Is Capitalism a Disease?
The Crisis in U.S. Public Health

by Richard Levins

Readers will note that this article is nearly twice the length of the normal MR piece, but because of the importance of the subject we are publishing it in its entirety. The text is based on a talk given by the author at the Brecht Forum in New York. —Eds.

The scientific tradition of the “West,” of Europe and North America, has had its greatest success when it has dealt with what we have come to think of as the central questions of scientific inquiry: “What is this made of?” and “How does this work?” Over the centuries, we have developed more and more sophisticated ways of answering these questions. We can cut things open, slice them thin, stain them, and answer what they are made of. We have made great achievements in these relatively simple areas, but have had dramatic failures in attempts to deal with more complex systems. We see this especially when we ask questions about health. When we look at the changing patterns of health over the last century or so, we have both cause for celebration and for dismay. Human life expectancy has increased by perhaps thirty years since the beginning of the twentieth century and the incidence of some of the classical deadly diseases has declined and almost disappeared. Smallpox presumably has been eradicated; leprosy is very rare; and polio has nearly vanished from most regions of the world. Scientific technologies have advanced to the point where we can give very sophisticated diagnoses, distinguishing between kinds of germs that are very similar to each other.

But the growing gap between rich and poor make many technical advances irrelevant to most of the world’s people. Public health authorities were caught by surprise by the emergence of

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new diseases and the reappearance of diseases believed to be eradicated. In the 1970s, it was common to hear that infectious disease as an area of research was dying. In principle, infection had been licked; the health problems of the future would be degenerative diseases, problems of aging and chronic diseases. We now know this was a monumental error. The public health establishment was caught short by the return of malaria, cholera, tuberculosis, dengue, and other classical diseases. But it was also surprised by the appearance of apparently new infectious diseases: the most threatening of which is AIDS, but also Legionnaire’s disease, Ebola virus, toxic shock syndrome, multiple drug resistant tuberculosis, and many others. Not only was infectious disease not on the way out, but old diseases have come back with increased virulence and totally new ones have emerged.

How did this happen; why was public health caught by surprise? Why did the health professions assume that infectious disease would disappear and why were they so wrong? In fact, infectious disease had been declining dramatically in Europe and North America for the last 150 years. One of the simplest kinds of predictions is that things will continue the way they have been going. Health professionals argued that infectious disease would disappear because we were inventing all kinds of new technologies for coping with them. We now can carry out diagnoses so rapidly that some diseases that might kill a person in two days can be identified in the laboratory soon enough to permit treatment. Instead of spending weeks culturing bacteria, we can use DNA to distinguish between pathogens that may have very similar symptoms. More importantly, we had developed a new arsenal of antimicrobial weapons, drugs, and vaccines, as well as pesticides to get rid of mosquitoes and ticks that are disease carriers. We came to understand that, through mutation and natural selection, micro-organisms can present a recurring threat. We assumed that whatever the microbial changes, the disease-causing mechanism would remain the same while we developed ever-newer weapons against it. It was, we believed, a war between us and the microbes, in which we would have the upper hand because our weapons were growing stronger and
ever more effective. Another cause for optimism—at least this was the argument put forth by the World Bank and the International Monetary Fund—was that economic development would eliminate poverty and produce affluence, making all the new technologies universally available. Finally, the demographers noted that while most infectious diseases are most deadly to children, we have an aging population, so the proportion of people likely to catch such illnesses will be smaller. One thing missing from this hypothesis was that one reason children are so vulnerable is that they have not developed the immunities that go along with exposure; older people have reduced susceptibility precisely because they have been exposed. But if there are fewer children, older people will have a lower level of immunity and will contract diseases at an older age. Indeed, some diseases, like mumps, are more serious in adults than they are in children.

So what was wrong with our epidemiological assumptions? We need to recognize that the historical mindset in medicine and related sciences was dangerously—and ideologically—limited. Nearly all who engaged in public health prediction took too narrow a view, both geographically and temporally. Typically, they looked only at a century or two instead of the whole sweep of human history. Had they looked at a wider time-frame, they would have recognized that diseases come and go when there are major changes in social relations, population, the kinds of food we eat, and land use. When we change our relations with nature, we also change epidemiology and the opportunities for infection.

The Plague in Europe

Plague erupted in Europe for the first time in the sixth century during the decline of the Roman Empire under Justinian. Europe suffered from social disruption and declining production. The sanitary facilities of the great ancient cities were crumbling; under those circumstances, when plague was introduced it swept through the population with devastating effects. Plague reappeared in the fourteenth century during a developing crisis of feudalism, causing a population decline even before plague became widespread. The standard history of this plague occu-
rence is that sailors landing in ports along the Black Sea brought plague with them from Asia in 1338; it then spread westward and, in a short time, reached Rome, Paris, and London. In other words, plague spread because it had been introduced from elsewhere. But it seems more likely that plague had entered Europe many times before but really didn’t take off. It only became successful when the population became more vulnerable, when the human ecosystem could not confront a disease spread by rats at a time when the social infrastructure that would have controlled rats had crumbled.

An Ecological Proposal

When we at look at other diseases, we see that they rose and fell with historical change and circumstance. So, instead of a doctrine of the epidemiological transition, which held that infectious disease would simply disappear as countries developed, we need to substitute an ecological proposal: that with any major change in the way of life of a population (such as population density, patterns of residence, means of production), there will also be a change in our relations with pathogens, their reservoirs, and with the vectors of diseases. The new hemorrhagic fevers appearing in South America, Africa, and elsewhere almost all seem to be related to increased contact with rodents that humans don’t normally meet, caused by the clearing of land for the production of grain in particular. Grain is also rodent food; rodents survive by eating seeds and grasses. When a forest is cleared and grain is planted, we also eliminate the coyotes, jaguars, snakes, and owls that eat rodents. The net result is an increase in rodent food and a reduction in rodent mortality. The rodent population grows. Now these disease-deliverers are social animals. They nest and build communities; when a new generation emerges, the young adults go out looking for homes elsewhere—often wandering into warehouses and people’s homes, facilitating the transmission of diseases.

Another human activity, irrigation, is especially related to the breeding of snails, who transmit liver fluke disease, and mosquitoes, who spread malaria, dengue, and yellow fever. When irriga-
tion proliferates, as it did, for example, after the construction of Egypt’s Aswan Dam, habitats for mosquitoes were created. Rift Valley fever, which had occasionally erupted in Egypt, can now be found fulltime. The development of giant cities in the third world has created new environments for the spread of dengue, transmitted by the same mosquito that transmits yellow fever (Aedes aegypti). It has adapted to life around the edges of cities. A poor competitor against other varieties of mosquito in the forest, these mosquitoes are able to breed in abandoned lots, in puddles, water barrels, and old tires—in the special environment that we create in the giant cities in the tropics. Dengue and yellow fever are particularly threatening because of the growth of urbanization in the tropics with megacities like Bangkok, Rio de Janeiro, Mexico City, and others with populations of ten to twenty million. As human population grows, there are new opportunities for diseases. For instance, you need a few hundred thousand in a population before it can sustain measles. If there are fewer, measles can infect the entire population; those who survive will be resistant. But if there aren’t enough new babies to maintain the disease, it will disappear and have to be reintroduced. But in a population of a quarter million people, there will be enough new babies who are not resistant that the disease can sustain itself in the population. Consider this: if we know there are diseases that require a quarter million people to be self-sustaining, what diseases will emerge in crowded populations of ten or twenty million? Clearly, as life conditions change so do opportunities for disease.

Yet another kind of myopic thinking in the public health community arose from the fact that doctors are concerned with human diseases but have not paid much attention to diseases of wildlife or of domestic animals or plants. Had they done this, they would have had to confront the reality that all organisms carry diseases. Diseases come from the invasion of an organism by a parasite. When an infection takes place, it may or may not produce symptoms. But all organisms deal with parasites and, from the point of view of the parasite, invading an organism is a way of escaping from competition in the water or in the soil. For
instance, the bacteria that causes Legionnaire’s Disease lives in water. It is found all over the world but is never very common because it is a poor competitor. It has very finicky dietary requirements, so normally humans don’t encounter it. However, it has two things going for it. It can tolerate high temperatures and is resistant to chlorine. It withstands chlorine by hiding out inside an amoeba. In a convention center, hotel, or truck stop, water is both heated and chlorinated. And if it’s a good hotel, we may find a showerhead that gives a fine spray of tiny droplets, perfect for carrying the bacteria into the furthest corners of your lungs. What we’ve done is to create the ideal environment for Legionnaire’s Disease. The chlorine and the high temperature kill their competitors, the remains of which form a coating on the inside of the pipes that is marvelously rich in the food that the Legionnaire’s bacterium loves.

If we look at other organisms, we see a constant jockeying for position between parasites and hosts. The more common a species is, the more attractive it is to new invasions by parasites. Humans are very common, and thus offer wonderful opportunities for invasion. When we observe disease patterns, we see that cholera, for example, spread from the Eastern Hemisphere into the Americas, entering Peru and then traveling up to Central America. But a similar route was followed by a disease of orange trees, by viruses of beans and tomatoes, as well as by wildlife diseases. What we see, then, is a constant coevolution between pathogens and hosts across all animal and plant life rather than a situation unique to humans. Surely, we would have a much better understanding of potential dangers if we understood human illness from this perspective.

Transmission of Diseases

What kinds of insects spread viruses to people? Nearly all of them are mosquitoes or flies, or belong to a second group which includes ticks, fleas, and lice. These are the two main groups that overwhelmingly spread human virus diseases, even though there are hundreds of thousands of other kinds of insects. There are very few diseases spread by beetles, none that I know of by
butterflies or dragonflies. Why? Are there circumstances under which they might become transmitters of diseases? Among plants, the major distributors of plant viruses belong to a totally different group of insects—to aphids. However, both groups have similar mouths and subsist by sucking liquid from their hosts: the mosquito sucking blood, the aphid sucking sap. If you have ever sucked something through a straw, you know that after a while a vacuum builds up and in order to be able to continue slurping the liquid, you have to be able to return liquid. Similarly, the salivary glands of mosquitoes and of aphids return liquid to their hosts when they take up the blood or the sap, and in that liquid you find the viruses. That’s why when we study viruses, we look at the salivary glands of mosquitoes, or of ticks, or anything else. We can begin to encounter these generalizations when we step back from looking at the particular details of a given disease and try to get a broad picture. But this wasn’t done.

The Failure to Study Evolution and Society

Another kind of scientific narrowness—really a self-imposed intellectual constriction—is the failure to study evolution. Evolution tells us immediately that organisms respond to the challenges of their environment. If the challenge is, for example, an antibiotic, organisms will respond by adapting to those antibiotics. In agriculture, we know of hundreds of cases of insects that have become pesticide-resistant; in medicine, increasing numbers of micro-organisms have become resistant to antibiotics meant to fight them. Some microbes have become resistant to antibiotics even before they are used! This happens when an antibiotic is released on the market with a new trade name, but in fact is hardly different from its predecessor. It may look different, but if it acts on the bacteria in the same way, it will be met by the same defenses. It is not enough to look at the agent of disease; we have to look at what makes populations vulnerable. Conventional public health failed to look at world history, to look at other species, to look at evolution and ecology, and, finally, to look at social science. There is a growing body of literature that says that the poor and oppressed are more vulnerable to nearly
all health hazards. But we still don’t recognize class differences in the United States. Researchers discuss differences in income or a mother’s education level or even socioeconomic status. But U.S. epidemiology does not deal with class, even when class is the best predictor of life expectancy, of old-age disability, or the frequency of heart attacks. As a predictor of coronary disease, it is better to measure class position than to measure cholesterol.

Other Explanations

Why do we wear these intellectual blinders that have so hobbled the study and practice of public health in this country? First, there are a multiplicity of long-term intellectual biases. Take, for example, American pragmatism. Americans pride themselves on their practicality. “Theory” is almost a dirty word. When we are overwhelmed with the urgency of a population that is sick, of kids that are dying, it becomes a luxury to ask about evolution. This overwhelming sense of urgency is one of the reasons why doctors don’t look at diseases of tomatoes, don’t ask about competition between different kinds of mosquitoes, and certainly don’t look at historical factors. There is an inevitable tunnel vision built into the urgency of carrying out applied clinical or epidemiological work.

A second reason is the western scientific tradition of reductionism, which says that the way to understand a problem is to reduce it to its smallest elements and change things one at a time. This is very successful when the question is, “what is this made of?” Then we can isolate it, cut it out of an organism, put it in the blender or under the microscope. In fact, we have been marvelously successful at identifying what things are made of. That is why we have had a growing, if irrational, sophistication about small phenomena and events throughout the whole of scientific enterprise. Why is it we are so successful at giving individual emergency treatment and so ineffectual in stopping or preventing malaria, in anticipating its return, or dealing broadly with the health of whole populations? We are marvelously successful at breeding a wheat plant that can better use nitrogen to produce more grain but much less successful at alleviating hunger in the countryside.
Four Hypotheses

So the typical failure has been a refusal to look at complexity. The successes have been successes of the small, where we could focus on isolated elements. In the United States, even though we spend more than any other country on healthcare, we have among the worst results among the industrial countries; certainly we are behind the Europeans and, in many ways, also behind Japan when the usual indicators of health are considered. This is something that worries public health people; why, they ask, do we spend so much and have so little to show for it compared to other countries?

Here are four hypotheses:

One, we don’t actually get more healthcare; we just spend more for it. We know that something like 20 percent of our healthcare bill is in administration, that is, the cost of billing and the like. The rate of profit of the pharmaceutical industry is greater than that of capitalism as a whole, and much of that is in the United States. Doctors’ salaries are huge, as are charges for hospital rooms. The consequence is that “investment” per patient is enormous.

Two, even when we do get more healthcare, it is not always good healthcare. Now, this seems paradoxical because we have more MRIs and more CT scans and more dialysis machines than most other countries. So why is our health not better? Medical decisions are not always made for medical reasons. There are a lot of incentives for making decisions as to which kind of techniques to use, what kinds of interventions—when to carry out heart surgery, for example—which give rise to differences in medical procedure among countries. We do a lot more implanting of pacemakers than Europe and perform more cesarean sections and hysterectomies. A hospital buys an expensive machine to attract both doctors and patients. But once on hand, it has to be used. You can’t allow an MRI machine to sit idle in the hospital, so doctors are encouraged to use it if only to amortize the institution’s investment. Another is that in order to keep the “batting average” of a surgeon high, he or she has to perform enough operations (several hundred a year) to keep skill levels
up. An isolated hospital with only one heart transplant every three or four months is not a safe place to go. The wise patient will seek out a hospital with a highly regarded cardiac service equipped with the latest technology. But to win that prestige, skills must be maintained, so there’s an incentive to keep both surgeons and machines working. Since the service is also an expensive thing to have, it needs to be kept busy if only to bring in surgical fees. But does it make sense to have all that expensive equipment? Hospital administrators will tell you it does because the hospital down the road has it. If Mass General is in competition with Beth Israel, and both compete with Mount Sinai, all of them need the most advanced machines. Then there are the HMOs, which have their accountants making medical decisions, effectively rationing healthcare. Both approaches are meant to maximize profit. What happens is that sometimes people get too much care, sometimes too little. But in both cases, our health is a side effect of the obsession with making money. The irrationality of the system extends even to the rich, who are over-treated. We kill nearly two hundred thousand people a year through improper medical interventions. Many more die due to misuse of heavily advertised prescription medications, over-the-counter remedies, and other preparations.

The third hypothesis requires no elaboration for *Monthly Review* readers: the healthcare system is built on a foundation of inequality. Only some of us actually receive or have access to the healthcare we need, while most don’t.

Finally, the fourth hypothesis: we have created a sick society, even as we invest more and more to repair the damage. We are exposed to more pollution and increasing levels of stress and therefore exposed, ironically, to more opportunities to display our cardiac surgery skills. We make more people miserable, so we spend more on psychiatry and on psychotropic drugs. This is clearly evident in the public health situation in contemporary Russia, where the collapse of universal health coverage exposed the population to all the ills of incipient capitalism. They have had waves of epidemics, diphtheria, whooping cough, and the completely novel situation in modern times of declining life
expectancy—from about sixty-four years to about fifty-nine years. Ours is a sick society that demands ever greater expenditure to repair the damage to public health that it has itself inflicted.

Responses to the Crisis

The condition of healthcare has not gone unnoticed; in fact, there is widespread and growing dissatisfaction. And there have been a number of responses to address the situation:

_Ecosystem Health:_ Ecologists looking at the problem have derived an approach they call Ecosystem Health. They posit that there are ecosystems under stress for multiple causes: from pollutants, contaminated food and water, high stress, and changes in the daily rhythm of life. For example, with nearly universal electrical light, people sleep less and our physiology changes. If we examine human biology as a socialized biology, we notice that there are things that appear as constants of human biology that really are not. For instance, it has long been conventional wisdom that, as a natural part of the aging process, blood pressure increases with age. But it turns out that among the !Kung Bushmen of the Kalahari, blood pressure increases with age only up through puberty and then levels off. Our blood pressure pattern is a function of the kind of society in which we live. We can see this in the pattern of stress reaction hormones which vary with one’s social location. Recent Harvard studies have shown that among groups of teenagers from high school, all of whom are doing equally well academically, working-class kids showed prolonged rises in cortisol under any kind of stress while upper-class kids showed a quick spike and then decline. The physiology of working-class youngsters was altered by their social location, whether or not they acknowledged their working status. Evidently one’s body knows one’s class position no matter how well one has been taught to deny it. Human physiology, then, is a socialized physiology and differing social locations create different relationships with the environment. This knowledge has led to the ecosystem health concept, bringing together environmentalists and public health people to examine questions about how we rate the health of the whole ecosystem.
The Environmental Justice Movement: This movement arose from the observation—by others—that the best way to find an incinerator or a toxic waste dump is to look for an African-American neighborhood. With lower real-estate values in minority neighborhoods, it is cheaper to put the incinerator there. Zoning rules, made by the powerful, are more lax there. So the health risks from pollution and industrial waste become yet another facet of oppression. Exposure to pollutants doesn’t affect everybody equally. Exposure to occupational health hazards—the exposure of somebody who makes a living sandblasting buildings, for example—is very different from someone who works at a desk totaling up actuarial tables. Exposure to environmental insult also varies with class and the condition of oppression. The environmental justice movement has been a response to this, fighting the dumping of pollutants and attempting to equalize the risks of an industrial society.

Social Determination of Health: This approach has been growing among epidemiologists, partly due to the rediscovery of what Rudolph Wirchow and Frederick Engels pointed out in the nineteenth century: that capitalism itself can undermine health. This is important to keep in mind when conservative and reactionary commentators assert that there isn’t any real poverty anymore. They argue that while some people make more money than others and can afford a bigger color television, the poor are not without their TVs. The car of a poor family is a little bit older or perhaps they do not eat in restaurants as often, but this inequality does not negate the real truth as the right-wing pundits see it: basically, there is no longer any poverty. Of course, an answer is easily found in the numerous studies that show that, in fact, black people pay for racist oppression with life spans ten years shorter than that of whites. Poor and oppressed minorities have 25 percent fewer successful encounters with the healthcare system than more privileged groups. Meanwhile, the rate of death or other harmful outcomes increases with the level of poverty in illnesses like coronary heart disease, cancer of all forms, obesity, growth retardation in children, unplanned pregnancies, and maternal mortality.
Those interested in the social determination of health include some English scholars, such as Richard Wilkinson, who has looked at the life expectancies of different ranks in the English civil service. He found there was a difference even among those groups that are better off than those exposed to obvious dire need. He noticed that mere social hierarchy, social differentiation, makes your health worse everywhere, not only among those in extreme poverty. Now this can be interpreted in two opposing ways, but both of them are operative. One is to say that inequality *per se*, rather than the level of poverty, can make a person sick. Another is to say, quite literally, that it is all in your head. In support of the latter, baboon studies are cited that seem to indicate that those with higher rank in their troupe have better health. Their arteries are cleaner; they respond to stress like upper-class people; their cortisol level shoots up under stress and then comes right down again. Lower-ranking baboons tend to have the effects of stress lasting longer; their life expectancies are lower. But if you intervene in animal communities and alter their social hierarchy, within a few months the baboon’s physiology will take on the characteristics of its new social location. This leads some people to say that it is how people perceive their situation in society— and therefore that people must be taught to cope with where they are, that after all, we create our own realities. That’s a common phrase in some of the growth and therapy movements: we create our own realities. It’s not so much that you’re underpaid and poor, but that you feel lousy about it. And so we have devised cheer-up pills: the cure for depression is not to get rid of the depressing situation, but to help people feel better about it. Another way to look at this so-called social determination of health is to see it not as a simple result of inadequate incomes that need to be raised, but as a consequence of a profoundly stratified, class-based society. Those who emphasize the latter feel that it is a more radical position than simply talking about how absolute deprivation is bad for your health, because the remedy for that would seem to be to increase income. Instead, they say, you have to eliminate the inequalities of class. Since the same studies can give rise to opposite conclu-
sions, we need to emphasize that inequality affects your health in many different ways. When rich people think about poverty, they think about it only in the sense of having a little bit less, without examining the underlying structure of impoverishment. Poverty affects people, first of all, as chronic deprivation, actually having less food or worse food. Kids who live in damp, moldy apartments have worse health than kids who live in dry apartments. There are many other ways in which chronic deprivation itself is a menace to health.

There are what we call low-frequency, high-intensity threats, meaning those experiences that do not happen to everybody, but that could, and therefore are a constant threat to a sense of well being. Robert Fogel, a right-wing, Chicago-school economist, pointed out in his book *Time on the Cross: the Economics of Negro Slavery* that most slaves were not whipped. He went on to say that slavery was not what we would imagine from reading *Uncle Tom’s Cabin*, that it had a certain economic rationality. What he neglects to say is that physical abuse of slaves, even when not employed, was a constant threat. Most slaves, perhaps, weren’t whipped but all of them witnessed or knew about beatings. Similarly, most kids in impoverished neighborhoods are not shot, but getting shot is a constant menace every time you go to the store or go outside. These are examples of medium- and low-frequency, but very high-intensity, threats.

There also are high-frequency, low-intensity insults, the daily harassment one can see, for instance, in African-American communities. There, one is constantly forced to make strategic decisions. Am I walking so slowly that the cop is going to think I’m loitering? Or, am I walking so fast that he or she will think that I’m running away from the scene of a crime? If I come onto campus at night to work in my laboratory, will I first be stopped by the police who think that I’m a thief? I remember once the resident commissioner of Puerto Rico was stopped by police on the way to his office in Washington. They laughed when he said he was a member of Congress and the resident commissioner. Ramos Antonini was black.

We are learning now from the study of neurotransmitters that
our brain is not the only locus of social experience. The cerebrum gathers social experience and transmits it through many branches of the nervous system into the neurotransmitters. The neurotransmitters are chemically similar to substances in our immune system, in the white blood cells. In a certain sense, we think with our whole bodies, we feel with our whole bodies, and so the whole body is the locus of social experience that comes with these patterns of chronic conditions, of low-frequency threats or high-frequency insult. There are many dimensions to the experience of deprivation but they are often lost in the hands of the statisticians, who simply see poverty as a quantitative difference in income.

The Health Care for All Movement: This group champions a national health insurance system and has done much work comparing the American system to the Canadian system; many progressive physicians are active in this movement.

Alternative Medicine: The alternative health movement deals mostly with individual health. It stresses diet, exercise, homeopathy, chiropractic, and naturopathic remedies—areas where people feel that they have not been treated adequately by the established medical system. They draw on a holistic approach to health rather than the targeted, magic-bullet approach of traditional allopathic medicine. They seem to be particularly effective in dealing with long-term chronic conditions rather than acute emergencies. For instance, for those who need radiation and chemotherapy for cancer, alternative practices are helpful in modulating the negative side-effects. The strategy of modern medicine is that cancerous tissue is sufficiently fragile and can, in effect, be poisoned in the hope that the radiation or chemotherapy will kill the cancer more than it kills you. The approach employed by alternative therapies not to attack the cancer directly, but to try to build up the body's defenses. So the two approaches complement each other. Alternative medicine is very attractive and very powerful, but its primary appeal is to people who have control over their lives and access to the resources and techniques of alternative healthcare. It is not a mass movement; the holism it advocates stops at the edge of your skin. It is not a
societal holism. Nonetheless, it is a powerful antidote to those movements that simply demand healthcare for all, without asking what kind of healthcare.

A Radical Critique

A radical critique of medicine has to deal with the things that make people sick and the kind and quality of healthcare people get. A Marxist approach to health would attempt to integrate the insights of ecosystem health, environmental justice, the social determination of health, “healthcare for all,” and alternative medicine. One aspect of my approach to the issues of healthcare comes from my background as an ecologist. I looked at variability in health across geographic locations, occupational groups, age groups, or other socially defined categories. Just how variable, I asked, is the outcome in healthcare in different states in the United States, different counties in Kansas, different provinces in Cuba, different health districts in a Brazilian state, or in a Canadian province? Very interesting patterns emerged from that work. My colleagues and I examined the rate of infant mortality in each of these regions, both as an average and how, in each place, the rates varied, reflecting the quality of healthcare, among other factors, from the best to the worst. What we saw was that infant mortality rates in United States were more or less comparable to Cuba, that Kansas had a rate a little higher than the U.S. average, while Rio Grande do Sur in Brazil had a more typical, and much higher, third-world infant mortality rate. That Cuba scored so high was not very surprising.

However, when we viewed the same data from the perspective of the range from the best to the worst rates of infant mortality, that is, the variability within given populations, an effective measure of fairness, much more was revealed. The numbers for counties in Kansas showed the greatest variation, while the numbers that compared U.S. states showed somewhat less difference. The difference across health districts of Rio Grande was even less, and the least variation was in Cuba. Similar things happen when we look at all causes of death. Once again, we observed average rates as well as the disparity; we divided the
variation, the difference between best and worst, by the average. For Kansas the range divided by the average is .85, but in Cuba it was .34. We saw that the cancer rates in Kansas and in Cuba are comparable, but the variability is higher in Kansas than in Cuba. When we examined Canadian data, we found that Saskatchewan was somewhere between Kansas and Cuba.

The reason we chose these places is that on the one hand Brazil, Canada, and Kansas all have capitalist economies in which investment decisions are based on maximizing profit rather than any social imperative meant to equalize economic circumstance. Saskatchewan and Rio Grande do Sur along with Cuba have national health systems that provide fairly uniform coverage over a given geographic area. The Canadian and Brazilian regions have the advantage of a better and more just healthcare system but, unlike Cuba, they have the disadvantages of capitalism, giving them an intermediate location in the variability of health outcomes.

This method can also be applied when comparing different diseases. One question we want to answer is whether variability will be greater across states and other large geographic regions, or across small areas like counties. There are good reasons why it might go either way. For example, weather could impact the data in large areas like states. But weather is not the only variable; others may vary greatly over smaller geographic units, only to be lost in the averages we develop for large areas. When we are able to look at smaller areas, for example, like different neighborhoods within the city of Wichita, Kansas, we find a threefold variation in infant mortality. We also notice that unemployment in Kansas averages 9 or 10 percent in most Kansas counties but is 30 percent in northeast Wichita. Why? Because neighborhoods are not simply random pieces of environment. They’re structured. Wherever there is a rich neighborhood, you need a poor neighborhood, like northeast Wichita, to serve it. And so whenever we can get data across neighborhoods, we see very large variations in social conditions and, as a consequence, in the quality and quantity of healthcare—clearly unnecessary from the point of view of any limitation in our medical knowledge or resources.

Another interesting case can be found in Mexico, where a study
was conducted of several villages, ranking them according to how marginalized they were from Mexican life. Examined were such variables as whether there was running water or what proportion of the people spoke Spanish. The research showed that the more marginal communities had worse health outcomes. But, unexpectedly, the data also showed that there was tremendous difference among the outcomes in poor villages that you didn’t get among the villages that were integrated into the Mexican economy.

It is an as-yet-unrecognized ecological principle in public health that when a community or an individual organism is stressed for any reason (low income, a very severe climate, for example), it will be extremely sensitive to other disparities. So, if people have very low income, changing seasonal temperatures become very important. For example, in late autumn and early winter, emergency rooms have a lot of people coming in with burns from kerosene stoves, ovens, and other dangerous means used to compensate for inadequate heat in their houses. For such people, a small difference in temperature can have a big effect on their health—one that doesn’t affect the more affluent. The same is true in relation to food. When people are unemployed, or if the prices go up, they cut back on food and other kinds of expenditures with an immediate impact on nutrition. If you are a superb shopper, and if you clip all the coupons and scrutinize the supermarket ads, you might just get by on the Department of Agriculture poverty level basket; the people who dream up these baskets assume you are a wiz at finding bargains. But suppose you are not so good, or that you read the ads but cannot get away for two hours for comparison shopping. Or that you live in a neighborhood where the local supermarket was not as profitable as the national chain that owned it thought it should be, and is gone, and with it your opportunity to get quality food. Or suppose that you would love to eat organic food for lunch but what you have is a half-hour break to go down to the vending machines. Under those circumstances, individual differences in where you work, how much energy you have, whether you can have a babysitter available or not, can have a big impact on your health.
The Illusion of Choice

Poor health tends to cluster in poor communities. Conservatives will say, "well, obviously poverty is not good for you, but after all, not all kids turn out badly. I made it, why can't you? Some people have become CEOs of corporations who came out of that neighborhood." What they miss is the notion of increased vulnerability. The apparently trivial difference in experience can have a vast effect on the health of someone who is marginal. Suppose a pupil is a bit nearsighted but, because she is tall, is seated at the back of the classroom. The teacher is overworked and does not notice that the student cannot see the blackboard. She fidgets; she gets into a fight with the kid at the next desk. Suddenly she has become someone with a "learning problem" and is transferred to a vocational course even though she might have been great poet. In a more affluent community, where the classes are smaller and teachers pay attention, this kid would simply end up with glasses. Individual differences can come from anything, from personal experiences growing up, even from genetics. But even when genetics is responsible for a given human characteristic, it is only responsible within a particular context. For instance, in a factory emitting toxic fumes, people will develop cancer at a higher rate; those most likely to develop the cancer have livers that are not able to effectively process a particular chemical as well. This is a genetic variable and thus a genetic disease but it occurs only with exposure to those fumes. The cancer is not a result of genetics alone; it is also caused by the environment.

Trivial biological differences can become the focus around which important life outcomes are located; the most obvious is pigmentation. The difference in melanin between Americans of African and European origin is, from the point of view of genetics and physiology, trivial. It is simply the way in which a pigment is deposited in the skin. Yet this difference can cost you ten years of life. So is this a lethal gene? Is this a gene for a higher spread of pigmentation—one that also makes you more vulnerable to arrest? A standard geneticist would look at family histories and determine that if your uncle was arrested, there would be a
higher probability of you being arrested as well. Conclusion: the cause of criminality is genetic. Following the rules of genetics in this mechanistic way, he or she will have proved that crime is hereditary. This makes as much sense as the notion that black people get more tuberculosis because they have bad genes. Genetics is not an alternative explanation of social conditions; it a component of an investigation of causal factors. There is an intimate interdependence among biological, genetic, environmental, and social factors.

Behavior is one of the areas where public health workers want to intervene, arguing that much that differentiates health outcomes in poor neighborhoods from rich ones can be associated with behavior, such as smoking, exercise, and diet. Conservatives, finally forced to concede that there are big differences in health outcomes between rich and poor, now say, “yes, this is because the poor make unwise decisions. The appropriate remedy is education. We know that kids do better if their mothers have had more schooling, so what we need are education programs to teach people to make the best of their situation.” In fact, some health education programs are valuable. Safety orientation within factories does help people cope with unsafe conditions. But let us take a closer look at this question of choice. The Centers for Disease Control, and others who deal with these issues, say only some things can be chosen, while others are imposed by the environment. They would have us distinguish between disadvantages imposed on us, that may be unfair and/or can be eliminated, from those that were freely chosen and for which we can only blame ourselves. A Marxist confronted with choices among mutually exclusive categories like choice versus environment, heredity versus experience, biological versus social, knows that the categories themselves must be challenged. Choice also implies the lack of choice. Choices are always made from a set of alternatives that are presented to you by somebody else. We know this from elections and from shopping. We choose food, but only from the products a company has chosen to make available to us. The choice is distinguished by the lack of choice, that is, unchoice. The same is true with respect to the opportunity
to exercise choice. There are always preconditions to the exercise of choice. If the conditions of life are very poor or oppressive, some of the things that are unwise choices under other circumstances become the lesser evil.

Public health people, like nearly everyone else, worry a great deal about teen pregnancies, which generally are not a good idea. Teen mothers are not experienced; they may have difficulty taking care of their babies; and the babies are more likely to be underweight. Nevertheless, it turns out that the health of a baby born to an African-American teenager is on the average better than the health of a baby born to an African-American woman in her twenties. Why? The environment of racism erodes health to such an extent that it makes a certain amount of sense to have your babies early if you're going to have them. This is something that is not obvious when you simply say, "teen pregnancy is a danger to people." We need to look at teen pregnancy in a much broader social context before we can think about making it simply a public health issue.

Smoking is another example. Smoking increases inversely with the degree of freedom one has at work. People who have few choices in life at least can make the choice to smoke. It is one of the few legitimate ways in some jobs to take a break and step outside. So there are people who choose: "yes," they say, "it might give me cancer in twenty years, but it sure keeps me alive today." The unhealthy choices people make are not irrational choices. We have to see them as constrained rationality, making the best of a bad situation. Most of the apparently unwise decisions people make have a relative rationality to them when their circumstance is taken into account, so it is unlikely their behavior will change simply by lecturing to them. You have to change the context within which choice is made.

Yet another dimension of choice is found in the way we perceive time. When making a choice about health, we assume that something we do now will have an impact later on. That may seem obvious, but it is not the experience of everyone. Most people, in fact, do not experience the kind or quality of freedom that gives them control over their own lives, that would allow
them to say, “I will quit smoking now so that I won’t get cancer in twenty years.” Not everyone can organize their lives along an orderly annual time scale. In the inner city of San Juan, in Puerto Rico, the life pattern is such that one can work unloading a ship for twenty-three hours a day for two days, then sleep for three days, then unexpectedly work in a restaurant for another two days because his or her cousin has to go to a funeral in the mountains. Time does not have the same structure when you can’t make solid plans now for what is going to happen to you later.

On the other hand, the lives of, say, academics are notable for the way time is organized. Students can and do choose courses of study that, in two or three years, will prepare them for a career. On a shorter time scale, a professor may conveniently order his or her teaching schedule around patterns of Monday, Wednesday, and Friday, or Tuesday and Thursday. Physicians decide when to see patients, when to be in the library, when to go to seminars. So some people can actually structure their lives in such a way that we can actually make predictions. Not absolute predictions, obviously. Things can come up; we can be hit by a car. But, basically, the more control you have over your life and your experience of life, the more it makes sense to make the kind of decisions that public health experts recommend, the more the possibility, then, of exercising choice. So the answer to those who talk about decision-making and choice is to tell them, first of all, to expand the range of choices. Secondly, they need to provide the tools for making those choices. Third, of course, people need to control their own lives, so that they can exercise all their faculties to make meaningful choices. In taking each of these steps, we directly challenge the false dichotomies that rule thinking about public health and constrain it within predetermined societal boundaries.

What Can Be Done?

At a recent meeting I attended, a paper was distributed that posed the following dilemma: Why, living in a democracy, where all citizens have the vote, do we permit policies that create inequalities that have such a negative impact on our health? How
do we explain this? We have schemes to improve agriculture but they increase hunger. We create hospitals and they become the centers for the propagation of new diseases. We invest in engineering projects to control floods and they increase flood damage. What has gone wrong? One answer might be that we are just not smart enough. Or the problems are just too complicated, or we are selfish, or we have some defect. Or, after having failed to eliminate hunger, improve people's health, and do away with inequalities, and failed, perhaps we need to face facts and conclude that it just cannot be done. Or perhaps we're just the kind of species that is incapable of living a cooperative life in a sensible relation to nature.

We should reject any of these unduly pessimistic conclusions. The history of struggle is long and not without achievements. But struggle is also difficult. For example, it is easy to depend on the illusion of democracy and a beneficent government to solve our problems. But when we look at the policies that emerge from those institutions of democracy, we see that those ostensibly aimed at improving the people's lives are nearly always hobbled by some hidden side condition. For instance, I am sure that on the whole, President Clinton would rather have people covered by health insurance than not. But that is subject to the side condition that insurance industry profitability must be protected. He probably would like medicines to be cheaper, but only if the pharmaceutical industry continues to make high profits. Abroad, the United States would like peasants to have land, but only if not expropriated from plantation owners. The basic reason that programs fail is not incompetence, ignorance, or stupidity, but because they are constrained by the interests of the powerful. Sometimes we discover that part of a program is carried out successfully, and part not. An enterprise zone might be established in an inner city that actually brings in investment, but there is no impact on poverty because the assumption that benefits would trickle down was an illusion. A reasonable return on investment was the goal of the developers. When that was achieved, nothing else mattered.

A good way to see how these hidden constraints, these systemic
barriers, operate is in the delivery of health services elsewhere. Healthcare in the United States exists against background of this country’s unrestrained capitalism. We have described at length both the prospects and problems of that system. But, in Europe, social democrats historically have taken a different approach—one that acknowledges inequality as an obstacle. They have treated unemployment, for example, as a social problem rather than an inevitable byproduct of a vigorous market. A town council will address it by financing a center for the unemployed, with counselors to advise them of their right to unemployment insurance and other benefit programs. The center may even organize a support group where people can deal with their feelings about not being able to bring home an income to the family. Local governments can address other social concerns. In London, there is a program to break down the isolation of young mothers, where they can meet one another, share experiences, and provide support. Of course, none of these measures affects profitability or challenges the market. So the council cannot create employment. Even the most farsighted programs initiated by European social democratic governments do not challenge the capitalist order in any way. What they do is to try to make things more equitable—for instance, through progressive income taxes or generous unemployment insurance. In Sweden, transport workers demanded improved food to reduce heart disease among truck drivers. They organized to improve the quality of food in the roadside canteens and collaborated with restaurant owners and canteen owners and food was improved. In other places, unions have negotiated collective agreements to change shift work, hours of work, and working conditions. The unions recognized that health concerns were but another aspect of class relations.

In some cases improving on-the-job health is relatively cost-free. No employer will object to putting up a sign reminding workers to wear their hard hats on the construction site. But it begins to get a little tricky when you talk about the reorganization of work or the expenditure of money. If the expenditure of money comes from taxes, through government programs to
improve health, we can expect the business class to object. And if, after each new expenditure, they perceive some interference with their competitive position, their opposition may take some political form, for example, the repeal of some aspect of health and safety regulation. When an expenditure has to come from the individual employer, perhaps by way of a union demand, they will be even more resistant. They will say that it is bad for competition and threaten to close down and move somewhere else. If the union’s demands deal with the organization of work itself, management will see workers impinging on the very core of class prerogative. In that situation, only a powerful and well-organized labor movement will be able to impose changes.

When health policy is looked at from the point of view of which issues involve a direct confrontation of fundamental, ruling-class interest, which ones involve simply relative benefits to a class, and which are relatively neutral, we can predict which kinds of measures are possible. This highlights the lie in the notion that society is trying to improve health for everybody. We need to see healthcare in a more complex way. Health is part of the wage goods of a society, part of the value of labor power, and therefore a regular object of contention in class struggle. But health is also a consumer good, particularly for the affluent, who can buy improvements in health for themselves. Rather than improve water quality, they buy bottled water; rather than improve air quality, they employ oxygen tanks in their living rooms. Health is also a commodity invested in by the health industries, including, hospitals, HMOs, and pharmaceutical companies. They sell healthcare to as large a market as can afford to pay for it; they even push it on people who do not need it. Like any aggressive business, the health industries engage in public relations—the winning of hearts and minds. Some of the clinics that were established in Southeast Asia during the Vietnam War and earlier, during the Malayan insurrection, were for this purpose. Doctors, at great sacrifice, would go into the jungle and set up clinics and work very hard under very difficult conditions for low pay, seeing themselves either as bringing benefits to people who needed it or, more consciously, as trying to prevent communism.
It was yet another reincarnation of the White Man’s Burden that justified nineteenth-century imperialism.

If good health depends on one’s capacity to carry out those activities that are necessary and appropriate according to one’s station in life, it matters how that station is determined. Those who can determine for themselves what constitutes necessary and desirable activities are clearly different from the people who have that determination made for them. This distinction is clear when an employer negotiates health insurance for his or her employees; for the employer, the cost of the benefits package will always come before what employees may think they need. So health is always a point of contention in class struggle. So is medical and scientific research; knowledge and ignorance are determined, as in all scientific research, by who owns the research industry, who commands the production of knowledge production. There is class struggle in the debates around what kind of research ought to be done. Increasingly, research in the health field is dominated by the pharmaceutical and electronic industries.

There are intellectual concerns about how to analyze data, about how to think about disease, about how widely we need to look at the epidemiological, historical, and social questions they raise; there are also issues of health service and health policy. But they are all part of one integral system that has to be our battleground in the future. We have to take up health as a pervasive issue as we do with problems of the environment; they are aspects of class struggle, not an alternative to it.