

# Medicine at the Millennium: Still Caught between Descartes and Spinoza

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In the aftermath of the attacks on the World Trade Center in September, Washington's "war against terrorism" is shifting our nation's priorities not only in respect to military spending and civil liberties, but in the domain of health care as well. The federal government is now planning, for instance, to spend billions of dollars to protect Americans from the threat of biological/chemical warfare. But this new campaign will not remedy international dangers to human health such as epidemic infectious diseases, environmental pollution, and the overuse of antibiotics in agriculture and medicine.

Nor is medical care in the United States capable of coping adequately even with everyday illnesses. Medical expenses are rising to intolerable levels, while forty-three million Americans currently have no health care coverage at all. And the aging baby boomer generation will soon place extraordinary demands on the system.

What can be done? It is pretty clear that we cannot simply depend upon the corporations – the so-called "medical-industrial complex"— to handle the nation's health care needs. Medicine today, like Judaism as this magazine suggests, needs renewal. But in what direction? Legislation to establish patient rights and a single-payer plan that covers everyone are certainly worth fighting for. And Western scientific medicine should make room for the valuable insights and practices of alternative traditions. But these reforms do not address what is fundamentally wrong with health care in this country and may not even be winnable in the absence of more fundamental change. In place of the orthodox medical model that focuses narrowly on biological repair, we need a much broader, prevention-oriented and ecologically aware approach – one that remains scientific while encompassing all the relationships that are essential to human health.

If we look at the history of medicine, we can see that it became what it is today because of a sweeping social transformation that modernized Europe centuries ago. Urbanization and commerce, along with Protestantism and the Catholic Counter-Reformation, encouraged new ways of conceiving and interacting with nature. It was within this context that "scientific medicine" was invented and elaborated. The particular scientific model that became predominant in Europe in the seventeenth century accepted the mind-body dualism of René Descartes, for whom the human body is a self-contained, entirely material machine. His contemporary, Baruch Spinoza, on the other hand, elaborated a more relational view, stemming from a Jewish tradition that regards the body as essential to a complex and ultimately spiritual being, and all beings as mutually dependent.

Spinoza's perspective is no less compatible with scientific medicine than the Cartesian view. For science has two complementary ways of explaining: by taking apart – as atomic physics

mainly does – and by bringing into relation – as Einstein’s relativity theory does. Spinoza was quite aware of the power of the first approach, as elaborated by Descartes and advanced by technologies such as the newly invented microscope. Spinoza acknowledges that the human body is composed of parts, and those parts of smaller parts still. But he recognizes also that bodies are encompassed by, and can be adequately understood only in relation to, unities larger than themselves, until we reach the widest system of all, which is “the whole of nature.” Spinoza was an early exponent of what is known today as “systems theory.”

Medicine in the sixteenth and seventeenth centuries could have taken a more integrative path, in keeping with Spinoza’s insight that we are guardians not only of our bodies, taken individually, but of the entire domain of nature with which they are continuous. Instead – for reasons that this essay will explore — mainstream medicine adopted the Cartesian machine model. Today, nearly four centuries later, the contradictions between these two approaches to health care remain unresolved.

## **The 17<sup>th</sup>-Century Origins of Medical Science**

In the European Middle Ages, healing had been regarded mainly as women’s work. Midwives presided over the birth process, mothers attended to the illnesses of their children, and adults too relied upon women not only to feed and comfort, but also to restore their bodies. Then in the sixteenth and seventeenth centuries, the body became the object of medicalizing concepts and practices. When manufacturing and banking interests in European urban centers threw off the fetters of feudalism, they embraced not only the new rules of a market economy, but also an innovative way of knowing the world – “natural science,” we call it today. This Cartesian science presumably reveals how the body – now construed as a marvelously intricate machine – really works, what causes it to malfunction, and what can be done by way of repair.



Rembrandt focuses upon only a handful of figures, but in fact such demonstrations were held in large anatomical theaters. Around the dissecting table were arranged concentric circles of seats, to which visitors were assigned according to social rank.

The cadaver on display in Rembrandt's painting is that of Aris Kindt, a criminal who had been tortured, condemned, and executed by the state. His body lying on the table, foreshortened, is expressive of passivity and death. The shadow of one of the leaning spectators darkens its brow. Living subjectivity has fled from the corpse, to be expressed – with an intensity that is characteristic of Rembrandt's art – in the surrounding figures. Dr. Tulp in particular is singled out in the painting by his broad-brimmed hat, distinctive garb, and masterful gesture. A conch shell, which had been a token of spiritual elevation in earlier representations of religious themes, surrounds his head as if with a halo. The doctor is confident that what he says to his listeners will be empirically corroborated both by the observed body and by the open anatomy textbook at the feet of the cadaver, just as the Creator's plan, revealed in the Bible, is daily confirmed by events on earth. In his inaugural speech for Amsterdam's anatomical theater, Casper Barlaeus declared: "Here addresses us the eloquence of learned Tulp, while with nimble hand he dissects livid limbs. Listener, learn for thyself ... even in the smallest part God is enshrined."

God so enshrined was a form of science that regarded the structure of the body – and by metaphorical extension the structure of society as well -- as divinely ordained. Consequently, medicine's practitioners had no reason to look into the ways that "civilization" itself might contribute to human illness, since its fundamental rightness was theologically guaranteed. If all law is authorized from on high, then the laws that govern society are, as Descartes suggested, no less valid than those of science and mathematics. Hence the lawfully governed human body could serve well as a metaphor re-mapping the social world. Even colonial authority seemed to receive support from scientific anatomy in this way. In England at this time, exploration and mastery of the New World were often compared to voyaging into the terra incognita of the human body. Francis Bacon's view of science as the possession and subjugation of nature was of a piece with his enthusiasm about colonial exploration and conquest. Indeed the wealth of Holland's Golden Age was built at the expense of the new nation's underclasses and of "primitive" peoples overseas.

## **The Social Contradiction within Scientific Medicine**

What struck me when I saw Rembrandt's painting some years ago in The Hague was its unified expression of scientific inquiry, social authority, and light. Yet, I perceived also a contradiction. Yes, the scientific perspective represented here pays homage to a sometimes cruel social regime. But its view of human nature is affiliated with certain ethical ideals as well. The laws of science are deemed to hold universally – to describe, for example, every person's physiology: the same intricate structure of muscles and tendons that operates the hand of a criminal also enables the gesture of the doctor's hand, as he presses his forefinger against his thumb.

In Rembrandt's day, the awareness that all human beings are constructed very similarly, with the same essential needs, limitations, and vulnerabilities, was associated with humanist values of

altruism and tolerance -- values that were officially recognized by the newly formed Dutch Republic. In most parts of the country, citizens could, for example, practice the religion of their choice, or no religion at all. Amsterdam was home to Spinoza, a Jew, and to Descartes who had emigrated from Catholic France. Spinoza embraced this humanist tradition. Aware of the complex and partly unconscious motivations that drive human behaviors, he could view with compassion even a “hardened criminal” like Aris Kindt in Rembrandt’s painting.

Humanism regarded scientific method as liberating partly because it implies that the authority to say what is true or false, good or evil, does not automatically belong to any person, not even to a monarch or a pope. In more specific ways too, the new medical science was sympathetic to the democratic leanings of the Dutch Republic. For example, the older, pre-scientific account of the human body had regarded a person’s social rank as destined by nature. Noble blood, for instance, was linked to nobility of spirit and social status, base blood to the opposite characteristics. The new medical science did away with such distinctions. For William Harvey, who published his treatise on the circulatory system in 1628, blood is simply a fluid that flows in every human body and that no longer differentiates high from low birth. With its emphasis on empirical rather than magical explanations, science also played a role in dispelling superstitions such as the belief in witchcraft. Early in the seventeenth -century in Holland, witch trials were done away with.

But the affinity of seventeenth century humanism and science for egalitarian ideals came into conflict with the division of society into social classes. Although science revealed that, on a physical level, human beings are very similar, their life opportunities and social destinies turned out to be quite different. Accounting for such different outcomes – that one individual becomes, for example, a highly respected doctor and another a condemned criminal – was one of the aims of the Cartesian mind-body distinction: although our bodies are nearly identical, our minds differentiate us. One person pursues a higher path than another, and that explains why one enters the light and another falls into darkness. In Rembrandt’s Anatomy Lesson, a deep shadow covers the brow of the cadaver.

Later in Rembrandt’s life, following personal misfortunes and conflict with the Calvinist Church, he would adapt the Italian chiarascuro (play of light and shadow) to masterfully contrast the illumination and darkness within a single soul, as in the self-portrait below.

But the ambivalent moods characteristic of Rembrandt's later works are less evident in the Anatomy Lesson, in which light articulates a divinely inspired, scientific reason that shines upon men. It is not accidental that no women attend the lesson.

Officially authorized healing was regarded as men's work, and although childbirth, for instance, remained the work of midwives, the seventeenth-century Dutch legal system subjected them and folk healers to the authority of male surgeons and physicians. A restructuring of medical authority occurred in the name of Cartesian science, which sharply distinguished the active, knowing subject from the

passive, known object. Advocates of this science identified it with a disembodied, objectifying point of view – as exemplified in Albrecht Dürer's illustration of single-point perspective (below) – that represents hierarchical relationships (male versus female, reason versus emotion, civilized versus primitive, white versus dark) as belonging to the stable and natural way of the world.



These binary oppositions were natural to a medical world-view that took for granted a Cartesian mind-body dualism. But medicine could have accepted instead a philosophy such as Spinoza's that takes mind and body to be complementary attributes of a unified, essentially social being – a being bound up with all others in relationships of mutual dependence. Spinoza criticized

Descartes' view that humans are "lords and masters of nature," and that their mastery mirrors God's dominion over His creation.

Spinoza's philosophy, unlike that of Descartes, didn't adapt well to modernity's hierarchical distinctions, and therefore wasn't found suitable as a basis for medical science. That science continued to support universal humanist ideals to some extent, but at the same time became allied with social interests that were anything but universal. This predicament has divided medicine against itself ever since.

## **The Rise and Fall of Public Medicine**

The Cartesian machine model of the human body, along with the idea of medical treatment as repair of the machine, has led to important discoveries and technologies for reducing human suffering. But this approach has also contributed to a narrow-minded focus on physical states inside the body rather than on the body's less easily quantifiable relationships with the surrounding social/natural world.

Yet the evidence linking illness to these relationships is overwhelming. In the past decade, researchers Richard Wilkinson, Michael Marmot, and Nancy Adler, among many others, have documented high correlations between economic inequality and rates of illness in modern societies. Limited access to professional health care services partly explains this correlation, but most of it is due to literally sickening life circumstances. Addressing these circumstances, which include unsanitary living conditions, unsafe workplaces and meaningless work, toxic environments, inadequate nutrition, and social isolation, isn't nearly as profitable as biomedical, individual-centered care, and is therefore neglected by mainstream medicine.

An environmental approach to health care, on the other hand, would not disregard the underlying etiologies of illness. Such an approach is not new. A century and a half ago, the German anatomist and pathologist Rudolf Virchow organized public campaigns to address the fundamental causes of disease. When in 1848 he investigated a devastating epidemic of typhus in Upper Silesia, a territory under the domination of Prussia, he concluded that its cause was the economic and political subjugation of the Polish inhabitants, whose powerlessness and apathy contributed to the rapid spread of the illness. Only "full and unlimited democracy ... education, freedom, and prosperity," he said, could address the underlying causes of the epidemic and prevent it from recurring in the future. The physician's natural role and responsibility were to serve as an "attorney for the poor." While Virchow became famous for his discoveries in cell biology, he should be given equal credit for what he called "sociological epidemiology."

Virchow was not alone. In the United States, many physicians embraced a broad interpretation of their profession's responsibilities, one that would integrate scientific advances with a primary commitment to community medicine. Their statistical research documented dangerous working conditions, unemployment, urban squalor, malnutrition, and general poverty as major disease agents. (Had this approach to illness been taken in Spinoza's day, it might have saved his life. He made his living by grinding lenses, and suffered from a lung condition common at the time

among lens makers and caused by inhaling fine glass dust. This illness contributed to his death at the age of forty-four.) At the end of the nineteenth century and during the first two decades of the twentieth, a broad coalition of researchers, care providers, and trade unionists advanced a workers' rights and human rights agenda to remedy these basic problems.

But public medicine, as they understood it, came into conflict with conservative interests – including the American Medical Association and its corporate sponsors – that gained control over medical school education and credentialing, and essentially restructured the medical profession. Implementation of the recommendations of the Flexner Report published by the Carnegie Foundation in 1910 made medicine more scientific and more effective in certain areas, but also created a monopoly by sharply reducing medical school admissions and limiting the range of services that could be offered by nurses and other non-MDs. Although this reorganization did not entirely silence the profession's more socially minded practitioners, officially sanctioned medicine would henceforth focus upon already existing individual pathologies. So-called "preventive medicine," which earlier had been willing to examine and criticize the broader economic and social circumstances of illness, turned its attention to less controversial measures such as medical screenings for disease susceptibility. Such screening can reveal, for instance, that a patient with elevated blood pressure is at greater risk for heart disease, and medication may be prescribed to bring his or her blood pressure down. But medical care that is more than palliative will consider as well the prior and crucial relationship of high blood pressure to such originating conditions as poverty, inadequate diet, and powerlessness. (Hypertension is epidemic in inner city neighborhoods.)

## Health Care and Globalization

In Virchow's day, medicine's scope of knowledge was small enough, and its technologies simple enough, that he could pretty much master the entire field. Therefore he could effectively fill the roles of family doctor, research scientist, environmentalist, and political activist. Today, medicine has become much more specialized, but at a time when, as Kenny Ausubel points out, conscientious medical care can no longer overlook the larger – even global – web of relationships that links human bodies. Widening social inequalities, along with practices such as the overuse of antibiotics and the uncontrolled dissemination of synthetic chemicals, are contributing to new illnesses and exacerbating old ones. Joshua Lederberg, Nobel Prize winning bacteriologist, notes that "The world really is just one village. And our tolerance of disease in any place in the world is at our own peril. Patients are dying because we no longer have antibiotics that work." Malaria, tuberculosis, AIDS, and other modern plagues have become more widespread, if not pandemic. Such problems are made worse by global warming, which incubates pathological microbes and subjects food production to conditions of drought and flood, among its other harmful consequences. (Lederberg reminds us, though, that microbial environments are essential to our health. He recommends that we "shift from a war metaphor to an ecology metaphor" in confronting diseases, since, for example, the human immune system interacts in such complex ways with its surroundings.)

Another factor contributing to human illness is economic globalization. Multinational firms, like infectious diseases, do not respect boundaries between nations. Because many corporations are no longer tied to local communities or regions, they have less of a stake in the health of their workers than ever before. Workplace safety standards, for example, tend to be neglected when it becomes easier to replace one worker with another. Given the planet-wide oversupply of labor – too many working people pursuing too few jobs – businesses and governments are increasingly unwilling to subsidize adequate health care for employees, let alone for the rest of the population. Hence achievement of reforms such as universal health care will require that we take up issues of international commerce, demographics, population growth and the earth's limited carrying capacity.

This global context is not directly implicated in every illness, of course, but it does structure the overall availability of medical resources and services. For this reason, serious efforts to reform the health care industry and establish adequate health care as a fundamental human right have to be organized on an international basis. Recently it was an international outcry that compelled the pharmaceutical companies to lower the prices of HIV/AIDS medications. Remediating the impoverished living conditions that foster this disease is a greater challenge, but this too can be accomplished if the world's communities work together to find solutions.

There are widely shared principles that we can draw upon. The United Nations, in a number of resolutions and covenants, has reaffirmed a commitment originally made in the Universal Declaration of Human Rights, adopted by the General Assembly in 1948:

“Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or lack of livelihood in circumstances beyond his control.”

Note that health care is brought into relation here with the broad circumstances of people's lives -- circumstances that protests in Seattle, Washington, Prague, Montreal, and Genoa have also addressed. Health care activism is naturally allied with international opposition to the policies of world banking and trade organizations. And our most compelling argument is that these policies contradict the ideals that almost all of the member nations of the UN have themselves endorsed.

Although the United Nations is a very imperfect association that has too often served the narrow interests of its most powerful members, its human rights agreements provide a framework for a worldwide health care agenda. Advancing that agenda will require the participation of lay communities as well as professional health care providers prepared to hold governments and corporations accountable to basic ethical norms of behavior. This is the larger project that can bring us together – providers and patients, medical researchers and environmentalists, workers and unemployed – within a global movement that takes a truly holistic approach to health care.