

## Reviews

*The Crack in the Cosmic Egg: Challenging Constructs of Mind and Reality.* By JOSEPH CHILTON PEARCE. New York: Julian Press, 1971. 202 pages. \$5.95.

There was a child went forth every day,  
And the first object he looked upon, that object he became,  
And that object became part of him for the day or a certain part of the day,  
Or for many years or stretching cycles of years.

With this radical ontological principle from Walt Whitman, the nearly unknown Joseph Chilton Pearce begins one of the most challenging, irritating, and insight-provoking books I have encountered in many years.

Pearce sets out to challenge our traditional constructs of mind and reality, to create a crack in our cosmic egg and thereby lead us to two radical insights. First, the awareness and acceptance of the fact that our marvelous scientific cosmology (*Weltanschauung*) is not the only possible and real cosmic egg. And second, that this knowledge will trigger a creative approach to our own cosmology and those of others. (Given the present controversy over acupuncture and its effectiveness, it might be worth requiring everyone embroiled in the discussion, especially the American medical and scientific community, to read Pearce's book several times for meditation.)

Against the background of our Kantian/Cartesian-biased thought patterns, Pearce asks the most basic question, one almost universally ignored. Bluntly and boldly he questions the assumed objectivity and unquestioned all-embracing validity of our Western scientific construct of cosmos. Not that he rejects this vision as invalid, or untrue. Rather he argues for the equal reality and validity of other cosmic constructs, other cosmic eggs. For Pearce our Western *Weltanschauung* is but one among many possible and actual cosmic frames relating mind and reality (matter) in a viable, valid, and dynamically effective construct.

A "change in concept changes one's reality to some degree, since concepts direct percepts as much as percepts impinge on concepts." Applying this thesis to hard-core objective scientists and theologians alike, Pearce argues that in trying to construct any meaningful, logical cosmos, each scientist and every theologian *imposes his own unique (though commonly shared) categories on what he sees in order to see*. From early childhood each of us is trained and conditioned to sift our experiences and accept as reality *only* those components which society deems "real." "This assertion," Pearce concedes, "will equally offend the spiritualist, the scientist, and the theologian, since each apparently *must* represent his system as an absolute 'out there' distinct from and objectively existing apart from himself, *in order to have* the non-ambiguous faith to sustain the very fabric of his system [cosmic egg]."

To clarify and support this disturbing thesis, Pearce uses some powerful examples rather than pursuing the theoretical/philosophical details of his thesis. The evidence is varied and cogent, drawn from the functional reality

of the cosmos of Don Juan, the Yaqui mystic, and his anthropologist student Carlos Castaneda; the Dream-Time totemistic world of the Australian aborigine; the trance world of the Ceylonese Hindu fire walkers, who modify the reality of fire so that it does not burn; and the mountain-moving, water-walking faith of Jesus. These cosmic constructs, Pearce maintains, are just as real, just as valid, just as effective, functional, and true as the Western scientific vision we accept in complete faith from our white-coated high priests and witch doctors as the only real image of the world.

Our Western cosmic egg is just as unblemished by cracks as is the all-embracing cosmos of the Australian aborigine. Pearce draws a fascinating comparison between Western education and that of the aborigine which deserves some detail here, as an illustration of his thesis.

The adolescent Australian aborigine is subjected to a cosmic education which rivals that experienced by Western youth in its effectiveness and its ruthless suppression of all vertical thinking. The resulting cosmic construct differs radically from our image of the world, but its reality and economy are just as undeniable. At puberty the young aborigine is taken from his mother, isolated in the wilderness, starved for many days, and kept awake at night by the terrifying psychological weapon of adult males, the bull roarer. In the end the lad is emotionally exhausted, completely without resistance. Suddenly the elders, in hideous body paints and masks, surround him, creating an ordeal of fear and pain. "Through it all he must remain stock still, silent, and impassive. By this enormous shock, his psyche is very literally shattered and disintegrated. At that moment of disintegration, the inculcation of the totem world view begins. It is an elaborate and complex system, intellectual, logically cohesive, completely interrelated."

For years the youth has been unconsciously immersed in this totem world, but the *rite de passage* initiates a logical, intellectual synthesis only available when the logical phase of adolescence sets in.

After this, if the young man has survived, his acceptance and unquestioning, automatic response, according to his totem world, is complete. He takes his place with the two great mythical Brothers who eternally create the world. His every move is dictated by the strict traditions of what the Brothers did on that first great day of creation. These are the very movements by which creation is sustained. The stance he takes for his Dream-Time is rigorous and exact. Dream-Time is that mode of trance communication with the Brothers by which he attains that clairvoyant and telepathic rapport with his ecology—clan, animal, nature, world. The stance he takes for urination, the manner in which he runs, hurls his spear and boomerang, his mode of eating, copulation, addressing others, dancing, fire-building, painting his body, every facet of life is controlled by the taboos of his totem world.

In return, everything has meaning, a definite place in a specific hierarchy of events. His clairvoyance and telepathy are natural results of his total rapport. He knows when his own totem food animal is in his vicinity, though a hill intervenes. At the closest point of interception, he breaks his stance, and, in the least number of moves, intercepts his game.

His discipline is complete. He is seldom bothered by choice, since his totemism decides most issues. Spontaneity is at a minimum, and, as a result, so is ambiguity. The mesh of threatening, excluded possibilities of western man plays no part in his world at all. He stands on one leg, immobile for hours, in that Dream-Time state that is apparently a cross between a nature rapport and a mystical trance.

Sophisticated, scientific, objective Westerners may scoff at the primitiveness and naïveté of this cosmic egg; yet Lévi-Strauss and others have championed the intellectual refinement of the aboriginal totem cosmology as the

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equal of any in human history for coherency and logic. Long ago the aboriginal society rejected by choice the more common world views and isolated itself to develop, undisturbed, its highly refined and abstract intellectual cosmology. And is this, Pearce asks, really so different from what we have chosen to do in the West? "The aboriginal subset screened out everything not needed for the intellectual refinement, precisely as the scientific world so rigorously denies and screens out the aboriginal world view." Fortunately our cosmic egg is not as impermeable or crackless as that of the aborigine. We are at least somewhat intrigued, however perplexed, by the reality of anaesthesia by acupuncture and other recent intrusions from other cosmic eggs. Our educational processes are not as effective as those of the aborigine, thank God, though they still tend to reduce our ability to think vertically.

In this educational contrast/comparison, Pearce's exploration of the *Eureka!* "discovery-creation" visions (insights) of some great scientists and artists is especially cogent and convincing: Newton, Einstein, Hamilton, Poincaré, Planck, Bohr, Avogadro, Kekulé, Kazantzakis, Yeats, and others. These men shattered the cosmic eggs of their day, and then were fortunately able to convince the rest of their culture that their "invention-discovery-creation" was real.

All thinking, Pearce maintains, "is a shaping force in reality." He is not talking of the traditional concept of mind over matter, or even speaking of a mirroring between matter and mind. Both probably imply a false dualism. Pearce tries, and I would suggest quite successfully, to trace the function whereby events are shaped. Mind and matter form the complementary poles of a process continuum. Mind and matter form together a radical dialogue in which the mind responds to the reality of matter out there but then shapes that reality in an ongoing dialogue.

Recognition of this reality-shaping function of the mind provides the crack Pearce argues we need to break out of our secure cosmic egg.

Whether one wants to crack his egg, or decides it is not worth the risk and insecurity, readers who venture into Pearce's book should find it a disturbing but fruitful and unusual interplay of insights from William Blake, Jerome Bruner, Suzanne Langer, Michael Polanyi, Ronald Laing, Teilhard de Chardin, Paul Tillich, Don Juan and Carlos Castaneda, Jesus, and others. For the theologian and scientist today could both use a good crack in their cosmic eggs.

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*Theology and Metaphysics.* By JAMES RICHMOND. New York: Schocken Books, 1971. 156 pages. \$6.50.

Natural theology has fallen on evil days. In Germany Kant's critique of all attempts to say anything about God as he is independently of the world of possible or actual experience has been combined with Luther's insistence that we can only know God as he is related to us in the process of salvation. Two characteristic approaches have resulted, both bypassing natural theology: the data of theology may be strictly limited to what can be experienced, with the claim that what lies beyond experience is of little concern to theology (Schleiermacher, Ritschl, Bultmann); or the data of

theology may be fideistically affirmed to come to man through a suprarational revelation (Kierkegaard, Barth). In Britain Hume's skeptical empiricism has found strong confirmation in Wittgenstein and the logical positivists, and while the views expressed in the *Philosophical Investigations* have been instrumental in lifting the linguistic veto on theology by logical positivism (H. J. Paton), the demand for veridical procedures with regard to factual assertions of the *Tractatus* has not been softened. If theological assertions are not empirically verifiable, then what kind of assertions are they?

Having sketched this situation in the first two chapters, Richmond leads us through a deft summary of the developments in analytical philosophy of religion since the Second World War in order to make a case for a severely chastened natural theology, defined as "the rational construction of a vision of the world as a whole, penetrating beyond the realm of appearances to that of ultimate reality, a divine order which is the sole explanation of an experienced world which would otherwise be left obscure, puzzling and unclear" (p. 2). Here the parables of Wisdom, Flew, Mitchell, and Hick take on central importance in showing that the theist and the atheist may be fundamentally in agreement concerning the empirical data on hand, and likely to be discovered in the future, and yet differ profoundly in the way in which they experience these data. Ian Ramsey's suggestion that the metaphysical theologian seeks to draw an "outline map of the Universe" (p. 92) is adopted as a way of translating these parabolic symbols into concrete, detailed evidences to which theism may appeal, and five areas for such evidences are briefly sketched: religious experience, moral experience, human existence (Heidegger, Bultmann), history, and nature. In each case Richmond seeks to show how the empirical data may be *experienced as* revealing the contingency of the world, requiring us "to seek for an adequate, overall explanation partly in terms of factors 'outside of' and 'beyond' what is spatio-temporal and observable" (p. 106).

This is a chastened natural theology principally on two counts: (1) John Hick's notion of *cognitive freedom*, that knowing often involves a voluntary act of interpretation, has been appropriated. Such freedom is clearly at a minimum in sense perception, but grows in importance in moral, aesthetic, and personal experience, and stands at a maximum in terms of our encounter with the divine (pp. 82-85). The syllogistic character of the arguments for God's existence is abandoned, presumably because of their supposedly objective, coercive nature, while appeal is made to the contingency—they point to *if* we are so willing to experience the world. Here the chief existential objection to natural theology is removed, since such cognitive freedom means that all our encounters with God, even the most theoretical, depend upon an existential decision as to how we will experience reality. Richmond does not probe such issues, however, staying within the British analytic orbit after the first chapter save for three brief forays: the appeal to existentialism for theistic evidence (pp. 100-103), to John E. Smith's concept of integrated experience (pp. 121-24), and to phenomenology's transempirical transcendental ego (pp. 138-41). (2) The positive content of this metaphysical theology is kept to a bare minimum. Richmond is primarily content with refuting "empiricism as an epistemological theory adequate to the totality (or even the greater part) of experience" (p. 146). The purpose of metaphysics is not so much to explain all the big issues, but to show that these cannot be adequately explained in terms of that which is empirically observable. The

main issue of the parables is whether the empirical data can be adequately explained in terms of themselves or require an appeal to metempirical realities. At one point this is put in terms of "the classic dispute of a supernaturalistic versus a naturalistic interpretation of the world" (p. 88), but it turns out that the soul or self and other minds fall on the supernaturalistic side of this dispute. Metaphysics appeals to God, the soul, and other minds in order to explain adequately our experience of the empirical data, but apparently they are not explained by metaphysics.

"Clearly, God is not an observable *within* the map. . . . This means that belief in and discourse about God are concerned not with establishing the existence of another worldly fact . . . , but with the transcendent ground, condition and explanation of all finite existence" (p. 119). But the map-making analogy may be understood another way: the terrain mapped has contingent variations which are empirically observable, while the choice of cartographical procedures (indicating, e.g., rainfall, population density, altitude contours) applies an invariant standard to these variations in order to provide an intelligible interpretation of the data. Any metaphysical map making should employ just that invariant standard which reflects those necessary features which all contingent (empirically observable) realities exemplify. If God is then appealed to in metaphysical explanation, he should appear on the map, not as a contingent observable but as ingredient in the cartographical procedure itself. The map should be explanatory of God as well as of the empirical data of the world.

Otherwise we may lack criteria for the precise delineation of our metempirical reality. Richmond speaks of God as personal and appeals to the analogy that God is the soul of the world or the mind of the universe, but is Richmond entitled to such language on the basis of his metaphysics? The similarities between his metaphysical theology and Tillich's philosophical elaboration of the question of God are striking; yet Richmond omits any discussion of Tillich in his survey and would be hard pressed, I think, to show how his understanding of God as a personal being could be maintained in contrast to Tillich's being-itself as the ground of all contingent beings. In addition to God, Richmond points to the soul and other minds as other metempirical realities, but on what grounds are these distinguished from one another? Of course, from a Western Christian perspective these have always been distinguished, but that does not necessarily mean they are in fact distinct: the Hindu insistence upon *brahman* denies just such distinctions.

Richmond's metaphysics has no place for necessary being, whether in the form of a necessarily existent being or as the necessary structure exemplified by contingent beings. The ontological argument is swiftly dismissed by the empiricist dogma that all existence is contingent (p. 111). The contingency of the world does not so much mean that the world must be ontologically grounded in some necessary being as that our experience of the empirical data cannot be adequately explained without the appeal to a unifying metempirical reality. As I have argued, such a metaphysics may not provide the structuring categories whereby any such metempirical reality may be understood and explained, but it does show us a viable, if minimal, natural theology emerging out of the analytical tradition. While Richmond's account does not pretend to be very original, it does offer a useful and reliable guide to these developments.

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*Environment, Power, and Society.* By HOWARD T. ODUM. New York: Interscience Publications, 1971. 331 pages. \$9.95.

From time to time *Zygon* papers deal with the potential relevance of the physical sciences for religion, and in particular of the implications of cybernetic mechanisms and thermodynamic systems for understanding man and his place in the scheme of things. Here is a book by a physical scientist that is written in popular language and profusely illustrated with easy-to-understand diagrams that should be helpful to nonphysicists in understanding the nature of the world, man, and even religion as they may be described in the language of energy flows common in physics. It is rather unusual to find religion, and Christian churches in particular, described in texts on physical theory. But chapter 8 in this book is devoted to how religion is an essential part of the complex regulation of energy flows necessary for human life.

The sophisticated student of religion should not be put off by the author's rough-hewn and sometimes unsophisticated references to religion because these do not detract from a different-level insight into the nature and function of religion. Nor should anyone dismiss the basic message of the book because of a number of bad typographical errors. The significance of the book is that for some readers a rough sketch of a living God appears in a description of energy flows in physical systems, including living systems.

All that we know of as taking place in the environment and in men can be described in the language of power or energy flow, which has been as carefully refined for useful analysis in the past couple of centuries as was the language of space by Euclid, Descartes, and others in the previous couple of thousand years. Analysis of events in terms of energy flow can be made whether the event described is as large as the transfer of energy every year from the sun to the earth or whether it is as small as the mutation of a molecule of DNA. The same is true for events in between, such as the energy flows in human brains that produce visions and decisions and guide human attitudes, feelings, and behaviors.

In successive chapters Odum shows: (1) man's position within nature's solar pattern of energy flows, including the evolving, living "fires" (animal metabolism) of the earth's biosphere; (2) the nature of power systems and how the laws of their operation apply just as exactly to the description of the economic, political, and social power flows of man as to the flows of the physical and chemical world; (3) the nature and role of the power systems in shaping ecological systems that support man; (4) the radically changed power base man has evolved in the past century; (5) the relation of power to information and the orderly control of power to shape viable evolving systems of life, including human societies; (6) the power-regulation feedbacks of information in human economic systems; (7) the real powers of individuals and political societies which are found in the structures of power and energetic laws of physics; (8) the energetic basis for religion; (9) the electrical simulation of energy networks; (10) the necessity for man to become a responsible partner with nature if he wishes to survive with nature in the control of energy flows on earth; and (11) a prophecy for the future.

On the role of religion in the energy flows of man and the world, Odum says: "Systems with programs of morality, religion, and ethics can focus and unite dispersed power resources of individuals as needed for group protection and unified actions. Especially when human societies must exist with

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famine, war, rapid change, and disrupted central governments, a strong religion provides a flexible focus of power, at times in individual works and as needed later in group action." His notions are akin to some of those of Jay Forrester on religion (see *Zygon* 7 [1972]: 145-67), as providing more ultimate and longer-range goals of the human community. Both men have pointed to our great contemporary need for the revitalization of such long-range controls of power to bring man's behavior into line with the requirements of the ultimate power realities of the larger ecosystem of which we are a part. Odum concludes his chapter on religion by saying that "whereas the earlier tenets of religions were based on the simple energy realms of their time, the new sources and large magnitudes of power require revisions of some of the mores and the personifications used in teaching them. We can teach the energy truths through general science in the schools and teach the love of *system* and its requirements of us in the changing churches. System survival makes right and the energy commandments guide the system to survival. The classical struggle between order and disorder, between angels and devils is still with us." This is a contribution to natural theology.

While Odum views religions historically as effective and well-adapted or salvatory controls or guides for human behavior in responding to the requirements of the sovereign powers, at the end of his book, where he has been considering some unmet urgencies for human salvation presented by a failure of the population to be informed about what is in fact required of them in the ecological crisis, he becomes a bit impatient with religious institutions. He writes:

We may encourage faster religious change even now by injecting large doses of systems science into the training of religious leaders. What a glorious flood of new revelation of truth God (the essence of network) has handed man in the twentieth century through sciences and other creative endeavors. How false are the prophets who refuse even to read about them and interpret the message to the flock. Why do some inhabitants of the church pulpits fight the new revelations simply because the contemporary prophets are a million spiritually humble people in laboratories and libraries, only vaguely aware of their role? Why not open the church doors to the new religion and use the preadapted cathedrals and best ethics of the old to include the new? Let us inject systems science in overdoses into the seminaries and see what happens. Why should we fear that deviation from rigid symbols of the old religion is a deviation from morality? A new and more powerful morality may emerge through the dedication of the millions of men who have faith in the new networks and endeavor zealously for them. Prophet, where art thou?

Odum is here himself something of an Old Testament prophet in character—loving the church and yet castigating it for its failures to live up to its basic functions. Like many men of science, he is alarmed that the religious institutions, which traditionally have shaped man's long-range goals or values, are often today either impotent or irrelevant to man's new situation. He and other scientists, especially ecologists, are properly fearful that human societies are moral infants at the steering wheel of a mighty technological machine which they really don't understand, and are hell-bent for self-destruction. Such fears have recently been published among the predictions of the Club of Rome, anticipating world catastrophe unless some moral miracle soon provides men with more suitable long-range goals and self-control (see the above-mentioned Forrester paper).

Over the past quarter-century, during which I have had a good deal of contact with leaders in the sciences, humanities, and religion, it has been

my experience that it is scientists—prior to statesmen, philosophers, and theologians—who have seen and prophesied that men and societies are pursuing dangerous if not disastrous goals. Scientists more than men in the religious institutions are saying with conviction and evidence that if men wish to survive successfully, they must correct their wishes and wants to conform better with the requirements of a reality whose power far transcends man's. Moreover, I have found more often among scientists than among theologians new and brilliant evidence of the essential functions and virtues of traditional religion for human salvation. No matter how simplistic and close to those of John Q. Public are Dr. Odum's views of the religious system in which he was enculturated—in fact, perhaps, just because of this—his theory of the operations of religious systems is significant. Moreover, he can show how religion is essential in the physical power systems of earth, through its generation of the long-range values that control man's behavior in response to the supreme powers-that-be. He presents this realistic virtue of religion not as an appeal to man's psychological needs, but as an element of real physical power systems. This is something to be noted by theologians and other apologists seeking to make religion significant to "its cultured despisers." I am suggesting that since Schleiermacher the tables may have turned: I find more hard scientists defending religion, more ably, than I do theologians and religious scholars; and they are defending it in terms of objective survival of living systems rather than merely in terms of psychological comfort or social needs. I sympathize with Odum's prophetic impatience.

*Environment, Power, and Society* should be one of the useful texts for all who would understand how physical theories may become evidence for basic convictions about religious or long-range human values in the evolution of the systems of energy flow we know as life. Its ideas will be important for those who wish to develop a natural theology that will be credible today and that will help some of the great wisdom of traditional revealed theology to come alive again.

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*The Foundations of Metaphysics in Science.* By ERROL E. HARRIS. New York: Humanities Press, 1965. 493 pages. \$10.00.

Errol Harris seeks to review the findings of the physical, the biological, and the psychological sciences and to consider how they contribute to a general doctrine of the nature of things (p. 32). It is difficult to overstate the theoretical importance of this effort. Even with a generous allowance for the subjectivity of the scientist and the limited scope of his subject matter, the *prima facie* credentials of science cannot be ignored by any writer trying to present a systematic sketch of "how things are." The view(s) of reality emerging from the conversation between science and philosophy bear immediate religious importance, unless it be claimed (admitted?) that the one to be worshipped is other than real. So, in principle, Harris's book is sure to be of interest to people whose convictions draw them to *Zygon*.

Harris carries out his survey with comprehensiveness and clarity. He combines reference to established scientists with intrinsic explanations of the phenomena at hand and plays well the role of a competent translator. His



text is nearly always intelligible to the reader relatively untrained in science and allures through its great wealth of detail. The detail is marshalled in the shape of an argument. While I am not qualified to assess the accuracy of the detail structure, it is possible rather briefly to state the argument of the whole and to comment upon it. (That should seem fair enough to Harris, who consistently argues for the priority of the whole over its parts.)

The argument begins with the physical world and points to a progression unbroken from space-time to matter: "Each stage is produced by a sort of 'self-enfoldment' of the structure characterizing the prior stage, producing in unbroken series: first energy, then mass, then atoms, as successively more intricate, more closely integrated and more stable patterns of self-manifestation of the primordial process of activity, in which the continuum of events is space-time" (p. 141). The realm of life continues the argument in placing special emphasis on the way life involves adjustment for self-preservation—"auturgy," as Harris terms it. The organism draws on the equipotentiality of its parts to maintain its vital balance.

At this point Harris introduces the theme of life's order standing against the grain of the tendency toward disorder expressed in the second law of thermodynamics. This theme is frequently sounded (see pp. 173, 197, 216, 225, 242, and 443) and sponsors speech about a *nisus* to order in nature (pp. 200, 225). Such a notion "explains" the phenomena better than, say, natural selection, since the latter identifies effects (survival) rather than causes (p. 251). Harris himself may seem to be near making an effect a cause in his talk of the priority of the whole to the parts. But he claims that such talk is required by the phenomena: "Epitomized, the problem seems to be that the origin of life presupposes the synthesis of enzymes, and that requires an integrated metabolic system spatio-temporally organized; but any such system presupposes the activity of enzymes in a protoplasm already formed" (p. 192). He further pleads: "The principle of organization is at work throughout and the consequent totality is its self-realization. It is implicit in the earlier stage and we rightly refer to it there as potential. This does not necessitate its evolution or fix its path inexorably, for as we already know, flexibility, relevant variation and versatility are the very means of its actualization" (p. 276).

Harris then analyzes mentality, stressing consciousness and awareness as forms of organizing activity in relation to the external world. Again he stresses wholeness—even with respect to the instincts—and consistently resists a view of perception in which independent atomistic sensations are passively received. He draws on fascinating experimental work to show that perception is not stimulus-bound. This section argues for the scalar character of mind and that "mind displays a propensity, similar to physical activity and life, to constitute itself into a single world-wide unity. Its activities on the level of intelligence are social and are rooted in the mutual dependence of individuals. This does not stop at the boundaries of single societies, for societies too are interdependent. Just as the relations between individuals, being relations between active subjects (agents) demand regulation into a system of conduct, moral and political, so the relations between societies call for inter-community regulation and organization" (p. 446).

Harris adds three brief chapters which render in a more explicit way the metaphysical themes suggested in the more than four-hundred-page survey of empirical material. The fact that "the scientific conspectus of the world is of a continuous process of activity progressively elaborating more complex

and more highly integrated systems" (p. 454) leads Harris toward a position linked with names such as Samuel Alexander, J. C. Smuts, Lloyd Morgan, Henri Bergson, and A. N. Whitehead. In this view the priority of the whole over the parts and the internality of relations are key notions. Harris attacks "spurious homogeneity," arguing that "if there is no difference whatever between the parts, they must be indistinguishable; and if altogether indistinguishable, identical; and if identical then not spread out and continuous. There can be no continuum without extension of some sort, and there can be no extension without distinction of parts" (p. 462). He then applies this argument to yield the notion of a direction to the process: "For if the changes are mere changes all of equal significance—or, what amounts to the same thing, of none—the process becomes a homogeneous series, which is no series at all" (p. 463). Finally, he applies the priority of the whole to the notion of process and argues that the end absorbs the earlier stages and represents the immanent whole. Accordingly, mind may be acclaimed as the highest (latest) form of the process.

I may not have done justice to the philosophical sketch, but enough has been said to identify three questions which this impressive book raises: (1) An epistemological question—Harris seems regularly to opt for the stronger claim and move quickly from limitation of measurement to ontological conclusions about that which is to be measured. I would welcome further work in epistemology. (2) An ontological question—already in the descriptive material Harris seems to move too quickly. Is it really accurate to say that a nonauturgic explanation is as unscientific as miracles (p. 232)? Or again, perhaps the latest stage of the process will be distinct, but the term "direction" seems to require greater continuity than the argument against spurious homogeneity makes available. That continuity is had by placing the priority of the whole in process, as we have seen. But that raises an ethical/theological question. (3) The whole seems only a descriptive ontological category, but Harris manages prescriptive moral conclusions. If we ask not merely what is real but what is good, I question whether it is possible to speak about a whole so confidently. Harris may be able to account for degenerative processes, for death, within the process. But I believe personal experience and the history of the race seriously question the aptness of Harris's views. Is it helpful to say that "better equals more rational" (p. 488)? Is not this where religious vision must be introduced? And it seems a bare formalism to say that all religions are "in the last resort, alternative symbolizations of the same ultimate truth" (p. 446).

Errol Harris has made an impressive effort. The data are drawn together masterfully and the metaphysical question is suggestively put. On his own theory, others of us can now do other things.

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