

Reviews

The Human Mystery. By JOHN C. ECCLES. Berlin: Springer-Verlag, 1979. 255 pages. \$17.90.

The publication of a book dealing with the human mystery by so eminent a neurophysiologist as Sir John C. Eccles elicits the attention of scientists in all fields and should be of major interest to philosophers. It fits beautifully into the framework of *Zygon's* aims, which are "to explore scientific grounds for understanding the origins of values and religion and their functioning in the lives of individuals and in societies." Eccles himself characterizes the theme of his book as natural theology, and he defines the meaning of this phrase and his central theme in the introduction to chapter 7: "In the creation of the self it is completely mysterious how each of us is endowed with unique selfhood, our own. It will be argued that there is no materialist explanation. It is a theme for natural theology."

The book, consisting of Eccles's 1978 Gifford Lectures at the University of Edinburgh, does more of course than pursue and justify this argument. It is filled with novel material, with much technical information, some transcending my understanding. All of it, however, is carefully explained in the simplest possible terms. Among the most exciting new facts reported are the results of recent experiments which indicate convincingly, and to our knowledge for the first time, that reduction of some phases of a self-conscious mind to brain processes is no longer possible.

The book takes its departure from the Gifford Lectures delivered by C. S. Sherrington thirty-nine years earlier, one of which defines Eccles's theme in a more specific statement: "The Natural Theologist, if we may so address him, in his efforts from consideration of Nature without appeal to revelation, to come to a conclusion about the existence and ways of God has thus to include himself as part of the natural evidence. He then sees himself as a piece of Nature looking around at Nature's rest." So much for the philosophic-religious purpose of the treatise. I now turn to a brief description of its contents.

The first chapter propounds the theme. The second deals with the origin and evolution of the physical universe. It discusses the "big bang," our present views on creation, the formation of galaxies, the life histories of stars, and the cooking of the elements. It concludes with speculations about the future of the universe and gives reasons for supposing that gravitational collapse, the "big crunch," will occur about forty billion years from now. Needless to say, this view is not universally accepted.

The next chapter traces the development of the planetary system and is again a review of astronomical problems. In conclusion Eccles regards the earth as unique because it harbors man. He holds the view that life exists only on earth and gives reasons suggesting that the environment of all other planets is completely unfit to sustain life. In this context he considers only terrestrial kinds of life, that is, life based on the carbon cycle, leaving the question of other kinds, which are wholly conceivable, untouched.

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The remainder of the book is devoted to biological and psychological problems and contains a large amount of recent technical material which will surely interest the expert. Attention is given throughout to the problems of evolution. The author's view might be called refined neo-Darwinism; it is close to those of Sherrington, G. G. Simpson, Theodosius Dobzhansky, and Ernst Mayr. There is no explicit advocacy of purpose, no teleology in evidence. Nevertheless the idea of pure chance is amplified, not to say modified, by considerations implying guidance by circumstances beyond mere chance. Eccles quotes Mayr, who says: "Natural selection is anything but accident. Natural selection is a process that quite directly adapts; it is creative by always putting together the gene combinations which have the greatest chance of having greatest survival." And further: "The beauty of natural selection is that in every single generation it makes a new decision as to what is now the thing to be selected." Eccles himself then adds: "These succinct statements by Mayr make it clear that the official theory of biological evolution gives no opportunity for any guidance of the evolutionary development by long-range goals. Any belief in finalism is rejected. It is essentially opportunistic, natural selection being concerned only with the survival and propagation of a particular generation and then again opportunistically for the next, and so on. In these lectures we will be considering critically whether the stark official theory of biological evolution can plausibly account for the whole amazing story of how we came to be."

To anticipate his conclusion, the denial of long-term goals renders meaningless the belief that one has "in the drama of the providential escapes of our evolutionary line, as for example in the stage of the mammal-like reptiles."

Subsequent chapters deal with the evolution of language and values in the context of the three-world philosophy previously advocated by Karl R. Popper and Eccles. One of the three worlds is that of self-consciousness, and this is taken much more seriously than is customary in treatises on evolution. The problem of memory remains unsolved; there appears to be no way of investigating the neural events which are of crucial importance in the laying down of memory.

The last thing to note in connection with evolution is Eccles's belief, expressed in chapter 5, that biological evolution for man is at an end because selection pressure has been eliminated by the welfare state: "Natural selection is no longer permitted to happen."

In chapters 7-9 there is an excellent and detailed account of the development of the human brain. Eccles makes much of the origin and growth of language, which is confined to a specific part of the cortex. He holds linguistic communication to be a uniquely human achievement, making a point on which some readers, myself included, might not agree.

One of the most important features of the book is its treatment of the mind-brain problem, which occurs in chapter 10. It involves the affirmation of the existence of a self-conscious mind, which transcends the body but interacts with it in an independent way, and the interaction can be a two-way process. Remarkable here is the experimental evidence presented to sustain this claim. It resides in B. Libet's results published in 1973 ("Electrical Stimulation of Cortex in Human Subjects and Conscious Memory Aspects"). Simply put, the results suggest that neuronal events which trigger a stimulus evoke an experience which is judged by the subject to be earlier than the

neurophysiological process would demand. "This antedating procedure," says Eccles, "is not explicable by any neural mechanism per se. Presumably it is a strategy that has been learned by the self-conscious mind." He proposes that the latter exercises a superior interpretative and controlling role upon the neuronal events by virtue of a two-way interaction with the material world. This has an important bearing upon the solution of the mind-brain problem, which is also developed in the last chapter of the book.

Here Eccles distinguishes five different views. The first is radical materialism, which he rejects without much comment because even the physicist no longer affirms materialism in any simple form. Second is panpsychism. It is dismissed without much comment. Next is epiphenomenalism, a philosophy of various forms which is here characterized as the assertion that all matter has an inside mental or protopsychical state. Being an integral part of matter, this state can exert no action upon it. Hence in view of the comments in the foregoing paragraph it must be dismissed. The identity theory, fourth on the list, is rejected on grounds intricately mixed up with Popper's worlds 1, 2, and 3 and beyond the confines of this review.

Eccles's own resolution of the mind-brain problem is called the theory of dualist interactionism. It accords to the mind, that is, human self-consciousness, an identity of its own, assigning to it the power to influence the body. The reasons he gives are in my opinion entirely convincing. Only the name, the recall of Cartesian dualism, requires comment, for the term "dualism" implies the existence of two essences, in the present case the physical world and the human mind. But the physical world has undergone a hitherto incoherent division into a variety of "onta" (elementary entities) such as massive particles, massless particles, fields, waves, and constructs that are neither particles nor waves, or even both. A unitary theory has not emerged. The physicist, confronting his own domain, would hardly regard it as a monistic one. He would honestly call himself a pluralist. But while different domains are accepted, each with its own observables connected by laws, these domains are compatible, although one nearly always transcends another. So it seems that the remarkable feature of Eccles's view is not an emphasis on dualism but the important claim, indeed convincing proof, that the mind transcends all physical agencies and is nevertheless able to influence them.

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Promethean Ethics: Living with Death, Competition, and Triage. By GARRETT HARDIN. Seattle: University of Washington Press, 1980. 112 pages. \$7.95.

This short book presents the noted biologist and ecologist Garrett Hardin's contribution to the Jessie and John Danz Lectures at the University of Washington. The Promethean, Hardin says, is one who anticipates the future on the basis of general theories and simulations, one who is not satisfied with

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short-term achievements but asks, "And then what?" This forethought requires the examination of values usually taken for granted: "To become fully Promethean we must learn to question the unquestionable." These lectures deal with topics which are often taboo: death, competition, and triage. The thesis is that we can have too much of a good thing, too much life, too much cooperation, and too much compassion (as usually understood).

Hardin argues that death is natural, not usually terrible and tragic. He blames religion for teaching that death is unnatural and a result of sin. Death has evolutionary value, and it is necessary for society and for the individual person. Efforts to prolong life beyond the period of competency are misguided. Hardin is disturbed by the inability of many physicians to confront death rationally. He strongly supports, with biological and historical arguments, population control and the right to abortion. He sees the proclaimed right of the family to decide the number of offspring and the right to food leading to war and ecological disaster.

Hardin points to the function in nature of competition, which is seldom brutal, allows for some cooperation, and does not favor bloody confrontations and vindictive behavior. He decries the tendency of academicians, especially sociologists, to disparage competition. He grants that there can be too much competition and excessive power, as in the economic power of interest-earning capital and of advertising and as in the power of news media. He sees danger in military competition between nations. What Hardin seems to oppose is indiscriminate support of cooperation and opposition to competition. He does not suggest, however, many criteria for judging particular instances of cooperation and competition.

Hardin holds that triage (the term is from a French verb meaning to sort, screen, cull, select) is right because it saves more lives than a compassionate attempt to save all victims when there is not sufficient material or personnel to do so. Emotional negative reaction to triage is a mistaken sort of compassion. Hardin applies the concept of triage to decisions regarding the allocation of surplus American grain. A "compassionate Promethean" has concern for future effects of actions. Hardin believes that giving food to overpopulated countries with no population-control programs encourages continuing growth of population and eventual starvation of many more people than are suffering now. The earth has a limited "carrying capacity," requiring hard decisions of the truly compassionate.

Those already familiar with Hardin's books and articles will find little new in these lectures. For those who do not know him this book will serve as a good introduction to an important ecologist who has applied a tough-minded utilitarian ethic to such problems as population growth, food shortages, and responsibility toward underdeveloped nations. Hardin's approach is harsh but humane in that he is concerned to avoid great human suffering in the future because of misguided benevolence in solving immediate problems. His strong views should not be rejected out of squeamishness or sentimentality. A thoughtful response to Hardin's approach does raise questions about utilitarianism as the sole basis for approaching the complicated moral issues of a threatened planet. His anthropocentrism will seem shallow and limiting to those who are struggling toward a more comprehensive perspective on the place of humans in the biosphere. Religionists may be disappointed that he considers only the detrimental aspects of religion. Still Hardin's approach is

honest and informed, and there is much to be learned from him. Certainly it would be hard to fault his Promethean question, "And then what?"

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Joseph Priestley—Scientist, Theologian, and Metaphysician. Edited by LESTER KIEFT. Lewisburg, Penn.: Bucknell University Press, 1980. 117 pages. \$12.00.

Three recognized authorities from Harvard University, the University of Wisconsin, and Iowa State University give a renewed appreciation of the contributions of Joseph Priestley (1733-1804), Unitarian minister, theologian, teacher, historian, chemist, and physicist in England. In 1794 he took asylum in America from mob violence.

"His life's objective," says Erwin N. Hiebert, "was to generate a polymorphic synthesis of natural science and revealed religion." To him "religion and science were compatible domains."

Priestley's *History of the Corruptions of Christianity* (1782) (a favorite of Thomas Jefferson) urged that then was the time "to take advantage of the knowledge gleaned from historical researches to purge religion of all that had debased it and thus reestablish pure revealed Christianity" (which he identified as Unitarianism). In his own historical research Priestley "foreshadowed the philological, historical, and theological thrust of the higher biblical criticism of the nineteenth century."

However, in discussing Priestley's rejection of "any kind of argument based on or leading to a dualism or bifurcation of matter and spirit, or of body and soul," Hiebert focuses on his traditional Christian piety and misses the implications of Priestley's monism for his doctrine of God. In rejecting the soul as a "foreign power" Priestley not only obviates the immortality of the soul and the Arian concept of Christ as "preexistent" but also confronts the question of whether the Creator is a foreign power or whether the uniformity found in human nature may be characteristic also of the whole system of nature.

Aaron J. Ihde examines "the irony that Priestley, the discoverer of oxygen and a man noted for his radical religious and social views, should have been unable to accept the new chemistry that Lavoisier created around oxygen" and concludes that "Priestley's criticism was a valid one within the chemistry of the day" and that "it is not an obvious conclusion that Priestley was blindly stubborn in refusing to become a convert to the new chemistry."

Robert E. Schofield adds that further developments in chemistry "would make the more general questions raised by Priestley less premature." Priestley's concern was with "theological fundamentals relating to the nature of matter"; he was interested in more than the quantification of matter or the relative motions of particles in chemical procedures. He sought the dynamic causes of change. His concept evolved from the dynamic of the continued action of God in the universe to the dynamic of "centers" of attraction and

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repulsion which, once caused by the Creator, carried their power with them. The power of change became inherent in creation.

Priestley's "experimental philosophy" was theologically motivated to understand creation by "unfolding some of the most curious secrets of nature," says Schofield, and his metaphysical speculations "must be given the primary responsibility for the steady progress" of his scientific as well as theological insights. Schofield concludes: "Priestley's ultimate failure . . . had the same roots as his earlier successes. Neither related to an understanding of analytical chemistry—or to their lack. Both derive from a too sophisticated endeavor to answer questions that his contemporaries were not asking, with concepts so antique they would not again be modern for nearly one hundred years."

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Darkness and Scattered Light: Four Talks on the Future. By WILLIAM IRWIN THOMPSON. Garden City, N.Y.: Anchor Press, 1978. 189 pages. \$4.50 paper.

By the 1960s William Irwin Thompson already had a successful academic career as a cultural historian and held a secure teaching position at the Massachusetts Institute of Technology. But malaise of the intellect and spirit set in, and he decided to "drop out" of the university world and to explore the sources of creative thinking and experiments in living that were going on outside the groves of academe. Thus began an odyssey which took him to Big Sur and Esalen in California, Findhorn in Scotland, Auroville in India, and other way stations East and West. In 1973 he founded the Lindisfarne Association in New York.

The first book about his inner and outer explorations was *At the Edge of History*, published in 1971. His most recent book, *Darkness and Scattered Light*, draws together in four essays his thoughts on a new planetary culture which he believes has begun to emerge.

Thompson does not try to explain why history unfolds as it does; his nonrational approach is more to envisage the nature of the flow of history and any resultant patterns which may emerge. At present he sees us gradually entering a new age in which culture again will be "sacralized"—a time in which art, science, and religion will converge into a unified body of knowledge that will help guide us to a new level of understanding and humane behavior. We are entering a time of renaissance, of rebirth, but, like every previous time of major evolutionary transformation, it is preceded by chaos. We now are undergoing a transition from a materialistic industrial society based on production and consumption to a contemplative culture based on a heightened consciousness and ecological symbiosis which will embrace the whole planet.

But in the process of being "initiated" into this new era the human race is increasingly confronted by the demons of war, famine, and ecological catastrophe. Ironically "we did not realize that we are all part of one . . . planetary

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life until we discovered to our horror that we now are threatened by a single planetary death." Many people today see the signs of death but are not aware of the emerging patterns of life and light. Thompson believes that our planet is beginning to experience illumination within its present darkness and has begun in places to reestablish its balance.

Thompson sees some rather distinct phases to the cultural transformation of our planet. Perhaps it is best to give a sense of this in his own words from the initial essay, "Beyond Civilization or Savagery": "The stages are part of a sequence in time, but from another point of view they are all going on at the same time, like the voices in a fugue. But for the sake of simplicity, it is easier to separate the voices and consider the four stages of the transformation as separate. The first stage is religious. The second is artistic. The third is scientific and technical. And the fourth is political. . . . When everything else is over then comes the mopping-up action in terms of politics."

Thompson sees the first stage, as in previous great transformations in human history, as "religious"—in the broadest sense of the word. In our time it has been expressed in the visions of such seers as Sri Aurobindo and Pierre Teilhard de Chardin. Then, as happened before in Greek and medieval culture, the artists give expression to the new myths of the age: "Whether it is the composer Karlheinz Stockhausen following Sri Aurobindo, or the novelist Doris Lessing following Sufism, or the poet Gary Snyder following Zen Buddhism, or the architect Paolo Solari following de Chardin, an individual has taken the teachings of a religion and given them a new life in art. In this art a greater part of humanity can begin to sense the imaginative possibilities of a whole new world culture."

The third stage is the emergence of "the scientific and technical stewards of the planet—those concerned with how to harmonize human culture within a deeper understanding of the ecology of the earth." Examples of such stewards are Buckminster Fuller, Paul Ehrlich, and John and Nancy Todd. Since scientific and technical studies seem more real to the general population than religion and art, the third stage attracts more public attention, and with this comes the belated notice of the politician. For example, when the premier of Prince Edward Island, Canada, Alexander Campbell, agreed not to develop nuclear power on the island but to seek out gentler alternative means through sun and wind to develop sources of electricity, he was sounding a political voice for the transformation to a new level of planetary awareness.

While I find myself in general agreement with Thompson's cogent overview, I feel he gives short shrift to what he terms the fourth phase. Far more than a "mopping-up" operation will be required if a meaningful transformation is to take place in the lives of the majority of the world's peoples. Real changes have to be integrated into the social and political institutions of a society, and this will involve much creative thought and hard work. If the much talked-about "consciousness revolution" is to become a reality then it has to become firmly grounded in the everyday lives, values, and actions of people.

In the book's final essay, "The Future of Knowledge," Thompson talks about how the past, present, and future are linked. History is not linear but unfolds as a spiraling, evolutionary process. Unlike many professional "futurologists" who only end up projecting their views of the present onto the future, Thompson is drawn back to images of our mythic past. This does not

mean that he wishes simply to go back to the Yucatan of the Mayas or to ancient China but that he wants to recapture the spirit and imagination of earlier creative periods.

I can only scratch the surface here in putting forth Thompson's ideas on historical evolution and cultural transformation. Thompson basically accepts the mythic theory, for example, that there are four great ages in the life of a civilization: the ages of gods, of heroes, of men, and of chaos. Each of the "ages" has a corresponding form of language: "The Age of Gods has hieroglyphic language; the Age of Heroes has aristocratic language; the Age of Men has the commercial language of the marketplace." An age of chaos is characterized by the degeneration of language into mere jargon and cant. In hieroglyphic language every thought, no matter how abstract, is related to a concrete visual form or a root of the word, as in Sanskrit, but, in the language of chaos, mind is disconnected from body, and concepts are disconnected from experience. Examples of chaotic thinking in our time are the Nixonian use of words such as "pacification" for bombing and "relocation" for imprisonment in concentration camps.

We can see a rough correspondence of the model of the four ages in the course that some civilizations have run—from the time of ancient Sumeria in 3500-1500 B.C. to the Piscean age of Christendom, which now also has lasted two thousand years. As the present cycle draws to a tumultuous close we see signs of collapse of much of the old order. We now wait and wonder whether economic collapse, ecological catastrophe, and the possibility of thermonuclear war are all that remain for us in the declining years of the second millennium A.D.

But, as in the mythic notion, the age of chaos in its disintegration is providing the fertile organic decay—a civilization compost pile for regeneration and renewal. We are completing our winter, so to speak, and springtime is approaching: "We are turning now on the spiral of history"—like the times of the patriarch Abraham and of Jesus, these are very difficult days—"but out of the disintegration of post-industrial society is emerging a new 'resacralized' world culture." Thompson advises: "Now don't rush out into the streets to try to see Jesus landing in a flying saucer, for that is simply the ego looking for a cheap religious thrill." It takes a long time for the undercurrents of civilizational change to become visible: Events such as the neolithic revolution or the Renaissance do occur, "but they don't take place within the time frame of the individual ego."

Thompson emerges as being optimistic about our prospects. He sees humans evolving beyond the current mental level to a "supramental level of consciousness." He foresees that, as our present structures of knowledge necessarily crumble, a higher level of integrated knowledge will evolve. Out of the present chaos is being born an age in which the inhabitants of the earth have the potential to emerge as truly humane beings.

On occasion there is an element of "overintellectualism" in Thompson that he despairs of in many other academics. But all in all I find Thompson one of the most intellectually alive of today's thinkers and writers. He seeks to write in a mode that has the structure of art but the form of scholarship. And he portrays the horizon where fact and feeling, myth and reality, and the vistas of past, present, and future come together. Not always the easiest to read, his essays are well worth the time and effort, for Thompson puts forth a coherent view of humankind's evolutionary potential based on an understanding of

our past. He sees the dark side of our lives and times as clearly as anyone, but, unlike most others who write on the future, he is able to call our attention to emerging glimpses of light. He foresees, in the words of T. S. Eliot, that "the end of our struggling will be to arrive where we started and know the place for the first time."

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Christian Child Development. By IRIS V. CULLY. San Francisco: Harper & Row, 1979. 166 pages. \$7.95.

One of the most interesting and potentially fruitful intersections of scientific method with religion and values has been that of developmental psychology with faith and moral reasoning. As the work of G. S. Hall and J. M. Baldwin at the turn of the century reminds us, this intersection is almost as old as psychology itself. And it has been a half century since the seminal contributions of Sigmund Freud and Jean Piaget. But only in the last few decades with the psychoanalytically inspired work of Erik H. Erikson on psychosocial development and the cognitive-structuralist work of Lawrence Kohlberg on moral-reasoning development has this long-standing crossroads blossomed into a thriving market town. And in recent years theologians and especially religious educators with a trust in the human and an openness toward science have been some of its busiest customers.

Iris V. Cully then is only one among a growing group of religious educational theorists attempting to bring the developmental goods to their discipline. Her book may be unique, though, in focusing on the development of the child from infancy through only the preadolescent years. It is intended as a practical guide for parents and teachers. As such it should succeed admirably. Through a wealth of practical examples the touch of an expert educator of rich experience is almost palpable. For the specific interest of many *Zygon* readers, however, this book will not be particularly helpful, except perhaps as an example of developmental theory being applied at the most basic level of religious education. This audience will find more interest in two new collections of essays by some of the most important authors in the field: *Moral Development, Moral Education, and Kohlberg*, ed. B. Munsey (Birmingham, Ala.: Religious Education Press, 1980), and *Toward Moral and Religious Maturity*, ed. J. W. Fowler and A. Vergote (Morristown, N.J.: Silver Burdett, 1980).

Divided approximately in half, *Christian Child Development* first devotes six chapters to various dimensions of child development: psychosocial, cognitive, emotional, learning, religious, and moral. These insights are then applied concretely in five concluding chapters to several aspects of Christian education: commitment, family, community, teaching methods, and Bible. Cully is clearly at her best in the second half of the book, which is filled with the wisdom of common sense, detailed in countless practical suggestions. Of more general interest in this section is a threefold developmental typology of commitment she suggests: stages of faith, born again, and conversion to self-

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transcendence. These might have been explicated more clearly and fully. That they are not is indicative of the book's general failure to exploit the power of developmental theory. Speaking of commitment in an earlier chapter, for example, Cully says that evidences of commitment "will take certain forms for older boys and girls, but their deepest response [of commitment] may come much later" (p. 74). On the same page she maintains that "it would not be fair to say that an adolescent's or adult's commitment is stronger than that of a child's." The unexplained distinction between "deep" and "strong" here seems to embrace the implications of developmental theory with one hand while giving them the back of the other.

The fact is that, while Cully writes as an experienced religious educator, her book manifests familiarity with but certainly not expertise in developmental psychology. In the generally helpful first chapter on Erikson, for example, Cully manifests uncertainty about the normative character of developmental thought. First we are told that in a psychosocial crisis "a person makes an unconscious decision either to go forward or to remain in the same stage" (p. 3). On the following page we learn that "stages are *descriptive*: they are neither prescriptive nor necessarily normative." But what distinguishes going forward from standing still? Confusion on this point is particularly unfortunate inasmuch as a good deal of the attractiveness of developmental theory for religious and moral thought lies precisely in its intrinsically normative character.

The second chapter, on Piaget, is a general summary of cognitive development written in straightforward language. But the critical reader will notice that research findings and theories covering some fifty years are mixed, old and new, with only the most superficial organization. Thus in one section we get four stages of this, in another three stages of that, and in yet a third two stages of something else. But if the Piaget chapter is uncritical, the sections on Fowler and Kohlberg are even more problematic. Fowler is misread as recognizing the possibility of regression to earlier stages and misinterpreted as locating commitment only at his fifth stage. The Kohlberg section unfortunately is outdated, factually inaccurate, and not too helpful practically. On the first point no account is taken of important revisions Kohlberg made in his theory some seven years ago. On the second point it misrepresents Kohlberg to say that "each succeeding stage is simply a better *way* of acting" (p. 82). Each is rather a more adequate way of reasoning. Cully makes Kohlberg's sixth stage seem both individualistic and religious (p. 86). Essentially it is neither. On practical methods of moral education one must look elsewhere for something substantive (perhaps *Promoting Moral Growth* [New York: Longman, Inc., 1979] by Richard Hersh, Diana Paolitto, and Joseph Reimer). Finally in this section, as in the one on Fowler, brief references to critics indicate only a superficial grasp of their arguments.

From the theological perspective I find the references to God as lawgiver and to Christian morality as obedience to his command unfortunate (p. 86). Happily Cully stresses that religion, rather than being an escape, is a "way of experiencing forgiveness, learning how to be forgiving, and understanding the meaning of reconciliation" (p. 73).

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Interpreting Religious Experience. By PETER DONOVAN. New York: Seabury Press, 1979. 120 pages. \$3.95 paper.

The object of this small book is to examine the nature and claims of religious experience. As one would expect from a monograph, the arguments are not presented in great depth; but the style of writing and the argumentation are always lucid, straightforward, and to the point. The right questions are considered at the right times, and the flow of the argument is logical. The book is an ideal introduction to the subject of religious experience (not in examining their variety but their epistemological claims) and could be used as a text.

Peter Donovan begins by asking what it is to have a religious experience. What sets off the religious experience from other kinds of experiences? His answer, though seemingly too glib at first glance, actually sets the stage for the argument of the book. He says that religious experiences are experiences in which religions are interested; thus we are led to religions themselves as the context within which the experience is clarified. After examining four types of religious experience, Donovan pursues the problem of how we can talk about interpreting these experiences. Interpretation, like reading, is not simply a private affair but is rule governed. Far from ineffability being a necessary part of the experience, language is necessary for the experience. Therefore there is no "core" experience which people have and simply interpret differently; rather all experiences are theory (or theology) laden. It is the particular theology that provides the context for the experience. God is not ineffable (otherwise God would be a mere *x* and not an object of awe or worship), but it may be possible to say nothing absolutely about God (as opposed to saying absolutely nothing).

Do religious experiences prove anything? Is having a religious experience like having a musical experience, as C. D. Broad suggests, so that, although some people may be tone deaf, others are considered to have a certain knowledge and expertise even by the tone-deaf person? Is the difference between the person having a religious experience and the person not having one the same as between being sighted and being blind? The perceptual analogy will not work, says Donovan, because it is possible for the blind person to see that the sighted can do something with their knowledge and because it is possible to double-check with our other senses what we say we know.

Perhaps then the kind of knowledge given in the religious experience is not perceptual but a special, self-validating intuitive knowledge. Several objections are raised to this approach. The first is that we have to distinguish between feeling certain about what we say we know and being certain. Intuition does not supply us with a criterion for distinguishing such a difference. Donovan uses the Wittgensteinian antiprivate language argument in pointing out that intuition based on such private experiences lacks a criterion for being able to distinguish one experience from another. How do I know that I am having the same experience as I had last week (and called "religious") if I have no means of publicly distinguishing between the two and thus of being certain that I am not mistaken? Finally "experience of" is not "knowledge about." To have knowledge means something more than having an experience. It is to

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know what one can do with it and to be able to put it into a wider context. Experience is merely the means to gaining knowledge, but it is not knowledge. The experience of the sense of God is important and should be taken seriously, but it is not knowledge about God.

Let us say that two persons are in the same situation. Does the religious person know something different because he has a religious experience in that situation? It could be argued that the only difference between the two is a different interpretation of the same facts. Donovan seems to think, however, that one can generalize the gestalt switch from "seeing as" to "experiencing as" and say that experiencing is a matter of background. If so, the religious person may have different facts, much as an experienced radio operator may hear a call for help amid all the static whereas I would not. The religious experience gives a person a way of seeing patterns and having further experiences that the nonreligious person would not have. Is the religious person rational in this approach? That depends on the validity of the interpretive system rather than of the experience itself. Knowledge is systematic, and to see if one is rational in accepting knowledge based on experience one must look at that conceptual system, which is inseparable from the interpretation (and the experience).

The criteria for judging the validity of the system are essentially the same as found in science. They are (1) a general premise saying that if such and such is the case certain happenings will probably follow as consequences, (2) an observation that those happenings have taken place, (3) an assumption (or further argument) that nothing else can account so well for those happenings, and (4) a conclusion that therefore such and such *is* the case. The most interesting criterion is the third. What is necessary here to "explain away" religious experience is not simply an explanation of how such experiences might be possible; one must explain the context of the experience, the systematic character of the experience. Thus one must be concerned not only for the fruits (religious experiences are good pragmatically and thus are justified) but also for the roots of the experiences.

Can one explain religious experiences away through a naturalistic interpretation of their roots or origins? Several answers are possible. Some may want to point out that such complete alternative explanations, even in terms of the science involved, may not be forthcoming. Others may want to argue that naturalistic explanations do not matter since mechanisms pointed out by the naturalist to account for the experience may be the way God has for producing the experiences. Nevertheless it is necessary to be willing to point out why some experiences can be interpreted as being brought about by God and thus as defining God's character and purpose, while some are not interpreted this way. Otherwise, if every experience discloses God, what preserves the specialness of the religious experience? In the end it looks as if Donovan is sympathetic to the point that naturalistic explanations may be able to account for an event in isolation but not for the context of the event because science cannot supply answers to the ends and purposes of life as a whole. If this is so, people are not irrational in giving religious interpretations (i.e., readings) to experiences. They are merely trying to understand the experiences of the human race.

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