

Reviews

Cry of the Environment: Rebuilding the Christian Creation Tradition. Edited by PHILIP N. JORANSON and KEN BUTIGAN. Santa Fe, New Mexico: Bear & Company, 1984. 476 pages. \$14.95 (paper).

This collection of more than two dozen relatively short studies is a fine overview of the conceptual and practical changes that are necessary if Christianity is to promote the health of the biosphere. The book has five unequal parts. Part 1 deals with "The Judeo-Christian Tradition: Problem and Resource," offering two biblical studies by Bernhard Anderson, historical studies by Richard Woods and Matthew Fox, and three theological reflections. Most of the authors assume that the problem of the Christian abuse or neglect of the environment is well known; they therefore concentrate on positive resources that have been overlooked. I especially liked Fox's study of Christian mystics, most of them women, from the period 1100 to 1400 whose spirituality centered on creation and now seems wonderfully whole (free of Augustinian pessimism). A major deficit of this section is the lack of Jewish contributors.

Part 2 deals with the resources available in the natural sciences for transforming the Christian view of creation. Essays on contemporary physics, evolutionary theory, the relation of theology and science, and ecology suggest well the universe that Christian faith has to appreciate better. Ralph Wendell Burhoe's essay, "Cosmic Evolutionary Creation and Christian God," seemed to me the most creative and the one in which the physical or evolutionary significance of religion came into sharpest focus.

Part 3 is the shortest in the book, consisting of two studies of the contribution that art can make to a Christian faith that better appreciates the material creation. Patricia Runo's study of three artists who have made the environment their material shows how the boundaries between "art" and "environment" break down. Douglas Adams's study of environmental concerns in the paintings of Thomas Cole concentrates on one nineteenth-century American artist whose forebodings about the fate of the environment are all the more impressive in retrospect. Despite its brevity, this section makes the very important point that a consciousness adequate to the realities of creation and the needs of the environment must be whole enough to reconcile science and art.

Part 4 offers studies in theology, religious ethics, and spirituality. Two deal with naturalist themes in Pierre Teilhard de Chardin and Thomas Merton. Two (by Bernard Loomer and John B. Cobb, Jr.) suggest systematic perspectives indebted to process thought. One study deals with how prayer or contemplation can nourish appreciation of God's creation. The last study offers a federalist or covenantal view of the relations that ought to obtain between human beings and the physical environment. I especially liked the chapter on Merton.

Part 5 is perhaps the most practical section, including models (many of them from programs already in place) for expanding people's consciousness of creation. Alan Miller's study, "The Environmental and Other Bioethical Challenges for Christian Creation Consciousness," is one of the most cogent items in

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the whole book, laying out incisively the demographic data on hunger, poverty, and the limits of the earth's carrying capacity that ought to frame all our economic and political reflection. Chapter 25, the most composite in the book, describes four educational programs: The Institute in Culture and Creation Spirituality at Holy Names College in Oakland, California; Au Sable Trails Institute of Environmental Studies near Mancelona, Michigan; The Center for Theology and the Natural Sciences in Berkeley, California; and "The Environment and the Christian Creation Tradition," a project of The Center for Ethics and Social Policy at the Graduate Theological Union in Berkeley, California. Although three of these four projects are located in the East San Francisco Bay area, the ideas being generated seem applicable in other locales.

The book concludes with a summary essay by the editors that gathers together quite well the elements that a Christianity centered on creation will have to integrate. It notes (as does the essay by Cobb) the relevance of non-Christian religious traditions, and it picks up the theme of meditation that numerous authors developed when they considered how to change people's presently deficient consciousness.

In overall evaluation, I would account this a solid contribution to the work of incorporating into Christian thought and life the implications of current natural science and the ecological crisis. With the exception of Burhoe's essay, most of the movement is from the implications of science to the restructuring of Christian faith. Relatively little is said, therefore, about the positioning of science and ecological studies that contemporary Christian faith ought to be suggesting. On the other hand, some retrievals of past Christian visions (such as those of the Rhineland mystics and the Celtic monks) that encouraged people to live close to nature and see nature as a vital presence of God obviously have a rich potential. Were more Christians to appreciate the panentheism—creation in God and God throughout creation—of such visions, science and faith would more naturally appear cognate.

The book could have done more with economic and political issues, although it does give these some attention. In my view the steady-state economics and the redistribution of wealth that the future will require are only conceivable when one supplies not just a religious rationale for sacrifice but also a religious or mystagogic respect for the rest of creation, cultural as well as physical. In this context the absence of essays from the perspective of non-Christians (admittedly, some of the contributors are quite secularist) is the major lacuna. One should not lean very heavily on the "Judeo-Christian" tradition when no Jews contribute, and one has to qualify the clout that religion can muster when the majority of the world's religionists, who are not Christian, get no voice. To be sure, a book can be more focused for having limited its scope, and this volume already is more than 450 pages. Still, because I think the Christian tradition (despite its powerful involvement in the rise of the technology and cultural attitudes that have produced today's environmental problems) is now not by itself a sufficient frame of reference for global problems (and what first-rank problems are now not global?), I wish the book had been trimmed in the areas of theology and ethics, where there is considerable repetition, and enriched by three or four solid appreciations of creation written from Muslim, Jewish, and Eastern religious perspectives.

Another weakness of the volume, although not a major one, is the clumsiness of the language in many essays. Indeed, the tendency to use nouns as adjectives infects even the subtitle, and quite frequently it gives a chapter the sound of jargon. In this context I think that a sophisticated cognitional theory, such as

that of Bernard Lonergan (who gets little mention in the work, although he more than any other professional Christian theologian has worked on the foundations of interdisciplinary dialogue), could both justify and provoke a style that would render scientific theory in the meditative mode for which ecological practitioners seem to be groping.

Enough criticism and second-guessing, however. The strength of the book, in my view, is the power with which it makes the case for redirecting Christian faith to a passionate love of the earth, and the prominence that it gives to a spirituality which would center in God's creation. Many contributors realize that the mystics have long solved the division between nature and culture, nonhuman creation and the human self, and even the Creator and creation. I count it a mark of progress that these contributors no longer cast mysticism out of the Christian orthodoxy or orthopraxy but are willing to situate it near the center. They are no less prophetic for that. They are just more holistic than their predecessors a generation ago and instructively more humble. Theologians, along with scientists and politicians, have accumulated many reasons for repenting of their hubris and pushing humility. This book should add to their joy.

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The Return to Cosmology: Postmodern Science and the Theology of Nature. By STEPHEN TOULMIN. Berkeley: University of California Press, 1982. 283 pages. \$19.95.

Both the title and subtitle of this work convey a misleading impression of its contents. Cosmology, in the contemporary sense of the term, is notably absent. There is no discussion of the big bang, superstring theory, the Planck time, inflation, hidden mass, or other topics of current cosmology. Nor does his "theology of nature" bear much resemblance to any traditional theology, whether doctrinal or natural. The book is actually a collection of book reviews, chiefly from the *New York Review of Books*, supplemented by Toulmin's 1979 Tate Wilson Lectures for Southern Methodist University. The reviews and lectures, however, do serve to reveal the development of some basic themes in Toulmin's thought which should be of interest to anyone concerned with updating natural theology.

When Toulmin returned to Cambridge after World War II he turned aside from his first loves, cosmology and natural science, and learned techniques of critical philosophical analysis from Ludwig Wittgenstein. From him and later from Immanuel Kant, he came to recognize the peculiar conceptual difficulties encountered by anyone who attempts to speak about the basic subject of cosmology, the universe as a whole. The earliest essays and reviews presented here, on scientific mythology and on the evolutionary ethics of Julian Huxley, reflect the young critical skeptic. If God has failed, Huxley argued, much as his grandfather had two generations earlier, then we must put our faith in evolution. Huxley effectively shouldered evolution with the burden of being an ersatz religion, of fitting humans into nature in such a way that basic social and

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ethical values seem an inevitable outcome of natural processes. Toulmin criticizes this by demythologizing it.

Part 2, "A Consideration of Cosmologists," is a series of article-length book reviews written between 1964 and 1980. The cosmologists considered are Arthur Koestler (three separate reviews), Pierre Teilhard de Chardin, Jacques Monod, François Jacob, Carl Sagan, and Gregory Bateson. These men are cosmologists only in Toulmin's rather Pickwickian sense of the term. Each is concerned with showing how the world of persons and values can somehow be interpreted as an integral part of the natural order revealed by science. None, as Toulmin shows, has more than a limited success.

Koestler, in Toulmin's evaluation, is a latter-day Goethe. Goethe not only opposed the spirit of Newtonian mechanism; he actually developed a theory of color to make color as experienced a real property of things. Koestler opposes reductionism, especially in psychology. In *The Act of Creation* (New York: Macmillan, 1964), he developed a theory of scientific creativity which was stimulating in its insightful examples and its suggestive adaptation of Jean Piaget's psychology. It was, however, flawed by overweening ambition. "Bisociation of matrices," when presented as the explanation for all discoveries, became so nebulous that it ceased to have an explanatory role.

The other books considered in detail are *The Ghost in the Machine* (New York: Macmillan, 1967) and *Janus: A Summing Up* (New York: Random House, 1978). The evaluation reflects a reading of Koestler's other works on the history of science, especially *The Sleepwalkers* (New York: Macmillan, 1959). Koestler, like Goethe, tried to develop a humanistic equivalent of the older, natural theology perspective, opposing all attempts to reduce the distinctively human to mechanistic physics or behaviorist psychology, developing positive alternatives with a creative flair and a conceptual boldness. Toulmin's sympathies, however, cannot suppress his critical faculties. Koestler's gimmicky alternatives to science, such as an antiaggression pill, are no more successful than Goethe's color theory.

The French cosmologists, Teilhard de Chardin (an anthropologist-theologian), and Monod and Jacob (biologists and amateur philosophers), are interpreted against the perspective of the philosophical isolation and cerebral incestuousness characterizing the French intellectual milieu. Neither Teilhard de Chardin, intoxicated by his messianic visions, nor Monod, utterly failing to understand the philosophical issues he treats, is taken seriously. Jacob adapted the then-fashionable French structuralism to develop a depth grammar of structural forms that would accommodate the advances of molecular biology. This latter-day Cartesianism is, in Toulmin's opinion, too tidy and too restrictive to trap the protean flux of scientific development.

Bateson, an evolutionary theorist, and Sagan, in his pre-Johnny Carson days, were both characterized by wide-ranging interests and bold unconventional methodologies in scientific speculation. Bateson is seen as a scout, exploring the intellectual frontier, proclaiming the demise of the modern, that is, neo-Cartesian, scientific world-view, but patchy and unsuccessful in developing an alternative. Sagan's *The Dragons of Eden* (New York: Random House, 1977) speculated on the evolution of intelligence here and elsewhere. This supplies Toulmin with a platform for attacking the pretensions of sociobiology.

Part 3, presenting Toulmin's positive views, is surprisingly disappointing. There is an interpretative historical survey. Astrocosmology, linked to natural theology, supplied a loose but flexible framework in which scientific advances could be fitted into a more or less coherent and humanistic perspective. This

faded, not merely because of advances in science, but because the growing division of science into distinct disciplines, each with its own technicians, inhibits any treatment of general questions concerning humanity's place in the overall scheme of things. This led to "modern" science, with the scientist as a detached spectator. Now we are in a postmodern scientific era, one in which the limits of mechanism and the active intervention of the scientist are recognized. This change should block the inhibitions against treating the general questions proper to the natural-theology tradition.

Toulmin's search for intellectual allies uncovers only "white" philosophers, neo-Epicureans who use psychoanalysis as a basis for fitting humans into nature, and "green" philosophers, the neo-Stoics of the ecological movement. Like the people he criticizes, Toulmin is attempting to build a new synthesis by adapting fragments from the fringes of science. Unlike them, his critical awareness of the difficulties and paradoxes inherent in cosmological discourse stifles boldness and creativity.

Toulmin is an urbane witty writer with a breath of knowledge about the history of science and philosophy, current intellectual trends, religion, and even literature. Yet, it seems to me that there is virtually no chance that the position he is developing will win any acceptance. His cosmology ignores all current cosmological issues. His natural religion is ultimately based on a sentiment about humanity's place in nature rather than any arguments for a divinity. The only support for his philosophical perspective comes from amateur philosophers whose shortcomings Toulmin himself has clearly highlighted. Toulmin is not an amateur, but a highly competent professional philosopher of science. Yet he never succeeds in developing, even in the sketchiest of outlines, any convincing, or even plausible, arguments for the integrated philosophical perspective he aspires to.

The core problem remains. Is it possible to develop a perspective for interpreting science which somehow integrates human and social values into the natural order without relying on the type of metaphysical or theological foundations that formerly supplied a foundation for such perspectives? An intelligent, competent, honest, philosophical polymath has surveyed this core question from varying vantage points for some thirty years and succeeded only in criticizing the failures of the major attempts to develop an affirmative answer. Toulmin's positive suggestions cannot be listed as a further failure only because they are too limited and sketchy to count as one more attempt. This string of failures and incompletes puts the burden of proof squarely on the shoulders of anyone attempting a positive answer to the core question.

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The New Story of Science: Mind and the Universe. By ROBERT M. AUGROS and GEORGE N. STANCIU. Lake Bluff, Ill.: Regnery Gateway, 1984. 234 pages. \$6.95 (paper).

An appropriate beginning to a critical overview of *The New Story of Science: Mind and the Universe* is aptly taken from the authors themselves: "Truth has van-

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ished. Only viewpoints remain" (p. 128). In very general chapter titles such as "Matter," "Mind," "Beauty," and "The World," the authors purport to demonstrate the demise of "The Old Story," that is, an absolutist view of nature, and the vitality of "The New Story" of change and adventure in nature and mind.

The New Story of Science is a handy potpourri of quotations in what the authors perceived as support of their claim that mind is more than matter. The thesis is couched in an intriguing, albeit simplistic, dichotomy between pre-Newtonian and post-Newtonian science. The simplicity lies in the highly selective viewpoints, taken out of the context of the contributors, that the authors have selected. On behalf of the book itself, however, it must be stated that the persons cited—Wilder Penfield, Roger Sperry, Albert Einstein, Paul Dirac, Piet Mondrian, Victor Frankl, Rollo May, Carl Rogers, Anatole France, Werner Heisenberg, and numerous others—entice the reader to pursue the poignant points attributed to them. In fact, the reviewer insists that the reader does pursue the quotes back to their sources, as the quotations themselves do not reflect the true gestalt of their authors—separately or together. An ample bibliography is provided at the conclusion of the book for such references.

Although *The New Story of Science* appears to be a useful introduction to the field, this is a misleading first impression, since the single thesis of the book is a descriptive reinforcement of the New Story principle, alternately stated that "Mind is not reducible to matter" (p. 168). The intrigue within this dichotomy is discovered as one lists the factors that separate the two stories: objectivity/subjectivity; complexity/simplicity; order/chaos; freewill/necessity; matter/spirit; mind/brain; materialism/spirituality; mechanism/organism. For the authors "new versus old" is equal to an "either/or" scientific/religious mind-set.

The scientific truth is, however, that accuracy and specificity are discarded by the authors in the ineffective effort to support their superfluous, but I am sure to some pleasing, thesis regarding the principle of mind.

The glaring inaccuracies and simplifications of the book are exhibited in the following excerpt:

A universe aiming at the production of man implies a mind directing it. For matter on its own cannot aim at anything. Hence, the New Story again leads to a mind that directs the whole universe, all the laws of nature and all the properties of matter, to a goal. To that mind we give the name God. Heisenberg describes the Old Story's methodology: "The mechanics of Newton and all the other parts of classical physics constructed after its model started from the assumption that one can describe the world without speaking about God or ourselves" (*Physics and Philosophy* [N.Y.: Harper & Row, 1958], p. 81). A universe without mind. But the New Story indicates the opposite on both counts. The Big Bang and the Anthropic Principle point to minds at both ends of the universe (p. 70).

Wishful thinking is not reasoned thinking; conjecture is not fact. While science in our time is an exciting adventure into the unknown and a revitalization of the qualitative dimensions of the universe, the conclusions drawn by the authors are simply not necessarily true, and in the above quotation they are based on inference and a misreading of both Newton and Heisenberg.

At the risk of being suspect of the marvelous intrigue that can occur in the sciences, which the reviewer is not, it must be said that to reduce the complexity and diversity of science and aesthetics to the above returns us to the scholasticism of the Middle Ages where all things were thought to be metaphysically and actually complete and tending toward perfect harmony. In fact, this is not yet the case, although personal aspirations may strongly favor it. For the time

being, let the diversity be, let operational constructs force us to see rather than conjecture, and let another version of the New Story be read.

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The Theology of Grace and the American Mind: A Representation of Catholic Doctrine.

By DANIEL LIDERBACH. Toronto Studies in Theology, vol. 15. New York: Edwin Mellen Press, 1983. 158 pages. \$39.95.

Daniel Liderbach is a member of the faculty of religious studies at Canisius College in Buffalo, New York. His representation of the catholic theology of grace is a reinterpretation of the theological traditions concerning the ways in which God's love for individuals has been understood. The essay is presented in four parts with a concluding integrating summary. The opening chapter is a survey of the different theologies of grace, tracing the understanding of God's saving love from the Old and New Testament through the patristic and medieval treatments, controversies of the sixteenth and seventeenth centuries right up to the modern theological anthropology of Karl Rahner. Liderbach gives brief summaries of the classical positions and controversies: Augustine and the Pelagians, the Reformation and the Council of Trent, the Jansenist position and the *de auxiliis* controversies of the seventeenth century, Matthias Scheeben's recapturing of the theology of the Holy Spirit and Rahner's transcendental anthropology and theology of the "supernatural existential." From the survey of the tradition he extrudes these principal themes: God's unconditioned faithful love is free, merciful, and reconciling; it overcomes human unworthiness and transforms those who are open to receive that love into persons who are themselves more loving towards others.

The second chapter looks to overcoming the hostilities which have developed between scientific thought (particularly in its positivistic mood) and scholasticism in philosophy and theology, particularly because of its anthropological and cosmological dualism. Pointing to the insights of people such as Arthur Eddington, Albert Einstein, Werner Heisenberg, and Max Planck, Liderbach shows how the once-hardened categories of the physical sciences have been considerably softened by the deobjectification of the symbolic constructs characteristic of the more materialistic interpretations of nature and humanity. One result of this deobjectification has been the onset of a more humble realism which recognizes that the natural sciences are but one approach to reality and that no one approach can claim to possess *the* truth. Einstein's relativizing of space and time as well as Planck's investigations of the microcosm have meant the end of the verification principle and have opened the way for a sense of the real which is larger than what is available to observation by the senses. Coupled with the observations emerging from depth psychology these developments make possible the assertion of a "numinous" zone in which the nonsensate can be reality. Humanity can thus be seen to be incarnate spirit, transcending the spatial and temporal limits of physical observation, open to ever-expanding horizons of possibility. It is in this sphere of the

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human as self-transcending spirit that Liderbach situates the mutual relatedness of the human and the divine. This places him in clear opposition to the scholastic tradition which would situate the divine human exchange in the realm of the "purely spiritual." Grace is thus a reality which can be experienced wherever humanity is experienced as transcending spirit.

Liderbach finds this opening to the spiritual as incarnate human spirit congruent with Rahner's theology of the supernatural existential, that is, the conviction that humanity exists and takes place in a graced milieu. He sees this as part of the significance of Jesus' preaching of the kingdom, the nearness of God in an immediate presence which Jesus could characterize by naming God "Abba." In this nearness, human expectations are overturned and radical new possibilities are revealed for the human person.

Once Liderbach has established the possibility of the experience of the love of God in his anthropological reflections, he proceeds in his third chapter to present a model for psychological structure of the divine-human encounter. He finds this in the psychotherapeutic practice and theory of Carl Rogers. Rogers's therapeutic posture of "unconditioned positive regard" presents a model for relationship which Liderbach finds productive of the kind of self-transcendence which characterizes the specifically human. The unconditioned acceptance which the therapist shows the client is a structured experience which frees the client from the need for a "verification principle" from externally imposed criteria such as social propriety, moral sanction, or political economic value. The experience of unconditioned affirmation can free one to become a more flexible, creative, and responsible human being whose sense of self derives from an internal sense of value and possibility. This experience is critical because it opens the person to the process of accepting one's experience as the criterion for and place of personal growth and fulfillment.

Further, the Rogerian therapeutic posture is the manner in which the sovereignly free and totally other-directed love of God can be seen as reaching out to the human condition. Thus, the capacity to be open to one's experience is critical if one is to be able to experience the presence and power of God's love in one's life. But beyond serving as a model for understanding the reality and working of grace in human life, Liderbach proposes that the posture of uncritical positive regard might serve as a model for all human relationships. Far from being an invitation to self-centeredness the Rogerian model for human relationships looks to a world in which people can experience themselves as respected and valued, a world in which people can become self-actualized, fully open to the reality and power of their own and other's experience.

Liderbach's fourth chapter addresses the question of the adequacy of this reinterpretation of the theology of grace. Rather than attempting to demonstrate the truth of his interpretation, he reaches out to the American pragmatic tradition to ascertain the context within which this interpretation would be meaningful. The American tradition of pragmatism has abandoned the rigidity of rationalism's criteria for intellectual verification and insists that concepts and theories need to be found meaningful within the framework of the values which contribute to the ongoing process of human betterment. Liderbach focuses on the "pragmatic axiom" of C. S. Peirce which states that concepts and theories can only be found to be meaningful when they have been translated into experienced practice. Only then will the practical significance of a concept or theory emerge into a form in which it can be evaluated, criticized, and changed with an eye to the improvement of the human condition. This task is a function of an empirically minded community engaged in the process of

evaluating and guiding human experience, experience whose concepts and theory are in a constant and fallible process of review.

Liderbach concludes with a fifth chapter in which he presents an integrating summary of the strands of thought from the second, third, and fourth chapters. He reiterates the suggestion that the transcending human spirit is the place of the encounter of the human person with the numinous presence of God, that the structure of that experience can be seen in the acceptance of the positive uncritical regard of other people, and that the transformation of the person demonstrates the meaningfulness of this transcending experience. The study is offered with all the admission of fallibility characteristic of Peirce's pragmatic axiom. The meaning of grace will need constant revision and re-statement as generation succeeds generation in christian experience.

Liderbach's study is congruent with a number of other developments in theology generally. Contemporary critical theology shares the pragmatist insistence on the practical character of human meaningfulness and sees theology as one aspect of the quest for human meaning. Liberation theology has proposed the criterion of *praxis* as the critical factor in the judgment of the adequacy and meaningfulness of a theology. The question is not so much one of abstract truth or coherence; the question is what this theology does, what practical effects it has in the lives of people. Thus, a theology which supports and reinforces structures and situations of injustice, oppression, and exclusion will be seen for what it is: ideology.

Likewise, contemporary critical theology stresses the experiential character of theological reflection. Indeed, theology, whether it deals with biblical, historical, or systematic concerns, is considered a hermeneutics of experience: the experience of the communities which give rise to the biblical traditions, the experience of the historical communities which gave rise to liturgical or dogmatic traditions, the experience of communities looking for the meaning of faith in the God of Jesus in the present imperiled world. Faith has always been an experience and theology is not only an interpretation of that experience in a christian historical sense, but is also a search for a credible and meaningful perception of *today's* christian experience. It is thus, in line with Peirce's principle of fallibility, an ongoing community effort in which there is no final statement made. Each generation must enter into and continue the same process.

It is commendable that a theologian should have the theological tradition of the meaning of "grace" dialogue with the world of the physical sciences, especially with its contemporary pragmatistic style. In the last analysis, both the theologian and the natural scientist are human beings whose gifts and callings are responsible to a humanity which is under a particularly ominous threat. There is no room for the old absolutist attitudes on either side. On this score, Liderbach's work is a positive contribution to the possibilities of cooperation between the two disciplines. Of course, the dialogue needs wider scientific and cultural parameters. The old antagonism between religion and science does pale at the spectacle of the millions of starving and homeless people in the world. Both theology and science need to be examined in terms of the *practical* outcome their projects have for human beings on the face of this earth.

One final remark. The use of inclusive language in any public discourse is a matter of critical urgency today. Liderbach's efforts to use inclusive language throughout his study is an admirable attempt to include the more than half of the human race who are excluded in traditional liturgical, scientific, and theological speech. However, this reviewer has found that it is possible to speak

and write inclusively and at the same time respect some of the gracious flavor of the English language. Liderbach's study limps when it comes to this effort. One would hope that eventually he and other theologians will find it increasingly easy to speak and write in a *good* inclusive English.

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The Human Animal. By PHIL DONAHUE. New York: Simon and Schuster, 1985. 412 pages. \$19.95.

How many books dealing with some central concerns of *Zygon* can you recommend to a friend or relative with no more than a high school education or with minimal knowledge of contemporary science? Probably not very many. However, soon after I began reading Phil Donahue's *The Human Animal*, I thought, "Here is a book that can be given to people at almost all educational levels to help them see the importance of using contemporary scientific knowledge to understand themselves with all their strengths and weaknesses from an evolutionary perspective."

Donahue has been well recognized for his capacity to interview people on controversial and significant issues on his morning television program. For more than two years he applied this interviewing ability and the resources of his staff to canvass numerous scientists in order to produce this book and its companion NBC prime-time television series. Donahue's ability persistently to ask scientists the kinds of questions the average person is likely to ask is one of the most attractive features of this work, and the answers he gets provide a fascinating set of perspectives on ourselves as human animals.

The book is divided into five parts, containing seventeen chapters. In the first part, "Past and Future," Donahue introduces us to "the great contradiction of the human animal. We can be both noble and petty, sublime and savage, beauty and beast. We can pray one minute and kill the next, create one minute and destroy the next, even love and hate simultaneously" (p. 21). Questions related to this fundamental tension carry through the remaining major divisions of the book: "Love and Sex" (Why are male-female relationships such a struggle?), "War and Violence" (Why is there so much violence in our society?), "Nature and Nurture" (How do genes and hormones interact with upbringing to jointly determine human behavior?), and "Life and Death" (What is the basis for belief in immortality and God?).

From the outset Donahue acknowledges that questions such as these cannot be definitively answered by contemporary scientific knowledge. Nonetheless science does give us an approach to achieving understanding greater than ever before of the nature of the human animal. This approach is grounded, first, in Charles Darwin's theory of evolution updated by contemporary, still debatable ideas such as Stephen Gould's punctualism and the notion that all traits are not necessarily adaptive (outlined in the last part of chapter 1, "Beauty and the Beast"). Second (in chapter 2, "Too Much of a Good Thing"), the approach is grounded in Paul MacLean's theory of the triune structure of the human brain (neocortex, limbic system or old mammalian brain, and reptilian brain):

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"When a psychiatrist bids the patient to lie on the couch, he is asking him to stretch out alongside a horse and a crocodile" (p. 46). (Throughout, Donahue or the scientists he interviews demonstrate an admirable capability for turning memorable phrases or making clear, illustrative analogies.) In the remainder of the book Donahue uses evolutionary notions of adaptation and maladaptation—applied to cultural phenomena—and the interrelated functioning of the triune brain to review contemporary scientific knowledge and hypotheses on questions of male-female differences; heterosexual, parental, and homosexual love; the origins of the sex drive; male and female roles in making history; the roots of human and male aggression; the causes of warfare; parental influence on child development; a child's capacity for learning; practices of child rearing; the learning of language; the nature of the unconscious; and the role of religion.

In relation to this approach grounded in contemporary evolutionary theory and brain science, the major theme of the book turns out to be that of the relation between biological and cultural factors in shaping human behavior: How much is nature and how much is nurture? Donahue tries to offer a balanced treatment of this question: "The boundary between 'nature' and 'nurture' is no bright line; it's a wide and vaguely defined no-man's-land where scientists continue to research and dispute" (p. 290). But those who see the importance of Edward O. Wilson's notion that "genes hold culture on a leash" will probably think that Donahue too sharply distinguishes culture from biology and too easily suggests the human capacity to change without considering the biological-psychological costs.

Donahue's tendency to lean toward scientists who emphasize the primacy of culture seems to be more prevalent when he discusses issues related to morality—male-female relationships, violence, and war—than when he considers, for example, how a human infant learns language. In reviewing the science of language learning (chapter 15, "'Goo-Goo' and 'Ga-Ga'"), Donahue devotes most of his attention to Noam Chomsky's scientifically controversial concept of a "language organ" in the brain that is distinctly human and that must be triggered during the first decade of life in order to work properly (pp. 319-26). However, in discussing scientific information that relates to moral issues, Donahue follows scientists like Ashley Montagu, Irvn DeVore, and Melvin Konner, who recognize both the biological and the cultural inputs to human aggression but who also stress that humans are responsible for their actions and can work to shape better, less maladaptive behavior, for the future. Konner reverses Wilson's "leash analogy": "Our culture . . . stupidly lets go of the leash. It gives free rein—even encouragement—to the side of our nature that is most destructive. It takes basic aggressive instincts of the animal on the leash and trains the animal to express those instincts more readily instead of less readily" (p. 231). Donahue follows this with "we are the animal on the leash and the trainer. If the animal inside loses control, we're to blame as much as the animal. Whatever the current scientific squabbles, there's universal agreement that we—the most gifted life form on earth—now have the power to determine not only the shape of our future, but whether there will be a future at all" (p. 231).

The strengths of *The Human Animal* are focused on its readability and breadth. First, Donahue asks questions of contemporary scientists and offers their responses in a way that is easy to read and understand—and in a way that shows how important science is to understanding what we are and why we are that way. Second, the book brings to bear an impressive number of contempo-

rary scientific and scholarly minds on the questions asked: forty-eight persons are explicitly acknowledged at the beginning of the book, but many more are discussed in the text. Besides DeVore, Gould, Konner, and Montagu, the scientists most often cited are Dorothy Dinnerstein, Virginia Johnson, Jerome Kagan, John Money, June Reinisch, and Arnold Scheibel. At a crucial point in the book (discussed below) one scholar of religion (Langdon Gilkey) plays an important role. Third, three scientific geniuses are given special treatment in a way that the layperson who is not familiar with them will enjoy: Donahue gives brief sketches of the life and theory of Charles Darwin and the controversies his work initiated (pp. 24-41); of the life and work of Albert Einstein and how his work, along with that of Marie and Pierre Curie, has led to cultural developments that are both adaptive and maladaptive (chapter 4, "The Next Step"); and of the life and thought of Sigmund Freud on the unconscious, dreams, and Oedipus complex in relation to more recent work on these topics (chapter 16, "Dreams that Come True"). Fourth, the book is lavishly illustrated with over 400 pictures, more than half of them in color, and all well captioned to assist in making the main points of the text. Finally, there is a useful and quite complete index; however, I would also have liked a bibliography that lists the works of the many scientists on which Donahue relies.

With all the breadth and richness of Donahue's survey, it is not surprising that the major weakness of *The Human Animal* is the sketchiness with which many scientific ideas are presented. No doubt experts will find the treatment of their own fields less than fully adequate. I was disturbed by traces of Lamarckism (p. 33), an over-personification of nature, and too much stress on the notion of "survival of the fittest" without using explicitly more accurate ideas of differential rates of reproduction in Donahue's summary of evolutionary theory in chapter 1.

I also was not happy with Donahue's treatment of religion in the closing chapter, "Stairway to Heaven." After opening the chapter with an account of the near-death experience of Reinee Pasarow and asking if such experiences are evidence of immortality or if they are the effects of brain chemistry in a person who is not really dead, Donahue writes: "If we're ever going to leave the realm of science and enter the realm of religion, this must be the place. After all, life after death—immortality—has always been the promise of religion" (pp. 368-69). This sounds too much like a religion of the gaps. It ignores the constructive role that religion can play, for example, in the human life cycle: when Donahue presents Colin Turnbull's work on the Mbuti puberty rituals, he leaves out the religious dimension (pp. 160-61).

When Donahue does suggest a positive role for religion in human living—"that idea of personal responsibility, of morality, of the human animals as something more than a slave of biology, is what religion provides" (p. 389)—it still sounds like a religion of gaps or at least a two-sphere approach to religion and science. Just as he sometimes draws too sharp a line between biology and culture (nature and nurture), Donahue, in following Gilkey, draws too sharp a line between science and religion. Gilkey says, "The function of religious traditions in every culture has been to achieve some kind of basic, fundamental, and valid understanding of the human. Who am I? What am I here for? What should I do? What fulfills me? Scientists who think science has answered these questions are mistaken" (p. 389). By following Gilkey at this point near the end of the book, Donahue partially undercuts the worth of what he has done so far. It may be that science does not *directly* answer all the questions Gilkey poses as religious questions, but throughout the book Donahue has demonstrated that

contemporary scientific knowledge about *The Human Animal* provides the framework in which such questions can be addressed as well as some of the resources that religious thinkers can use in shaping meaningful answers for today's society.

Of course, Donahue's primary intent is not to address issues in religion and science. His primary goal is to provide a readable picture of what contemporary science says about us human beings. While he has not presented everything science has to offer, I think that on the whole he has succeeded admirably in fulfilling his purpose.

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Contemporary Approaches to the Study of Religion. Edited by FRANK WHALING. Religion and Reason Series, nos. 27 and 28. Vol. 1: "The Humanities." Vol. 2: "The Social Sciences." Berlin: Mouton, 1984 and 1985. 492 and 302 pages. \$39.95 (DM 118) and \$29.95 (DM 78).

This two-volume tome is a supplement to Jacques Waardenburg's earlier two-volume tome on *Classical Approaches to the Study of Religion* (Berlin: Mouton, 1973 and 1974). Waardenburg's survey spans the period from the late nineteenth century, when the academic study of religion began, down to 1945. Frank Whaling's covers the years since. Waardenburg's work is a series of excerpts from leading figures and a volume-long bibliography. Whaling's is a series of essays, each with a bibliography. Waardenburg's topical division is broad. Whaling's is much more specific: it is divided into historical and phenomenological approaches, comparative approaches, the study of myth, the study of religion by non-Westerners, the implications of the philosophy of science for the study of religion, social scientific approaches generally, psychological approaches, sociological approaches, social anthropological approaches, and cultural anthropological approaches. Finally, Waardenburg's book is all his own. Whaling's is the product of, as he boasts, an international team.

As a survey of the major figures and schools in each area, the book is invaluable. As an assessment of them, it falls short. Whether it must do so is the prime question the book itself raises. For what every essay bemoans is not only the ever increasing number of alternative views—the intellectual equivalent of Alvin Toffler's "future shock"—but, far more important, the inability to decide among them.

For the essayists, no criteria exist for deciding even within approaches, let alone among them. The decisions, moreover, concern the most fundamental issues: what method to use in studying the field, what aspect of the field to study, and even how to define the field. Ursula King's characterization of the history and phenomenology of religion is symptomatic: "If one may characterize the present situation among younger scholars of religion in terms of a mood, it is primarily a mood of uncertainty which permeates much of the contemporary debate: . . . uncertainty and disagreement about the right kind

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of method(s); uncertainty about the very aims of methodology and theory in the study of religion" (1:145-46; see also 1:5).

As David Wulff, for example, asks of the psychology of religion, is the field to be defined as the application of psychology to religion, the relationship between psychology and religion, or the use of psychology for pastoral purposes? However one defines the field, is its aim merely to describe religion or outright to explain it (see 2:22)? Whatever the aim of the field, what aspect of it is to be considered: its origin, its function, or its object? Whatever the aspect considered, what brand of psychology is one to use (see 2:24)? Finally, what method is one to use (see 2:47)?

Wulff himself can answer none of these questions, for he assumes that no criteria exist for evaluating the answers. Able only to catalog the range of answers given by psychological practitioners, he declares the field to be in permanent crisis: "in scarcely any other field of study have the questions of object, method, and goal received more diverse answers or been the source of more controversy than in the psychology of religion. . . . The 'situation of crisis' in which the psychology of religion has found itself since its earliest days . . . is inherent in the field. There is simply no way to escape it" (2:46-47).

Wulff bars only one kind of answer to any of the questions posed: that which dogmatically bars any other. At a loss for ways to evaluate rival views, he opts for relativism: "Yet dialogue among researchers of differing persuasions, if it is to yield genuine progress, requires that its participants recognize the relativity and limitations of their own points of view" (2:77).

Wulff is representative of the essayists in the book. Daunted by the diversity they face, nearly all embrace relativism and thereby oppose only absolutism—that of Westerners and Christians above all. Says Whaling: "the wider question that is emerging is whether the study of religion has not been too much dominated by *western* categories. What is the significance of the fact that religions outside the West have been studied in a western way and, to a lesser extent, that religions outside Christianity have been studied in a Christianity-centred way" (1:11-12)?

On several counts this stance is dubious. First, diversity per se does not necessarily spell relativism. Only the absence of ways of assessing the diversity does. The fact that Freudian, Jungian, humanistic, and behaviorist psychologies all claim to explain religion exhaustively does not itself mean that there is no way to settle the claims. The fact that all religions boast a monopoly on the truth does not itself mean that one cannot judge the boasts. Yet instead of even seeking criteria for arbitrating rival claims, the essayists accept diversity itself as conclusive. They simply ignore standard measures of objectivity: adequacy, simplicity, and testability.

Second, diverse views are not necessarily compatible. A Freudian explanation of religion may itself be exclusivist, no matter how ecumenically minded some practitioners of it may be. The essayists' hope for compatibility in the face of irreducible diversity may, then, be vain.

Third, relativism is self-defeating: by nature it cannot justify itself as true. Yet the essayists employ it to denounce as false absolutist claims by Westerners and Christians (see, e.g., 2:262).

Not coincidentally, the most distinctive trend in the contemporary study of religion is the move toward relativism. Whether in the form of Wittgensteinian fideism, hermeneutics, symbolic and cognitive anthropology, phenomenological and existential sociology, or humanistic and existential psychology, the aim is to accept the believer's point of view as beyond criticism. For it is assumed that

no criteria exist by which to do anything more. The trend is away from evaluating the believer's point of view and toward simply appreciating it. What Kees Bolle deems the proper approach to myth in particular bespeaks the views of the other essayists toward religion in general: "Every endeavor that opposes a given myth with a real meaning clear only to the modern interpreter seems suspect to me. . . . Explanations of a myth must be capable of being presented to the narrators and not merely to scientific colleagues" (2:347-48; see also 2:17).

Put another way, the trend is away from a social scientific approach to religion and toward a humanistic one, in which case the distinction between volumes one and two of Whaling becomes blurry. The shift is from analysis to description, from explanation to interpretation, from cause and function to meaning and significance. The concern is ever less with why believers believe or with whether what they believe is true and ever more with simply what they believe. The shift constitutes a failure of nerve.

The essayists not only endorse this shift but exemplify it. In continually praising the inclusion in the book of all approaches to all religions by scholars of all countries, Whaling takes for granted that no one approach to any one religion by a scholar from any one country is better than any other. For he assumes that there is no way to judge.

Moreover, the issue over which there is no agreement is, as noted, one of not just method but also goal, subject, and even definition: "Perhaps one of the reasons why western philosophy of religion has found it difficult to grapple with the study of religion is because that study has not been amenable to agreement on any one definition of religion" (1:16). Various academic disciplines considered cohesive lack a uniform method, but religious studies lacks far more. In the terms of Thomas Kuhn, it is "pre-paradigmatic," and despite Whaling's own hope for progress (see 1:384, 389), the relativism which he himself inconsistently preaches destines it to remain so.

The sole *argument* for relativism in the book is Whaling's own short section on the philosophy of science. Unlike some defenders of religion, Whaling mercifully does not appeal to relativistic philosophers of science to justify relativism in religious studies. He does not argue that because Kuhn and Paul Feyerabend consider science itself relativistic, religious studies is entitled, if not compelled, to be relativistic as well. He does note the trend away from positivism in the philosophy of science and does say that religious studies need not therefore emulate the standards of positivism, but he does not identify that trend with relativism (see 1:388-89). Rather, he deems relativistic in the philosophy of science what he deems relativistic in religious studies: the diversity of views themselves. Yet he asserts that in at least the philosophy of science the diversity is no barrier to progress: ". . . the rise of a variety of approaches to the study of science is neither a handicap nor a brake to progress" (1:389).

Surely, however, diversity is no hindrance only when there are ways of resolving it. Yet by nature relativism precludes resolution. Whaling should therefore mean that the diversity in the philosophy of science is ultimately resolvable. Yet he implies that it is permanent: ". . . there is not just one but there are many theories of science; there are a variety of views concerning methodology in science; science is no longer seen to be monolithic in itself . . ." (1:388).

Even if Whaling still means that the diversity in the philosophy of science is resolvable, nothing that he and his contributors say suggests that it is resolvable in religious studies. Indeed, Whaling feels obliged to justify the inevitably greater diversity in religious studies (see 1:389-90). Yet he nevertheless says

that the diversity in religious studies is as healthy as that in the philosophy of science: "... as the rise of a variety of approaches to the study of science is neither a handicap nor a brake on progress, so also the variety of approaches within the study of religion is evidence of life and not a sign of backwardness" (1:389). Since, again, the diversity can surely be healthy only if it is finally resolvable, Whaling must, despite what he otherwise says, believe that it is.

On what grounds can Whaling believe that it is? The implicit grounds are the similarities between the kinds of diversity that exist in the philosophy of science and the kinds that exist in religious studies: "there are parallels to most of the main approaches adopted by the philosophy of science within the study of religion. The inductive approach is favoured by social anthropologists who insist upon fieldwork studies of the groups they are researching; the empirical approach is favoured by many historians who stress the importance of critical studies of texts; ... the Lakatos methodology of research programmes is adopted implicitly by a number of scholars of religion such as Eliade, Levi-Strauss, and Dumézil" (1:389). Implicitly, Whaling is arguing that because the diversity in religious studies matches that in the philosophy of science, religious studies is as capable of resolution.

Whaling is shallowest here. The parallels he draws between religious studies and the philosophy of science are superficial, and so therefore is the likelihood of resolution in religious studies. Take, for example, Whaling's appeal to the parallel drawn by Guilford Dudley between Mircea Eliade's scheme and Imre Lakatos's concept of a research program (see 1:382-83). Following Lakatos, Dudley distinguishes between Eliade's core, composed of fundamental theories that are to be shielded from testing, and his protective belt, composed of auxiliary hypotheses that are to be tested: "The core of his system is the postulates of the archaic ontology and the transconscious, the dynamics of hierophanies, symbols, and archetypes, and the cosmicization of space and time. The protective belt of auxiliary hypotheses that can be adjusted or rejected are concepts such as the *axis mundi*, the Cosmic Tree, the *hieros gamos*, the analogies between human birth and the creation of the world in myth and ritual, festival time" (Guilford Dudley III, *Religion on Trial: Mircea Eliade and His Critics* [Philadelphia: Temple University Press, 1977], 126).

More simply, the core of Eliade's would-be program might be the proposition that all human beings need contact with the sacred and consequently seek it. The prime auxiliary hypothesis might, then, be: if every human being seeks the sacred, every human being will engage in some kind of religious activity.

Eliade would thereby be putting his core to the test. Should it be falsified, he would try to reformulate it. But to satisfy Lakatos's criteria of a progressive program, his new auxiliary not only would have to account for the falsified predictions, or anomalies, but also would have to predict new facts, some of which would have to prove true.

Eliade himself acknowledges, indeed stresses, the professed atheism of moderns, who thereby engage in no apparent religious practice. But Eliade says that moderns are in fact religious, just unconsciously so. For Eliade, moderns, too, seek to escape from the everyday world and return to a pre-fallen one—for example, by becoming lost in movies, novels, and ideologies.

Eliade could, then, reformulate his auxiliary hypothesis as: if every human being seeks the sacred, every human being will engage in some kind of religious activity, unconscious or conscious. Eliade would thereby be both explaining all of the existing facts, including the anomalies, and predicting new ones: unconscious religious activities. Should at least some of the predictions come true, his

program would be fully progressive, and Lakatos would urge him to develop it still further.

Unfortunately, Eliade not only never does but never would put any part of his program, auxiliary or core, to the test. He would never specify the kinds of religious activities, conscious or unconscious, in which primitives or moderns engage. He does claim that every human being seeks the sacred. But he makes the claim as a statement of faith, not as a testable proposition. He *defines* man as *homo religiosus*: as needing and consequently seeking the sacred. It is unimaginable that Eliade would ever abandon the claim. It is therefore unimaginable that he would ever venture beyond his core to a testable auxiliary, which, if continually falsified, would oblige him to cede his core. Eliade would never specify the form the quest for the sacred takes. His "program" really consists of only a core, and a core which is outright nonfalsifiable rather than merely protected from falsification.

If Eliade ever did provide a testable auxiliary to a falsifiable core, he would meet any cases of falsification—for example, modern atheism—with a mere ad hoc adjustment. He would account for the anomalies by the revised auxiliary of unconscious as well as conscious religiosity, but he would never put the revised auxiliary to the test in turn. Even if, again, he ever did, he would never abandon his core if he eventually proved unable to devise a new auxiliary.

In short, if, as is unlikely, Eliade ever submitted his program to a test, he would, to preserve it, resort to mere ad hoc rationalizations either eventually or initially. If he did so eventually, he would have a degenerating program. If he did so from the start, he would have a pseudoprogram.

The difference between Eliade's scheme and a Lakatosian program typifies the difference between religious studies and the philosophy of science. Whaling cannot, then, appeal to the superficial similarities as evidence that the diversity in religious studies will likewise one day find a happy resolution. Moreover, philosophers of science of divergent stripes argue with one another. "Religionists" rarely do. They operate solipsistically. Whether they *must* do so is, it has been argued, another question. In sum, if on the one hand Whaling fails to justify the relativism that he ordinarily espouses, on the other hand he fails to justify the end of it that he occasionally envisions.

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