

Reviews

The Second Medical Revolution: From Biomedicine to Infomedicine. By LAURENCE FOSS and KENNETH ROTHENBERG. Boston: New Science Library, Shambhala, 1988. 328 pages. Price about \$20.

A Process Theory of Medicine: Interdisciplinary Essays. Edited by MARCUS P. FORD. Lewiston, NY: Edwin Mellen Press, 1987. 224 pages. \$49.95.

The philosophy of medicine is a recent discipline that has been busy clarifying the assumptions that support medical science and practice. Foss and Rothenberg have made a solid contribution to the philosophy of medicine. They have produced a convincing argument that the currently dominant model, biomedicine, based on the modern philosophy of science, should concede to a new model of medicine based on the postmodern philosophy of science. This new model, structured in considerable detail in this clearly written book, is called *Infomedicine* because of its foundations in (among other dynamics) information process theory.

Foss and Rothenberg demonstrate that biomedicine is based on the received view of the philosophy of science, which is rapidly losing its dominance to a successor view that is incompatible with the epistemology, logic, and basic science disciplines of biomedicine. The explanatory strategies of reductionism, dualism, and linear causality are typical of methods that have been foundational for biomedicine. Basic biophysical sciences, such as molecular biology, have thrived on these strategies to produce the highly successful applied medical sciences. This modern paradigm, the first medical revolution, which has reigned for the past three hundred years, has usually considered only the biological dimension of the human to be important for the understanding of health and disease. Within this biomedical system only the biophysical factors have real status in the maintenance of health, the development of disease, or the application of therapeutics. Health is the absence of disease; disease is the presence of a lesion produced by a physical agent; and therapeutic results are obtained only by the alteration of biochemical processes by materials with pharmacological properties, physical agents such as radiation, or surgery. This is the main strategy of biomedicine, which has been dominant in Western medicine.

Dissatisfaction with the incomplete capacity of this approach to provide a totally accurate view of disease mechanisms and healing potentials has been growing. In response to the perceived weakness in biomedicine's explanatory power, alternatives have been proposed. Holistic medicine, behavioral medicine, and environmental medicine are three alternatives that Foss and Rothenberg properly credit for reaching toward a new theory of medicine. Nevertheless, in their view, these alternatives have achieved no more than *détente* with the first medical revolution. They do not provide a new foundation of explanatory strategy, basic science orientation, and the practical application necessary to qualify as a paradigm shift required to establish the theory and practice of medicine on an adequate philosophical basis.

The principal thesis of this book is that the biomedical strategy is no longer able to

[*Zygon*, vol. 25, no. 3 (September 1990).]

© 1990 by the Joint Publication Board of *Zygon*. ISSN 0591-2385

support responsible investigation into the complexity of human health and disease. The second medical revolution will replace the outdated methods by a more scientific strategy that is able to penetrate into the complex systems in which humans exist in adaptation to the environment. This postmodern scientific strategy is based on nonreductionism, interactionism, and reciprocal causality.

The authors, who have done a good job of demonstrating for the reader the differences between the two philosophies of science, continue to inform the basic sciences of the two revolutions in medicine.

Foss and Rothenberg have been very bold in this project. They have gone to a recognized champion of these alternative views and questioned the adequacy of his formulation. George Engel, an academic psychiatrist, laid down the classic challenge to biomedicine, to stretch itself into the psychosocial dimension of human existence. Engel based his biopsychosocial model of the human being on the well-established general systems theory.

This challenge to biomedicine, widely interpreted to call for a radical alteration in medical theory and practice, is not radical enough, according to Foss and Rothenberg. According to their analysis, a paradigm shift is not required to work within a general systems analysis. The philosophy of medicine must go further and adopt the paradigm of self-organizing systems founded on the creative strategies of quantum mechanics, nonequilibrium thermodynamics, and information theory.

In Engel's approving foreword to this book, he says: "In Foss and Rothenberg's hands, the infomedical model clearly articulates for medicine a [second] scientific revolution, in the Kuhnian sense. This revolution is premised on the postmodern scientific and philosophic foundations ascribable to such sciences as quantum mechanics, irreversible thermodynamics, and information theory. Essentially it involves a conceptual shift from a biological systems infrastructure to a self-organizing systems structure" (p. ix). One further learns from Engel's confessional foreword that Foss and Rothenberg are the successors to Engel's formulations on the biopsychosocial model of medicine.

A reader who is dedicated to the modern (rather than the postmodern) philosophy of science will not be convinced by this book. *Zygon* readers have been fully exposed to the postmodern way of thinking and, to the extent that they have accepted its assumptions, therefore are likely to affirm this well-reasoned philosophy of medicine. It is a rewarding exercise for those interested in basic applied philosophy.

The book's principal problem is that the argument stops at the very point at which a dialogue between the philosophy of medicine and theology could have begun—the way was cleared but not traveled. Infomedicine has been positioned for openness to religion, but there is no indication that such openness is welcome. There is no hint that an interaction between a science and religion will follow from the argument, nor is there a call that someone make the next logical move into theological science. This is a disappointment, to be taken so very far on a journey toward a completely satisfying philosophy of medicine and to be dropped off short of the destination.

The companion book in this review points to a theology of medicine that is integrated into a comprehensive philosophy of medicine. Marcus Ford has grouped three process thinkers who are well known to *Zygon* readers: Charles Birch, David Griffin, and Charles Hartshorne—together with George Engel and Jerome Frank, who have been very influential in academic psychological literature. Larry Dossey and Peter S. Ford have written from the perspective of medical practice both here and in books of their own. The essays are bonded together by the desire to call the philosophy of medicine out of its bondage to a narrow biophysical theory of health and disease and into multicausal interactionism that gives systematic causative

status to the psychological, sociological, cultural, environmental, and, ultimately, transcendent dimensions of the human complex.

A principal objective of these essays is to support the claim that the postmodern mode of medicine, based on a postmodern philosophy of science, is open to dialogue with theological science—a claim that is likely to be of interest to *Zygon* readers. Engel and Frank set the tone of the collection with strongly worded challenges to scientific medicine to be inclusive of the psychosocial dimension of human beings. Hartshorne, Birch, and Griffin say briefly what Foss and Rothenberg say at length: the systematic complexity of the human organism in adaptation to environment is the all-embracing locus of investigation for explaining health and disease. Investigation of anything requires the analysis and synthesis of everything. The investigation of “everything,” or totality of reality, is the point at which theology becomes the most appropriate mode of conceptualization.

Larry Dorsey reinforces these methodological claims by recommending Whitehead as chief philosopher of medicine. Peter Ford’s essay employs a process model to discuss the human soul and its interaction with God, the divine transcendent. The soul becomes the proper focus of concern for the physician because it more completely defines the patient than does the body. Although the essay is not entirely satisfying to those who are trying to understand the soul and its relationship to God in more technical and canonical processive terms, it is a sincere and mostly successful attempt to refocus the attention of medicine on the whole human being rather than only on the somatic structure.

Marcus Ford, in his concluding essay, sets the rationale for the dialogue between the philosophy of medicine and theology. Ford writes: “If one’s methodological assumptions rule out the existence of God, one will practice medicine differently than the person whose methodological assumptions include God as a real possibility” (p. 221). The activity of God would be expected to impact on all factors that influence health and disease. To the extent that theological science can illuminate God’s activity, theology can inform theoretical medicine.

Foss and Rothenberg have produced a book superior in its theoretical considerations of the philosophy of medicine, but it stops short of being open to theological discussion. Ford’s collection of essays is superior to Foss and Rothenberg in its intention to point the way for a medicine and theology dialogue that is a special case of science and religion interacting. To construct a complete philosophy of medicine, the two books should be read in sequence as volume 1 and volume 2. *Zygon* readers who are interested in this field of reflection can rely on these two books while everyone waits for a comprehensive philosophy of medicine that explicitly and systematically interacts with theology.

ROBERT LYMAN POTTER, M.D.

Private Practice of Internal Medicine

Associate Clinical Professor of Medicine, Kansas University School of Medicine

Adjunct Professor of Religion and Medicine, Central Baptist Theological Seminary

Kansas City, Kansas

Ph.D. Candidate, University of Chicago Divinity School

CONFERENCE ON THE 1893 WORLD'S PARLIAMENT OF RELIGIONS

People and themes of the 1893 World's Parliament of Religions is the subject of a conference to be held in New Orleans November 16-17, just prior to the annual convention of the American Academy of Religion.

Langdon Gilkey, Visiting Professor at the University of Virginia, will preside over the conference, which will feature the following speakers and topics:

- Ray L. Hart, Boston University: Welcome from the American Academy of Religion
- Richard Seager, Harvard University: The Encounter between East and West at the World's Parliament of Religions, Chicago, 1893: A Historical and Cultural Perspective
- Harold A. Henderson, LaPorte, Indiana: Paul Carus: "The Science of Religion and the Religion of Science"
- Thomas E. Graham, University of Winnipeg: The Feet of the World's Parliament of Religions: Jenkin Lloyd Jones
- Stephen R. Graham, North Park Theological Seminary: Philip Schaff's "The Reunion of Christendom": Testament of a Life
- George Williams, Chico State University: Swami Vivekananda: From the Apostle of Hinduism to Vedanta to the Religion External, The Unity of All Religions
- Lakdas Ananda Wickremeratne, University of Chicago: Looking Back. Angarika Dharmapala and the World's Parliament of Religions: Perennial Visions and Changing Realities
- Jerald Brauer, University of Chicago: Respondent

The conference is scheduled to run 7:30 - 9:30 pm on Friday, November 16, and 8:30 - 3:30 pm on Saturday. All sessions will be held in the Bacchus Room of the New Orleans Marriott Hotel, 555 Canal Street, New Orleans.