stuffed children thus grow into adults who can breathe the air, eat the food, and survive the lifelessness of a modern city, who will breed and raise at almost any cost a generation even more dependent on medicine.

Bureaucratic medicine spread over the entire world. In 1968, after twenty years of Mao's regime, the Medical College of Shanghai had to conclude that it was engaged in the training of "so-called first-rate doctors . . . who ignore five million peasants and serve only minorities in cities. . . . They create large expenses for routine laboratory examinations . . . prescribe huge amounts of antibiotics unnecessarily . . . and in the absence of hospital or laboratory facilities have to limit themselves to explaining the mechanisms of the disease to people for whom they cannot do anything, and to whom this explanation is irrelevant." In China this recognition led to a major institutional inversion. Today, the same college reports that one million health workers have reached acceptable levels of competence. These health workers are laymen who in periods of low agricultural manpower needs have attended short courses, starting with the dissection of pigs, gone on to the performance of routine lab tests, the study of the elements of bacteriology, pathology, clinical medicine, hygiene, and acupuncture, and continued in apprenticeship with doctors or previously trained colleagues. These "barefoot doctors" re-

main at their work places but are excused occasionally when fellow workers require their assistance. They have responsibility for environmental sanitation, for health education, immunization, first aid, primary medical care, postillness follow-up, as well as for gynecological assistance, birth control, and abortion education. Ten years after the second watershed of Western medicine had been acknowledged, China intends to have one fully competent health worker for every hundred people. China has proved that a sudden inversion of a major institution is possible. It remains to be seen if this deprofessionalization can be sustained against the overweening ideology of unlimited progress and pressures from classical doctors to incorporate their barefoot homonym as part-time professionals on the bottom rung of a medical hierarchy.

In the West during the sixties dissatisfaction with medicine grew in proportion to its cost, reaching the greatest intensity in the U.S.A. Rich foreigners flocked to the medical centers of Boston, Houston, and Denver to seek exotic repair jobs, while the infant mortality of the U.S. poor remained comparable to that in some tropical countries of Africa and Asia. Only the very rich in the United States can now afford what all people in poor countries have: personal attention around the deathbed. An American can now spend in two days of private nursing the median yearly cash income of the world's population.

Instead of exposing the systemic disorder, however, only the symptoms of "sick" medicine are now publicly indicted in the United States. Spokesmen for the poor object to the capitalist prejudices of the AMA and the income of doctors. Community leaders object to the lack of community control over the delivery systems of professional health maintenance or of sick care, believing that laymen on hospital boards can harness professional medics. Black spokesmen object to the concentration of research grants on the types of disease which tend to strike the white, elderly, overfed foundation official who approves them. They ask for research on sickle-cell anemia, which strikes only the black. The general voter hopes that the end of the war in Vietnam will make more funds available for an increase of medical production. This general concern with symptoms, however, distracts attention from

the malignant expansion of *institutional* health care which is at the root of the rising costs and demands and the decline in well-being.

The crisis of medicine lies on a much deeper level than its symptoms reveal and is consistent with the present crisis of all industrial institutions. It results from the development of a professional complex supported and exhorted by society to provide increasingly "better" health, and from the willingness of clients to serve as guinea pigs in this vain experiment. People have lost the right to declare themselves sick; society now accepts their claims to sickness only after certification by medical bureaucrats.

It is not strictly necessary to this argument to accept 1913 and 1955 as the two watershed years in order to understand that early in the century medical practice emerged into an era of scientific verification of its results. And later medical science itself became an alibi for the obvious damage caused by the medical professional. At the first watershed the desirable effects of new scientific discoveries were easily measured and verified. Germ-free water reduced infant mortality related to diarrhea, aspirin reduced the pain of rheumatism, and malaria could be controlled by quinine. Some traditional cures were recognized as quackery, but, more importantly, the use of some simple habits and tools spread widely. People began to understand the relationship between health and a balanced diet, fresh air, calisthenics, pure water and soap. New devices ranging from toothbrushes to Band-Aids and condoms became widely available. The positive contribution of modern medicine to individual health during the early part of the twentieth century can hardly be questioned.

But then medicine began to approach the second watershed. Every year medical science reported a new breakthrough. Practitioners of new specialties rehabilitated some individuals suffering from rare diseases. The practice of medicine became centered on the performance of hospital-based staffs. Trust in miracle cures obliterated good sense and traditional wisdom on healing and health care. The irresponsible use of drugs spread from doctors to the general public. The second watershed was approached when the marginal utility of further professionalization declined,

at least insofar as it can be expressed in terms of the physical well-being of the largest number of people. The second watershed was superseded when the marginal *dis*utility increased as further monopoly by the medical establishment became an indicator of more suffering for larger numbers of people. After the passage of this second watershed, medicine still claimed continued progress, as measured by the new landmarks doctors set for themselves and then reached: both predictable discoveries and costs. For instance, a few patients survived longer with transplants of various organs. On the other hand, the total social cost exacted by medicine ceased to be measurable in conventional terms. Society can have no quantitative standards by which to add up the negative value of illusion, social control, prolonged suffering, loneliness, genetic deterioration, and frustration produced by medical treatment.

Other industrial institutions have passed through the same two watersheds. This is certainly true for the major social agencies that have been reorganized according to scientific criteria during the last 150 years. Education, the mails, social work, transportation, and even civil engineering have followed this evolution. At first, new knowledge is applied to the solution of a clearly stated problem and scientific measuring sticks are applied to account for the new efficiency. But at a second point, the progress demonstrated in a previous achievement is used as a rationale for the exploitation of society as a whole in the service of a value which is determined and constantly revised by an element of society, by one of its self-certifying professional élites.

In the case of transportation it has taken almost a century to pass from an era served by motorized vehicles to the era in which society has been reduced to virtual enslavement to the car. During the American Civil War steam power on wheels became effective. The new economy in transportation enabled many people to travel by rail at the speed of a royal coach, and to do so with a comfort kings had not dared dream of. Gradually, desirable locomotion was associated and finally identified with high vehicular speeds. But when transportation had passed through its second watershed, vehicles had created more distances than they helped

to bridge; more time was used by the entire society for the sake of traffic than was "saved."

It is sufficient to recognize the existence of these two watersheds in order to gain a fresh perspective on our present social crisis. In one decade several major institutions have moved jointly over their second watershed. Schools are losing their claim to be effective tools to provide education; cars have ceased to be effective tools for mass transportation; the assembly line has ceased to be an acceptable mode of production.

The characteristic reaction of the sixties to the growing frustration was further technological and bureaucratic escalation. Self-defeating escalation of power became the core-ritual practiced in highly industrialized nations. In this context the Vietnam war is both revealing and concealing. It makes this ritual visible for the entire world in a narrow theater of war, yet it also distracts attention from the same ritual being played out in many so-called peaceful arenas. The conduct of the war proves that a convivial army limited to bicycle speeds is served by the opponent's escalation of anonymous power. And yet many Americans argue that the resources squandered on the war in the Far East could be used effectively to overwhelm poverty at home. Others are anxious to use the $20 billion the war now costs for increasing international development assistance from its present low of $2 billion. They fail to grasp the underlying institutional structure common to a peaceful war on poverty and a bloody war on dissidence. Both escalate what they are meant to eliminate.

While evidence shows that more of the same leads to utter defeat, nothing less than more and more seems worthwhile in a society infected by the growth mania. The desperate plea is not only for more bombs and more police, more medical examinations and more teachers, but also for more information and research. The editor-in-chief of the *Bulletin of Atomic Scientists* claims that most of our present problems are the result of recently acquired knowledge badly applied, and concludes that the only remedy for the mess created by this information is more of it. It has become fashionable to say that where science and technology have created problems, it is only more scientific understanding and better technology that can carry us past them.

The cure for bad management is more management. The cure for specialized research is more costly interdisciplinary research, just as the cure for polluted rivers is more costly nonpolluting detergents. The pooling of stores of information, the building up of a knowledge stock, the attempt to overwhelm present problems by the production of more science is the ultimate attempt to solve a crisis by escalation.