

ROUTLEDGE REVIVALS

Philosophical Foundations of Health Education

Ronald S. Laura and Sandra Heaney



Routledge Revivals

Philosophical Foundations of Health Education

First published in 1990 *Philosophical Foundations of Health Education* analyses the dogmatism of conventional medicine as a form of scientism and tries to determine the extent to which the state of health education has been perverted by an uncritical acceptance of these dogmas. It discusses themes like the genesis of reductionist medical science; scientism in medicine and the crisis in health care; integrating the philosophical foundations of holistic health education; holistic understanding of health and disease; evolution of primary health care; the demystification of medicine; and conscientization and health for all, to suggest that holism is an integral part of the philosophy of health which allows personal and societal needs to be realized in a global context. This book is a must read for students and scholars of philosophy of medicine, medical sociology, and philosophy of education.



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S. Heaney



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Introduction

In September 1978 the International Conference on Primary Health Care was held in Alma-Ata in the Soviet Union. Attended by representatives from 134 nations, the confluence of ideas arising from the Conference led to the subsequent crystallization of the Declaration of Alma-Ata. Formulated by the World Health Organization, the Declaration affirmed that there was an urgent need for the governments of all nations to address the issue of health in terms of its world wide perspective. Emphasizing the need to engage health and development workers everywhere, the Declaration further stressed that the attainment of health *for all* depended upon the involvement and cooperation of the global community generally, not just that sector of it traditionally thought to be responsible for health care. Given a new and renewed awareness of factors affecting health, the main social objective to be achieved progressively by the year 2000 was the attainment of a level of global health sufficient to permit the world population to lead socially and economically productive lives. A most ambitious document, the Declaration has become known by the slogan “health for all by the year 2000.”

The essence of the ten-point Declaration was that while health should be deemed to be a “fundamental right” of all people, there exists “gross inequality in the health status” of people within and between countries. In addition, the document asserted that “the promotion and protection of the health of the people is essential to sustained economic and social development” on a global scale. From the institutional point of view it was stressed that “people have a right and duty to participate individually and collectively” in the planning and implementation of their health care. In this scheme of implementation primary health care would figure as “the key to attaining this target,” and governments should accept responsibility for the provision of those services necessary for its realization.¹

The Declaration of Alma-Ata called upon governments to “formulate national policies, strategies and plans of action to launch and sustain primary health care” and to encourage all countries to “cooperate in a spirit of partnership and service” intended to ensure the attainment of an acceptable level of health *for all* through a “fuller and better use of the world’s resources.” The conceptual foundation upon which the edifice of health *for all* is built invokes the belief that “primary health care is

essential health care” and assumes the active participation of all individuals to achieve its implementation.² Within this framework commitment to the concept of active people-participation in all aspects of health care gives rise to the need for what we will in this book call “*holistic health education*.”

Lamentably, the term “holism” in the medical context immediately conjures the image of exotic therapies and bizarre alternatives to the standard techniques of conventional medicine. It is to be admitted that holistic medicine has come to encompass a wide array of medical procedures such as homeopathy, acupressure, acupuncture, reflexology, iridology, Rolfing, the Alexander technique, Lomi body work, the Feldenkrais method, bioenergetic analysis, polarity therapy, chelation therapy, and visualization therapy, to name only a few. The reaction against holistic medical practices has in some circles been resoundingly vituperative and condemnatory. Typical of the cynical response to holism, Glymour and Stalker write, “Holistic medicine is a pabulum of common sense and nonsense offered by cranks and quacks and failed pedants who share an attachment to magic and an animosity to reason.”³

It is not our purpose to defend any of the specific holistic healing practices alluded to above, though we are confident that several of them clearly admit of defense. We do contend, however, that it is a mistake to condemn holistic philosophy of medicine simply on the basis of the *conventional* unacceptability or specific holistic health or medical practices. Nor do we claim for holistic health the liberating originality which other supporters might urge in its defense. The split between conventional and alternative approaches to medicine can be traced back to at least the late 1700s, when Samuel Hahnemann proposed homeopathy (the idea that every disease can be cured by the specific drug capable of creating a similar set of symptoms) as an alternative to conventional techniques.⁴ The holistic philosophy of medicine emerges from the Hippocratic tradition of medicine itself, and its renewed emphasis merely restores to medicine an approach which was there from its inception.

That people can become actively involved as *informed* participants in the process of primary health care presupposes an educational program which extends the intellectual imagination beyond the domain of conventional health matters. Such education must be capable of reflecting the relevant personal, social, cultural, and political characteristics which contribute uniquely to the health problems peculiar to specific countries and the more pervasive cultural traditions of which they may form a part.

Within this framework of integrative approach certain of the philosophical assumptions which underpin the conventional approach to health education must themselves be reconceptualized. The belief that all health problems can be explained in conventional medical terms hides the truth that at least some of the problems which resist such explanation

constitute by their very nature a challenge to the conventional view of medicine. One persistent objection to alternative medical therapies such as Roling, bioenergetics, Reichian therapy, the Alexander technique, etc. has been that “for none of the theories considered is there firm evidence that the therapy is generally more effective than a credible placebo in relieving any sort of clinical problem or in producing any kind of therapeutic benefit.”⁵ Notice that even if this charge were true, it presupposes that the placebo effect is a “nuisance variable” or “psychological phenomenon” of no genuine therapeutic interest and thus outside the remit of somatic medicine. Conventional medicine has dealt with the placebo effect, in other words, by excluding it or by regarding it as intruding into “real” therapeutics.

The fact that conventional medicine has systematically excluded or ignored the placebo effect is especially revealing when we acknowledge that the research which has been done on placebos establishes convincingly that they are a powerful therapeutic tool, not to be neglected. In a provocative article by Linnie Price, studies are reported which document that efficacy of the placebo effect.⁶ In one study by Bourne placebos were shown to be effective in the relief of cough, mood changes, headache, seasickness, status asthmaticus, depression, hypertension, and even angina pectoris. In studies undertaken by Singer and Hurwitz placebos were found to be effective in lowering blood sugar levels in diabetics. Klopfer has demonstrated that placebos can be used to shrink tumors in patients with lymphosarcoma, while Beecher has shown the use of placebos in providing significant relief in patients suffering from postoperative pain. Vinar discovered the addictive effect of placebos, showing that they exhibit a number of the formal traits associated with drug dependency, including the need for increased dosage and withdrawal symptoms upon sudden deprivation of medication. Lasagna et. al. have found that placebos simulate the effects produced by ‘active’ pharmacological agents, and Jospe has shown that they can function as nocebos, exhibiting a wide variety of *unpleasant* side-effects. In a study undertaken by Wolf and Pinsky, some patients who were cured of anxiety and tension by ingesting placebos exhibited a range of side-effects such as epigastric pain, urticaria, and angioneurotic oedema of the lips. This report seems all the more remarkable once we are cognizant of the fact that the side-effects produced by the placebo mimic the side-effects of the active drugs which the patient would otherwise have taken for the condition. Equally intriguing is a study undertaken by Gammer and Allen which demonstrated that not only are “real” effects produced when subjects believe that a placebo is a “real” drug, but belief that a real drug is a placebo similarly produces a lack of effect.

The purpose of this protracted discussion of the placebo effect is to highlight the fact that the standard objection to alternative holistic practices on the ground that they are no more effective than a placebo depends

upon the very conventional interpretation of placebos which such practices serve by their very nature to challenge. As Price aptly puts it:

Medicine's chosen self-location in science necessitates the exclusion of non-observable phenomena . . . from its knowledge; they cannot simply be incorporated. They are variable and unpredictable in a way that the objects of natural science are not (although the subjects of social science are). Yet their existence, and extent, renders equivocal that very scientific knowledge that excludes them, just as subjectivity and meaning have daunted sociologists' attempts to explain the social world via the scientific canons of positivism. Medicine has dealt with the placebo effect in the only way its paradigm logically permits—exclusion. To accept the implications of the placebo effect would be to challenge the claims to truth of all medical knowledge: it would necessitate a paradigmatic revolution of untold proportions. The placebo effect demonstrates that illness and cure properly belong in the social, not the natural world.⁷

Whether illness and cure properly belong in the social and not the natural world is not a question to which we will respond directly, for what we seek is a framework of holistic interpretation sufficiently comprehensive to show that both social and natural phenomena can adequately and more richly be explained within it. Our contention is that the conventional framework of understanding is too limited to do justice to either social or natural phenomena, and thus that any philosophy of health education which derives from it will be equally restricted in scope. The crisis in health care cannot be resolved simply through the noble process of educating for health if the philosophy of health education which is its source is also in crisis. It is our view that the crisis in health care derives from a misguided philosophy of health which is reflected in the hidden agenda of medical science itself. The argument for the mosaic of conceptual relations which connects medical science on the one hand and the philosophical assumptions underpinning health education on the other will constitute a substantial portion of the argument of the book, and a brief discussion of its subtlety may not be amiss here.

Whether we like it or not, all human beings are now affected by science and its products. Scientific technology, for example, has shaped the nature of our industries and economies, informed the goals and patterns of international relations, and determined in large part even the way in which we spend our leisure time. Many of these effects are obvious but some are not. We have used science to transform the world in which we live, but we have ourselves been transformed in the process. Science, or what pretends to be science, has shaped not only the concepts and categories by way of which we see the world; it has informed and oriented the concepts and categories in respect of which we see ourselves and the values we hold. Not even the institution of education has been

left untainted by its ubiquitous hand. Science has in its own inimitable way come to direct much of the intellectual traffic in our halls of learning.

What we regard as real and how we go about investigating reality are circumscribed by the framework of scientific enquiry within which both the concept of reality and the procedures for its appropriate investigation are implicitly defined. In this regard, it will be argued that our view of reality and the methodology we employ to define it have profoundly influenced and continue to influence and delimit our basic understanding of health education. Despite protestations to the contrary, the science which has come to dominate the western world-view is not just science *per se*; it is a particular philosophy of science.

The distinction we make here is of paramount importance to the thesis we propose. The notion of science as a method of open enquiry which is capable of being critically reflective about its own assumptions and hidden values is a notion of science that we *accept* and try to *defend* throughout this book. In this regard we are not 'anti scientific.' The problem is that not all science *is* science of this kind. When the *ideal* of science easily becomes entwined with the sociocultural modes and institutional philosophies which serve as the vehicle for its expression, science becomes both political and philosophical. This is why science so easily degenerates into *scientism*, for it often enshrines covertly a particular political or philosophical framework which serves to delimit its capacity for critical reflection. Scientism is thus science which has lost the power to be subversive. Our aim in this book is not to urge that medicine should become less scientific, but to show that it is less scientific than it could be because it is more 'scientistic' than it should be. Medicine is not itself a science, but it relies upon science as the source of the knowledge which it applies in the service of healing. The reliability of medicine depends upon the reliability of the source of knowledge which informs it. Our claim is that the assumptions upon which scientism rests are unreliable and that conventional medicine is less reliable than it could be for the scientism which pervades it.

Two particular philosophical dispositions which have shaped medical scientism will concern us here. There is first the Newtonian view of the world as a kind of machine which consists of independent and separate parts into which it can be exhaustively analyzed. The mechanistic paradigm has become fossilized into a metaphysical postulate. Within the mechanist paradigm the human organism is construed on the model of a machine, and the doctor is regarded as a biological engineer who fixes the parts of the machine when they break down. In their defence of this paradigm Glymour and Stalker write: "The practice of medicine in the United States and in other industrialized nations is a form of consultant engineering. The subjects are people rather than bridges, but in many respects the professions of medicine and engineering are alike."⁸ The direction of accepted research is oriented around the Newtonian para-

digm, and though mechanism and reductionism are not to be confused, mechanism provides a rationale for a reductionist methodology of science capable of analyzing the whole of nature into the fundamental constituents alleged to determine causally its overall behavior.

Within medicine the methodology of scientific analysis has come to be known as "bioreductionism" and its impact upon health education has been staggering. Bioreductionism is the second philosophical disposition of scientism with which we will be concerned, and it has given rise to assumptions and attitudes about the nature of the body, the diseases which afflict it, and the kind of treatment appropriate to it. Coupled with the mechanist assumption that the body is a machine which from time to time malfunctions, bioreductionism ensures that the role of the doctor and the orientation of medical practice are decidedly interventionist. Not unlike an engineer repairing a faulty structure, conventional medicine is geared to intervene on behalf of the patient to repair the faulty machine.

Reductionism in medicine has also influenced the conventional interpretation of disease. The idea is that disease admits of reduction to a specific microorganism which is its cause. The temptation to suppose that health professionals should thus conduct the fight against disease by intervening on the body's behalf to destroy the invading germs in respect of which the body shows insufficient resistance, or no resistance at all, has proved to be irresistible. This being so, it is hardly surprising to find that the purported link between particular diseases and the specific microbes which caused them was quickly crystallized into a working hypothesis called the "theory of specific etiology." Having a profound influence upon the philosophy and practice of medicine, the doctrine of specific etiology reinforced the reductionist inclination to regard malfunctions of the human body as explicable causally by reference to the malfunction of a single bodily mechanism. Inasmuch as different diseases defined specific malfunctions, the interventionist approach depended upon classifying diseases in such a way that one could deduce from the classification the nature of the antipathogenic agents required to rectify the malfunction. Medical intervention was thus seen to restore a person to health by eradicating the discrete disease entities which were defined almost invariably in biochemical or biophysical terms, correlating in turn with the symptoms and other signs of a particular illness. On the bioreductionist model the concept of health was thereby construed as the absence of disease, and thus the thrust of medical research came to focus on the extirpation and control of the microorganisms which cause disease.

With the rise of a more sophisticated medical technology, medical scientism strengthened its hold on the healing traditions of the western medical world. Technological innovations such as the X-ray, the electrocardiogram, and the electroencephalogram afforded the doctor a rich

arsenal of mysterious reductionist weapons to combat disease at the level of the microbe. Focus upon the microorganisms causally responsible for physiological deviations led also to a new awareness of the connection between bacteria and infection. Indeed, it was in large part the introduction of aseptic surgical procedures, in conjunction with advances in general anesthesiology, which served to ensure the success and determine the crucial part surgery would play in the implementation of the bio-reductionist medical scenario. Armed with the scalpel and an impressive array of “wonder drugs” (essentially microbes designed to do battle with other microbes) modern medical science had at its disposal a growing technology of ultimate intervention.

Sponsored on the assumption that functional disturbances in the “human machine” can be traced in large part to the specific disease entities which are their source, the technology of medical science ensured that if these entities cannot be controlled or killed by other microbes, they can ultimately be eliminated by being cut out. In certain cases, what is cut out (e.g., the heart or a kidney) can be replaced by a “healthier” substitute. In this regard surgery represents a truly revolutionary dimension of the interventionist approach—surgical intervention entails not only the repair but the reconstruction of the human body. The process of intervening on behalf of the living machine culminates in either repairing or changing its parts when they can no longer be “fixed.”

Despite a number of recent challenges to the traditional medical model of disease, the reductionist trend in biomedical science has continued largely unabated. Contemporary medical research is still preoccupied primarily by one aspect of the process of disease, i.e., the study of biological phenomena at the cellular and molecular level. The scientific basis of medicine *thus construed* derives from a limited understanding of the nature of biological phenomena in general. In the end, the so-called scientific view of medicine reflects only a partial view of science. One reason why it is so difficult to disabuse ourselves of the conventional concepts of health and disease is that the medical scientism from which they derive has also been used as the criterion to judge their worth. This is why the appeal to the conventional framework of medicine provides little assistance in attempting to redefine the concepts of health and disease, and it is here that we are brought full circle to the hidden agenda of education.

Since the conversion of medicine from a religious to a scientific persuasion, its apostasy has almost always been advertized as a virtue. The temptation has been to think that science has legitimated medicine, transforming its practitioners into technological giants. One need not diminish the achievements of technology to charge that the giants of reductionist medicine are blinded giants. That medicine has defected from religion to science has been reckoned to liberate medicine from irrelevant treatise and religious dogma, a freedom in respect of which

medicine has long been jubilantly aware. One consequence of which medicine seems to have been less aware, however, is the extent to which its commitment to and identification with science has demanded an unwilling allegiance to an institutional and limited view of science which is itself dogmatic and blinding. It is a measure of the power of the myth of scientism that we generally take for granted that scientific technology has transformed our world and our perception of it for the better. We rely upon science to teach us about the world and about ourselves because we believe science is reliable and produces the best results. The transformation science effects makes things better—so we are told—because it is science that is the best way of doing things. It is part of our aim in this book to show that while there is much about this view of science which is attractive, the attraction is meretricious when the view is generalized and science degenerates into scientism.

The power of science as a tool for discovery and exploration within medicine is not of course to be denied. The success of bioreductionism has in certain respects been spectacular. Yet even the major triumphs of modern medicine betray the shortcomings of the philosophical framework which inspires them. Consider, for example, how the bioreductionist approach has led to the profligate use of drugs in the treatment of illness. While we have no wish to suggest that drugs are without medical value, it seems to us clear that their value has been enormously exaggerated and their side-effects woefully neglected. It has been pointed out that in the United States and the United Kingdom from 50 to 80 percent of adults swallow a medically prescribed drug every twenty-four to thirty-six hours. In addition, the analgesic aspirin is consumed at the rate of approximately 20,000 tons per year in the United States alone, thereby providing an annual intake of some 225 tablets per person. The sales of well-known psychoactive drugs such as Valium, Librium, and Miltown have soared at an unprecedented rate with 100 million prescriptions written each year.⁹

The bioreductionist search for a “magic bullet” perpetuates the use of such drugs, despite the fact that there exists considerable evidence to show that their staggering consumption is harmful. Aspirin, for instance, has been definitively linked with gastrointestinal bleeding and genitourinary pathology. Drugs such as Librium and Valium are known to be addictive, capable of producing severe withdrawal symptoms, depending upon the dosage taken, duration of consumption, and the individual. The greater the potency of the drug, moreover, the greater the potential for its harmful side-effects. The group of powerful tranquilizers known as “phenothiazines” has been relied upon heavily in the treatment of schizophrenia, though these drugs produce side-effects which include hepatitis, leukopenia, temporary musculoskeletal abnormalities, and dose-dependent impotence, not to mention tardive dyskinesia, a condition of movement disorder which is sometimes irreversible. When taken

unwittingly in combination with food coloring or even with the residue of insecticides which permeate our fruits, vegetables, meats, fish, and all too often our water, certain drugs become mutilating and mutagenic. Antibiotics, notwithstanding their value in the rapid alleviation of infection and pain, have been shown to upset the body's normal bacterial flora, thereby allowing more resistant organisms to proliferate and induce superinfection. The disastrous side-effects of the drug thalidomide have been so widely publicized that to do more than cite the example here would be fatuous.

When all is said, it will in the course of the book become clear that the unbridled reliance upon drugs is just one example of a cultural ritual deriving from the reductio-mechanist tradition in medicine, a ritual whose long-term contribution to health is decidedly questionable. The etymology of the word "drug" reveals an ambiguity in this connection which is instructive. The Greeks had only one word for "drug" (i.e., *pharmakon*), and it was possessed of a double meaning, signifying both the power to *cure* and the power to *kill*. The pharmaceutical industry represents one of the dominant institutional manifestations of the bioreductionist approach to medicine, and its continued existence and exponential growth cannot be explained adequately by reference solely to its success.

Now ranked as one of the largest industries in the western world, its profit margin in the U.S. is largely dependent upon its marketing and advertising programs with the American Medical Association, in respect of which it has developed somewhat incestuous ties. The industry's central policy-making body in the U.S. is the Pharmaceutical Manufacturers Association, and it so happens that the most substantial periodical of the A.M.A. is the *Journal of the American Medical Association (JAMA)* which has in recent decades become progressively dominated by the promotion interests of the pharmaceutical industry. The uncomfortably close relationship alluded to here is not an anomaly peculiar to the *JAMA*. It has been noted by other writers that advertising accounts with drug companies provide approximately half the income emanating from advertising for the majority of medical journals. Within this context of the financial dependence of professional medical journals on the pharmaceutical industry, it is not unusual for conflicts of interest to arise in respect of editorial policy. One blatant example involved the promotion of the hormone Horlutin, which was eventually found to affect foetal development in a deleterious way. In the March 1960 issue of the *JAMA* it was reported that the side-effects of Norlutin occurred "with sufficient frequency to preclude its use or advertisement as a safe hormone to be taken during pregnancy." Despite the report, a full-page advertisement for Norlutin appeared in that same issue and was carried for the next three months without any reference to its possible side-effects.¹⁰ Suffice it to say here that the dominant role which drugs play

in contemporary medicine is not a consequence simply of their medical efficacy. Their purported value for the process of healing is promulgated as part of the myth of medical scientism.

Just as bioreductionism is only a partial picture of the biological organization of the human system, so the use of drugs in conventional medicine supplies only a partial picture of the process of healing. What is needed is not a more comprehensive account of healing in bioreductionist terms, but a comprehensive challenge to the bioreductionist framework out of which the partial pictures emerge. It is thus a gross misconception to suppose that the more “scientific” and “technological” we make medicine—either in terms of the drugs we synthesize or the surgical procedures we devise—the better it will be. In this regard the educational appeal in the Declaration of Alma-Ata is naive, for the appeal is unwittingly to the *scientism* of our times. Conventional science has been institutionalized as the science of reductionism, and the most significant single institutional vehicle for its expression and propagation has been our schools. Indeed, it is a central contention of this book that conventional science is permeated by a scientism that currently figures as the state-sanctioned religion of our times, and that our schools and universities have in numerous ways allowed themselves to become the servants of its ideology. The authority of the Church has been superseded by the state-sanctioned authority of conventional science, and religious revelation has been replaced by scientism.

Scientism is incapable of providing a comprehensive methodology for medicine because the philosophical assumptions which underpin it are self-stultifying. The result of the alliance between bioreductionism and medicine has been to fragment medical knowledge on the one hand, while narrowing the scope of health education on the other. Conventional science can no longer be regarded unequivocally as the fountain of medical knowledge, for the waters of reductionist philosophy have become stagnant. Medical scientism has so rigidly proscribed its limits in reductionist terms that the investigations which depend upon those terms lead not so much to open discovery as to a closed metaphysical perspective in virtue of which discovery is itself defined. The conceptual boundaries in respect of which the intellectual imagination deserves most to be enhanced and stimulated is the very point at which the methodology of conventional medical science now ensures that it is diminished. The imposition of dogmatic limits upon the intellectual imagination is, wherever it is found—be it in religion or in science—inimical to the task of genuine understanding and knowledge.

In the history of the confrontation between science and religion, the heresy of science served to expose the dogmatism of religion, and we believe that religion is better for the scandal. In the present work our aim is partly to expose the dogmatism of conventional medicine as a form of scientism and to determine the extent to which the current state

of health education has been perverted by an uncritical acceptance of these dogmas. We will be concerned to show that reductionist medicine has proved to be a valuable but incomplete foundation upon which to erect the edifice of health education, and we believe that, not unlike dogmatic religion, it will benefit from the scandal of its epistemic credibility.

In the first chapter of the book we provide a brief historical account of the genesis of reductionist medical science. We try to show how medicine's progressive reliance upon a particular philosophical tradition within science has led unwittingly and almost imperceptibly to the development of medical scientism. We contend that the reductionist methodology embodied in medical scientism has ultimately diminished rather than enlarged the domain of medical understanding and health care. In Chapter 2 we are concerned to illustrate the extent to which reductionist medicine has initiated a crisis within medicine of staggering proportions. Contrary to the conventional wisdom, we argue that the contemporary medical tradition has done far less to advance the health of the community than we have been led to believe. Despite the eradication of many infectious diseases and a considerable decrease in infant mortality (neither of which can be attributed directly to medical science) we are not as a society healthier. Coupled with the high cost of medical care and the invidious side-effects of many conventional medical treatments, the stage has been set, we submit, for a new emphasis within the contemporary medical tradition, an emphasis which reflects a more comprehensive philosophy of nature than the reductionist orientation of medical scientism permits.

In Chapter 3 of the book we consider an alternative to the reductionist paradigm of medical science. Drawing upon recent developments in the philosophy of science and quantum mechanics, we argue for a holistic epistemology of medicine capable of supporting the non-reductionist theory of health education to be built upon it. Arguing that a more decisive and radical transition in health education is possible by rooting out reductionism at a level much deeper than the causal theory of disease, we try to establish a fundamental relationship between health and the categories by virtue of which we conceptualize the world around us. On the assumption that there is now sufficient evidence from quantum mechanics to show that the universe is one seamless and undivided web of cosmic connections, we try to give new sense to the notion that "to heal is to make whole". On the view we will defend, health is a truly universal phenomenon and not a process which can be understood independently of the bond which ties all living things to each other and to the earth. The fundamental interdependency to which recent developments in quantum physics allude inspires a profound paradigm shift in the covert value-orientation which underpins even the traditional theory of knowledge. In our futile efforts to detach ourselves from nature to

achieve a neutral perspective from which to view it, we inadvertently sever the relationship of basic bonding to nature which ultimately defines the conditions of health on earth. Rather than sensing our oneness with nature, we see ourselves as distinct from it, and we are thus disposed to employ the faculty of human consciousness to dominate and control it. The more detached and removed we become from nature, the easier it is to assume a posture of exploitation towards it. By way of the reductionist-mechanist orientation of conventional science, we have reinforced the view that inasmuch as the world is a machine, it is appropriate to investigate it and all that it contains in the impersonal way we would investigate a machine. In the process of dividing the whole cosmos into its parts and its parts into even smaller parts, we have robbed nature of the very elements of identity which generate respect for and a moral response to what we find there. Having reduced all living things to genetic compilations of the chemical DNA, for example, we feel less contrite of heart and have little or no sense of moral conscience in manipulating living things, for the things we see ourselves manipulating are the chemical building-blocks out of which living things are made, *not* the things themselves. We contrive to make ourselves morally exempt, for we can do no wrong to these things which by our own doing have no identity. The *reductio-mechanist* paradigm of medical scientism, construed in value terms, represents an institutionalized process by virtue of which the systematic degradation of nature's identity is effected by reducing the whole of nature to its parts.

Having regarded ourselves as separate from nature, we have evolved a theory of knowledge which is tantamount to a theory of *power* over nature. The desire for mastery of the environment, coupled with our desire to achieve objectivity by detaching ourselves from it, has led to the evolution of a conceptual marriage between knowledge and conventional science which has served to maximize our expropriation of the Earth's resources, while minimizing the time and effort devoted to the task. The biography of the growth of knowledge thus betrays our insatiable appetite for *power*. We have sought total mastery and control over the environment, and we have developed a theory of knowledge and a tradition of science to enshrine it which guarantees the exploitation of nature in consequence. We have in essence institutionalized a lifestyle, motivated by an attitude towards the Earth, which has proven to be inimical to the advancement of health. In this sense, it could plausibly be said that disease and illness are manifestations of the human psyche and the collective unconscious. In our lust for power it is we who must in the end take responsibility for the stockpiles of nuclear and other weapons of destruction, for the decimation of our forests and the concomitant disruption of countless ecological systems of delicate balance, for the continual pollution of the air and the chemical poisoning of our rivers, lakes, and streams, for the contamination of much of the food we eat