

Reviews

Cultural Psychology: Essays on Comparative Human Development. Edited by JAMES W. STIGLER, RICHARD A. SHWEDER, and GILBERT HERDT. New York: Cambridge Univ. Press, 1990. 625 pages. \$59.50; \$19.95 (paper).

Cultural Psychology contains papers from two symposia organized by the Committee on Human Development at the University of Chicago in 1986 and 1987 as part of the committee's celebration of its 50th anniversary. There are twenty symposia papers covering a range of topics and written from a number of different points of view, and an introductory essay written for the volume by Richard Shweder.

A short, two-paragraph statement on the first page of the book states that the book raises the idea of a new discipline, "cultural psychology." The preface expands on this by stating that the two symposia were put together with two goals in mind. The first was "to provoke debate about the conception of human nature and development, in the light of our increased sophistication in cultural analysis, in the interpretive study of meaning, and in the symbolic representation of symbolic representations; and to let the voices of context, content, and surface structure vie with the voices of the universal processor, abstract mathematical form, and deep structure" (p. vii). The second was to promote the idea of cultural psychology, a new discipline which is emerging from the diverse approaches to the relationship between culture and psychology represented by the essays in the volume.

The introductory essay by Shweder is entitled "Cultural psychology—what is it?" Thus, the title of the book and the first few pages lead the reader to expect a book consisting of a group of papers explaining, or exemplifying, cultural psychology. However, the body of the introductory essay tells a slightly different story. "Most of the work of cultural psychology is still ahead of us" (p. 27). "The challenge is . . . to define more precisely this promising new discipline" (p. 31). "Even in this volume some of the essays might be read as articulate and challenging expressions from other frameworks . . . or as critiques of cultural psychology. . . ." (p. 22). The phrase *cultural psychology* never appears in the twenty symposia papers following Shweder's introduction. Thus, what the book presents is not a new discipline which the symposia participants all understood and addressed explicitly. Rather, the introductory essay tells us that, in the twenty essays, Shweder can see the conception of a new discipline of which most of the contributors are not yet aware, and which as yet is not fully defined. By the time I reached the end of the book, I was convinced that this new discipline, if it is to be born, is not yet very far along in its gestation.

This feeling is exacerbated by the fact that the introductory essay defines cultural psychology primarily in terms of what it is not. Many pages are

devoted to explaining that it is not general psychology; it is not cross-psychology; it is not psychological anthropology; and it is not enthnopsychology. Relatively few pages are devoted to describing it on its own terms.

According to Shweder, these other disciplines (general psychology, etc.) are all based on the idea that the human mind in all societies can be characterized as a central processing mechanism and that culture is a superficial veneer on top of this universal mechanism. This central processing mechanism (according to psychologists, etc.) is best understood through studies which manage to filter out the superficial influences of culture. In contrast, cultural psychology sees the human mind and culture as inseparable. There is no human mind, or psyche, without culture and no culture without individual psyches. The two are mutually constituting. Further, because of the pervasive influence of culture, each ethnic group has a distinct psychology of its own. Cultures are seen as intentional worlds and individuals as intentional persons. Intention refers, in this context, to the conscious, purposeful, and meaningful nature of human beings, features which are central to both persons and cultures.

To the extent that the ideas of this new discipline are spelled out, I find it very exciting. Nevertheless, the central idea is a theory. This theory states that there is no—or at least very little—commonality of human psychology from one society to another. How different are the cognitions, emotions, values, motivations, and idea systems of different ethnic groups, speakers of different languages, and bearers of different cultures? The essays in this volume document a number of differences, but in one way or another, they also document commonality. I do not know, myself, how best to characterize the variation and commonality of human psychology revealed by these essays, and—what is more important—I do not find that the introductory essay does much to provide an adequate general characterization.

The introductory essay insists that culture has a very strong effect on the things psychologists study—cognitions, perceptions, emotions, motivations, value judgments, etc. This effect is so strong that we cannot speak of a psychic unity of humankind, or a general processing mechanism that is characteristic of all humankind. Nevertheless, the gaps between cultures are not so great that people of different cultures cannot communicate and come to understand one another, albeit with some difficulty. In a very interesting part of the introductory essay, Shweder says that cultural psychology is “an interpretive enterprise in Geertz’s sense” (p. 32). He suggests that this interpretive work can be accomplished by a process of “thinking through others.” This process, as he describes it, suggests that there are some elements of experience shared by all human beings which make understanding the other possible. For example, he states that we Westerners, in trying to understand the intentional world of the orthodox Hindu, come to see Hindu modes of representations as sophisticated expressions of “repressed, dormant” elements of our own psyches. Thus, with effort we can share to some extent exotic intentional worlds and in doing so, we find a potential for these exotic intentional worlds in ourselves.

The papers following the introduction also occasionally present us with commonalities. D’Andrade’s excellent review of cognitive anthropology (ch. 2), for example, tells us that limits of short-term memory constrain the size of folk taxonomies to roughly sixty-four items; that folk taxonomies

rarely exceed five levels; that people are opportunistic information processors and will make use of any structure that aids communication in constructing systems of symbols; that it is rare for natural language categories to be arbitrarily disjunctive; and that people always can make value judgments about the categories defined by their language (they like them, dislike them, etc.). These findings suggest to me that human psyches and cultures, "intentional persons and their mutually constituted intentional worlds," can be characterized by both variation and commonality. They also suggest to me (*pace* Shweder) that there is, to some extent, a shared processing mechanism (or perhaps shared mechanisms) among human beings. Otherwise, how would limits of short-term memory affect folk taxonomies everywhere? On the other hand, the content of taxonomies is different, and taxonomies shape memory and value judgments to a large extent. Thus, we have both commonality and variation. Of course, D'Andrades's paper may be one of those mentioned in the introduction as representing a paradigm other than cultural psychology. Even so, the findings presented by d'Andrade are well documented, and it seems to me that cultural psychology would have to incorporate them in its intellectual framework.

A second problem arose for me in reading the introductory essay, Shweder devotes some discussion to the roots of cultural psychology and in doing so suggests that cultural psychology will integrate a very diverse set of intellectual traditions: Elements of anthropology, psychology, psychoanalysis, linguistics, philosophy, and literary criticism are to be combined in this new discipline. Elements drawn from positivist/empirical traditions are to be combined with elements drawn from symbolic and the postmodern traditions. Such an integration of diverse intellectual approaches would be a heady mix, but I did not find it in the articles following the introduction. The essays are diverse in approach, but none of them integrates the diverse traditions pointed to as roots of cultural psychology in the introduction. This grand integration apparently is part of the work of cultural psychology which lies in the future. In short, I found the introductory essay fascinating reading, but much of it consists of promises or suggestions about future developments rather than accomplished work to be found in the essays introduced.

On the other hand, the papers following the introduction provide good descriptions of many specific ways in which intentional worlds differ, as well as occasional descriptions of commonalities. Most of them are excellent, and they make the reader aware of the fascinating range of questions and lines of inquiry that have, in one way or another, addressed the relationships between culture and psychology.

Several of the essays take up the Sapir-Whorf hypothesis and find support for it. D'Andrade, in his review of cognitive anthropology, reports research which indicates that linguistic categories shape perceptual categories, and that certain things are easier to remember if one's language labels them clearly. Slobin's paper (ch. 5) finds that the way in which different languages conceptualize the relations to time of actions expressed by verbs places a definite perspective on native speakers' perceptions of the timing of actions. Ochs's paper (ch. 7) demonstrates that the social identities which characterize a society are indexed by the society's language and that learning to speak, among other things, teaches one about the

particular social statuses and identities of one's society.

Two papers examine learning processes in different cultural settings. Lave (ch. 8) compares the way Liberian tailors learn their tailoring skills with the way mathematical skills are learned in U.S. schools, and concludes that the greater mastery and self-confidence of the tailors results from the fact that tailors in Liberia learn by solving concrete problems rather than by carrying out abstract exercises. Stigler and Perry (ch. 9) look at the ways in which mathematics is taught in Japan, Taiwan, and the United States, and show how presumptions about the reason for performance differences among students lead to different teaching techniques and different levels of confidence and mastery.

Two chapters deal with psychoanalysis. Kakar (ch. 13) outlines the history of psychoanalysis in India, pointing out that in the early stages of this history, under the leadership of a very creative Indian psychoanalyst, Girindrashekar Bose, Indian psychoanalysis was translated into a form well suited to the Hindu world view and not slavishly close to Freud's conception of what psychoanalysis should be. In this form it prospered and, among other things, gave rise to much interesting research. Later, as efforts were made to make Indian psychoanalysis more orthodox and Freudian, it lost its earlier vitality. Doi (ch. 14) explains how cultural assumptions built into psychoanalysis are incompatible with the Japanese view of human society and how, as a result, psychoanalysis has never been established as a form of therapy in Japan.

There are also several chapters which treat infant and childhood experience as well as other aspects of development. Le Vine (ch. 15) does a comparison of Gusii and U.S. infant environments, showing that the pattern of socialization characteristic of each society prepares children for the particular demands of the adult environment they will eventually encounter. A very interesting paper by Shweder, Mahapatra, and Miller (ch. 3) presents a comparative study of moral development in Bhubaneswar, in the Indian state of Orissa, India, and in the Hyde Park neighborhood of Chicago. This essay, among other things, carefully documents that the most sophisticated adults in Bhubaneswar, in contrast to Hyde Park residents, do not reach a stage of moral development comparable to Kohlberg's postconventional stage of moral thinking, since Kohlberg's supposedly universal stage in fact incorporates a number of particular Western cultural assumptions. The authors then argue that one could, however, construct a Hindu postconventional stage of moral development by replacing the Western assumptions of Kohlberg's scheme with Hindu ones. Slobin's chapter (ch. 5) deals with aspects of the development of language in order to present evidence supporting the Sapir-Whorf hypothesis. Goodnow (ch. 6) discusses the socialization of cognition, reviewing a number of approaches to this topic. Whiting's paper (ch. 10) draws from several studies to show how different infant experiences create different adolescent crises and how different rituals have been devised to deal with these different crises. Heath's paper (ch. 17) describes the way in which language socialization in a U.S. Afro-American community prepares children for appropriate adult social interaction according to the standards of their community.

Other empirical papers cover a range of topics. Herdt (ch. 11) shows how ritual nosebleeding among the Sambia men makes sense in terms of their

belief system. The necessary association of married men with their wives weakens them as men and as warriors, but nosebleeding is believed to cleanse them of the contamination caused by this association. Gregor's chapter (ch. 16) explains how among the Mehinaku gang rape serves as a means of maintaining male dominance over women. Gregor's chapter is also one of the chapters which argues for extensive commonalities in certain aspects of human experience, thus running counter in its emphasis to the description of cultural psychological views presented in the first chapter. The chapter by Rozin and Nemeroff (ch. 4) is another which argues for some near universals of human psychology by arguing that sympathetic magic reflects some universal human thought process of association. Ogbu's excellent study (ch. 18) compares immigrant groups to involuntary minorities and explains how the experience of immigrants provides them with a cultural model conducive to academic success, whereas the experiences of involuntary minorities provide a different model which is not conducive to academic success. Scheper-Hughes's richly descriptive paper (ch. 19) describes the attitudes, child care practices, and children's funeral rituals in northeast Brazil where poverty leads to a very high rate of infant death. She then shows how these practices and attitudes make it possible for these poor Brazilian mothers to avoid being overwhelmed by the grief of numerous infant deaths.

Three chapters, in addition to the introductory essay by Shweder, discuss theory or metatheory, Spiro's chapter (ch. 1) describes ways in which anthropologists have changed their thinking about the strangeness (i.e., exotic quality) of non-Western cultures in recent decades. Crapanzano's paper (ch. 12) is a discussion of characterizations of self that draws heavily on continental philosophy and comparative literature. The final chapter (ch. 20) by Gergen is explicitly postmodern. Gergen argues the interesting and, to my taste, not unsettling notion that emotions are located in the relations between individuals rather than within individuals. This is described as an element in the metatheory of ethnography. In order to reach this conclusion, Gergen presents several typically unsettling postmodern propositions. These include the proposition that it is irrelevant whether or not ethnographies correspond to the reality of the societies they deal with, and the proposition that one can write a good ethnography without relevant fieldwork. I presume this final essay is one of the chapters which critiques cultural psychology rather than exemplifies it. Most of the earlier chapters are written as if the correspondence of recorded data to reality is a very relevant question.

The book is, in my opinion, required reading for anyone interested in the interrelationship of culture and the human psyche. It is rich in data and exciting ideas even though, in my view, some of the ideas presented need to be handled with some skepticism. Specifically, I am skeptical of the emphasis on psychological differences among culturally different groups to the virtual exclusion of commonalities. It seems to me that human psychology is characterized both by impressive cultural variation and, at the same time, by certain shared elements. This is what I see in the data presented in this volume, as well as in the anthropological literature in general. It further seems to me that cultural psychology needs a theoretical framework which allows for both variation and constancy across cultures, and is, at the same time, compatible with the fact that there is no such thing

as a culture-free human being and the fact that cultures have very strong effects on all aspects of human psychology, including intentionality.

Whether cultural psychology will eventually emerge as a full-fledged discipline remains to be seen. But certainly the questions it raises are important and exciting ones, and this book is an important contribution to the attempts of anthropologists, psychologists, and other researchers to answer these questions.

WILLIAM IRONS
Professor of Anthropology
Northwestern University
Evanston, IL 60208

Technology and Religion. (Vol. 10 of *Research in Philosophy and Technology*.)

Edited by FREDERICK FERRÉ. Greenwich, Conn.: JAI Press, 1990. 377 pages. \$38.10; \$63.50 (institutions).

This volume is a collection of essays, colloquium papers, and book reviews intended to provide the informed reader with a spectrum of current opinion on the relation of two very diverse phenomena: technology and religion. Frederick Ferré, the editor, has successfully marshalled a variety of viewpoints that offer a good representation of major Western perspectives (Protestant, Catholic, Jewish) upon the critical role of technology—and particular technologies—in contemporary culture. Two philosophical discussions, sympathetic to a religious perspective, move outside any confessional orientation and seek to provide common ground among all religious traditions for the discussion of the role and the limits of technology.

The opening "Theme Section" of the volume contains fourteen essays ranging from a proposal of an overarching taxonomy of technology and religion to discussions of theological/ethical aspects of specific technologies. Some of the latter sketch out general principles in connection with the discussion of particular technologies. One need not read the essays in sequence, though the opening proposal of a taxonomy for the interrelations of religion and technology seeks to provide a frame of reference for all that follows. This proposal by two philosophers from Old Dominion University, William Jones and Warren Matthews, argues the need—which they seek to provide—of a paradigm for the religion/technology field to consolidate and "normalize" research efforts. The proposal is thought-provoking, but probably more appealing to the philosophical mindset than to those drawn to historical, developmental types of explanation for the interactions between religion and technology.

Two interesting discussions of the threat posed by modern military technology follow. A. Arnold Wettstein offers assessment of the legitimacy of the Strategic Defense Initiative ("Star Wars") in the context of a brief but thoughtful definition of Christian social ethics. And David

[*Zygon*, vol. 28, no. 3 (September 1993).]

© 1993 by the Joint Publication Board of *Zygon*. ISSN 0591-2385

Novak provides a very interesting Jewish "meditation" on the threat of nuclear destruction in the context of a Jewish social ethics based on the concept (and command) of Sabbath observance.

There ensue two appraisals of television evangelism by Waldo Beach and Robert C. Good; a Tillichian reading of science and technology as quasi-religions by J. Mark Thomas; a critique by Frank R. Harrison III of Lynn White, Jr.'s 1967 criticisms of the Christian-Jewish "disenchantment" of nature; a discussion of biblical resources for dealing with technology-spawned social problems by Larry Rasmussen; and two assessments of the work of Jacques Ellul by Charles Mabee and Darrell Fasching. Gabriel Vahanian offers a theological-cultural critique of artificial intelligence; Robert C. Neville, a mystical/metaphysical critique of technology; and David Schrader and Martin Krieger provide discussions of the modern "temptations" of technology.

Different articles will appeal to and inform different readers, but this reviewer found the chapters by Harrison on Lynn White, Fasching on Ellul, and Vahanian on artificial intelligence especially interesting and informative. Harrison sets out a number of arguments against White's contention of 1967—following the argument of Harvey Cox in *The Secular City* (1965)—that biblical religion "disenchants" nature and is chiefly responsible for the modern ecological crisis. Not many will agree with all of Harrison's counterarguments, but certainly his contention that most environmental abuse has occurred in the post-Enlightenment era and against the background of many different readings of the "Judeo-Christian tradition" suggests the need for further thought on the "disenchantment"/"reenchantment" hypotheses. As a philosopher, Harrison avoids a sociohistorical debate with White—and this is certainly understandable and a viable position for a criticism of White—but the historical questions that White raises (especially in his earlier and, to this reviewer's mind, more important essay, "What Accelerated Technological Progress in the Western Middle Ages?" [1963] continue to provoke thought. (In the book review section of this volume, Thomas Rogers offers the very pertinent comment: "Contemporary students are often unaware that technology was important long before science . . . [played a role in defining it] as applied science" [p. 359]).

Fasching's exposition of Ellul's views on technology and theology is very ably done and very informative. And Vahanian sets forth a creative and helpful analysis of artificial intelligence that draws upon the distinction between analogical and metaphorical thinking, the latter describing the limits of artificial intelligence and serving also as the proper medium of the theological discourse and the means of framing alternatives to a culture of technology. Probing as Vahanian's critique is, the reader at the end is made to intuit aspects of his poetic future.

At the opposite end of the religious spectrum from Vahanian's essay is one of the two philosophical discussions, Neville's treatment of "Technology and the Richness of the World." Though utilizing poetic expression in a manner similar to Vahanian, Neville raises the "richness" of the "isness" of the world as a source of human wonder and fulfillment—something not attained in the technical sphere. Vahanian is concerned with presenting the future as the promise of a God-given humanity, whereas

Neville plumbs the depths of present being, suggesting that “depths shine through depths,” that experiences and sensitivities, both within and without the variety of religious traditions, make up “the richness of the world.” Neville remarks: “The greatest sin technology can commit is to suggest, because of the enhanced powers it delivers up to the human will, that the world is not ultimately mysterious.” He contends, rather, that “we are . . . finite creatures with an infinite content in an infinite world. . . .” (p. 202). Neville promises a follow-up discussion at some later time of the ways in which particular technologies enhance or diminish “the richness of the world.”

In place of the suggestive poetry of the Neville discussion, John F. Post offers a very technical and tightly argued philosophical piece, “On Reenchanting the World.” This second major philosophical discussion, found in the “Colloquium Section” of the volume, was first delivered as a paper at a meeting of the Society of Christian Philosophers in December 1987 and reflects that audience. It is not easy reading for the lay person. The reader is asked to sit in on an in-house discussion of value theory, the main purpose of which is to establish, through a highly refined chain of logical reasoning, the objective reality of values—or, in Post’s important rephrasing, the “non-reductive determination” of values. Post puts the argument in the following terms: “the purely descriptive or natural facts about the world (including us) . . . non-reductively determine which of our value judgments are true.” Post’s discussion is well worth wrestling with—though it is clear that with his writing style he does not intend to reach a wide audience, despite the importance of the subject.

On this latter point, Ferré, the editor, offered a summary of Post’s argument at the time of the colloquium: “Post’s quest is to combine what he calls “austere” scientific naturalism, a minimalist ontology wholly expressible in terms of mathematical physics and wholly penetrable in principle by technological controls, with the “enchantment” of potentially true assertions about objective values, acts of God, and miracles” (p. 283). Ferré then goes on to ask: “can Christian philosophers agree to allow axiology to bear the full weight of Christian discourse? Is Post’s suggestion actually the revealing of a depth-grammar, as he hopes, or is it instead an axiological reduction of the richness of religious speech to one . . . of its dimensions?” (p. 284). To this question Post responds by stating that Ferré had not read him carefully enough, and he cites the numbers of various paragraphs in various sections of his paper in which he claims to have anticipated the points in Ferré’s critique. This is warning not to take casually Post’s skills as a logician—though it is not clear to this reader that Post actually answered one of Ferré’s charges, specifically that “Post makes much use of the presumptive force of ordinary language when he argues for the intelligibility of objective values. What happens to this respect for first-order usage, however, when the issue is religious language? If ordinary usage is a powerful argument for objective values, despite skeptical meta-ethicists, should not ordinary usage be a powerful argument against Post’s driving so deep a wedge between ‘surface grammar’ and ‘depth grammar’ in religion?” (p. 284).

This latter reference of Ferré to two grammars in Post’s discussion is important because, as Post states it, there is a need to move beyond “the

habit of supposing God-talk can be true only if 'God' refers, and indeed refers to a being beyond any naturalist's inventory of what there is." Post then offers comment: "The advantages of outgrowing such subject-predicate literalism . . . would accord with the theist's tendency to resist identifying God with this or that, would thereby help thwart idolotry [*sic*], would thus emphasize powerfully the divine transcendence, would help account for key differences between science and religion, would . . . pave the way for theologians to argue for the objective truth of God-talk, in the manner sketched above, all without violating the physicalist's account of what there is. The habit of subject-predicate literalism therefore seems well worth the sustained effort it would take to break it, via repeated exercises in self-conscious intellectual tact" (p. 272).

For some of those schooled in the course of modern theology, it will be hard to see how the end-product of Post's logical formulae moves beyond Paul Tillich's pre-World War 1 concept of "the God above God" (later, the "Unconditional" without the "the"; later still, "Being-Itself"). One must ask if Post, in the above quoted paragraph, does not give expression to the assumption of all natural theology that an elaboration of the "divine immanence" somehow is capable of enhancing the divine "transcendence."

In another very interesting paper from the 1987 meeting of Christian philosophers, Jane Mary Trau provides a critique of the Roman Catholic Church's instruction on human life, *Humanae Vitae*. Trau argues that there is an inner inconsistency in that document which makes a distinction between the "unitive" and the "procreative" functions of the sex act in order to make allowance for the rhythm method of contraception but then goes on to exclude technological means of contraception and fertilization. Trau asserts: "the failure to use artificial means in the accomplishment of proper ends, when those means are available and superior to natural means, is in itself contrary to the fulfillment of the rational nature of persons." She offers the following principle, "consistent with Natural Law ethics": "Technology is a product of rational human beings, and is properly used to assist them in the efficient accomplishment of proper aims" (p. 237).

Post, at this colloquium, provided a response to Trau and defended *Humanae Vitae* against the charge of inconsistency on the grounds that the central principle of the document is that the "proper perfection" of every person is that the person be "the result of and fruit of a conjugal act in which the spouses become 'cooperators with God for giving life to a new person'" (p. 290). Post maintains that this principle is not contradicted in *Humanae Vitae*. He states that the Roman Catholic Church "holds that some conjugal acts need not intend conception, that some need not even be open to the possibility of conception, but that none may both result in conception and not intend it, since otherwise the human person thus conceived would be deprived of the perfection of being the result of an appropriate act." Post concludes with the comment: "I see plenty to disagree with here, but no inconsistency" (p. 290).

Ferré has done a major service to all who are interested in the question of technology and religion in providing, with this volume, an update on the conversations going on concerning the relationships of these two very diverse phenomena. It is a book that deserves a place on the library shelves

of liberal arts colleges and all universities. There are chapters in the book that will provide valuable readings and discussion for technology, religion and society, contemporary world, and ethics courses.

DAVID H. HOPPER
James Wallace Professor of Religion
Macalester College
St. Paul, MN 55105

Human Universals. By DONALD E. BROWN. New York: McGraw-Hill 1991. 220 pages. \$34.95.

Cultural anthropologists have long justified their existence by pointing to the diversity of human societies and cultures. While other social and behavioral scientists scrutinize Western societies in minute detail, anthropologists have gone to the far reaches in search of the exotic and unusual in human affairs. At one time this endeavour was seen as worthwhile not only because cultural diversity itself is interesting and rapidly vanishing, but also because it was thought that only by examining the full range of variation in human behavior would we be able to understand whatever it is that we all have in common as members of a single species—in short, our human nature.

Today, however, the quest for human nature has largely been lost in anthropology. Cultural anthropologists are instead preoccupied with diversity for its own sake, having set aside the question of human nature either as trivial or as a threat to a full appreciation of cross-cultural differences. Donald Brown is one of a growing number of anthropologists who argue that, on the contrary, human nature is a worthy subject for research and that human universals—those characteristics found in all societies—will shed light on it.

The idea that human cultures are diverse and highly variable is rarely seriously questioned by anthropologists. While disciplinary self-interest is no doubt partially to blame for this oversight, it is also to some extent simply a natural reaction that anyone would have upon learning about the ways other peoples live their lives. What is most impressive, at least at first glance, are the differences, not the similarities. The fascination inherent in such differences is what motivates most anthropologists, including this one, to enter the profession in the first place, and it is something that we routinely exploit in our writings and teaching.

But what do we really mean when we say that human cultures are diverse? If they were not quite so diverse, would we even notice? The problem is that diversity is a relative term, but it is used by anthropologists as an absolute: Human cultures are diverse. The question, "Diverse compared to what?" is never asked, but perhaps it should be. For example, if human cultures displayed much less diversity than they do—say, only as much cross-cultural variation as we see within the United States—would we notice, or would anthropologists still remark upon, the amazing

[*Zygon*, vol. 28, no. 3 (September 1993).]

© 1993 by the Joint Publication Board of *Zygon*. ISSN 0591-2385

diversity of human societies and cultures? Looking at human cultures for diversity and uniformity is like looking at a Necker cube, the two-dimensional representation of a box that can be perceived as being viewed either from below or from above (see Dawkins 1982). The mind can switch back and forth between the two possible views of culture just as it can switch between the two views of the cube, with equal validity in both cases.

One way to get a grip on the issue of diversity and uniformity in cultures is to imagine the full range of variation possible and compare it to the range of variation that actually exists. Although strictly speaking this is impossible, we can get some idea of the possible range by thinking of an imaginary, multidimensional space defined by the many variable features of human societies: subsistence patterns, kinship systems, marriage practices, political systems, religious beliefs and practices, and so on. If we were to plot all the known human societies in such an ethnographic hyperspace, we would find not a random or even very widespread distribution, but a fairly neat clumping around a small number of nodes. The family, for example, in one form or another, is ubiquitous (see Cronk 1990). Human societies simply are not endlessly diverse.

Although they rarely think about it, anthropologists themselves are dependent upon the existence of human universals for their own success in studying human diversity. Brown illustrates this point vividly with an example from his colleague Lyle Steadman's experiences among the Hewa of New Guinea (Steadman 1971). Although the Hewa spoke a completely different language and had a world view unfamiliar to Steadman, he was eventually struck by just how similar they really were to himself. Despite their differences, it was clear that at a fundamental level the Hewa experienced the world in essentially the same way he did and that "their basic concerns, the concerns motivating their behaviour, were similar to my own" (Steadman 1971, 26).

Furthermore, Brown argues, virtually any ethnographic description, paradoxically even those that emphasize cultural differences, relies for its clarity upon human universals, which allow many of the details to remain unsaid. As an example Brown offers Clifford Geertz's famous account of a Balinese cockfight (Geertz 1973). Although Geertz's point was to document the alienness of the Balinese, in fact the clarity of his story relies upon an understanding of behavioral patterns that are simply human, not peculiarly Balinese, such as the conspiratorial sort of solidarity people often feel after violating rules together. The universals thus remain hidden, the assumed and unexamined canvas upon which ethnographers paint their exotic pictures of human diversity.

Donald Brown's purpose in *Human Universals* is to examine what has been largely unexamined and to make explicit what has been largely assumed. He argues that universals not only exist but that they are important, and that the key to understanding many of them is the growing body of research into the evolution of the human mind. While the first of these positions is well made and well defended in the book, the second remains more a promising stance for future research than a demonstrated fact.

Brown begins, after an interesting preface and an essential introduction, with an examination of six cases that have been used by cultural relativists to demonstrate the extreme diversity of human cultures. These include cross-cultural variations in color classification schemes and facial expressions,

adolescence among Samoans, sex roles among the Tchambuli or Chambri of New Guinea, the Hopi perception of time, and the question of the Oedipus complex among the people of Trobriand Island in Melanesia. In all of these cases, major questions have been raised about the validity of these variations as demonstrations of the flexibility of culture. For example, Margaret Mead argued that among the Chambri, sex roles were effectively reversed. Men spent their time preening, gossiping, and in artistic activities such as painting and dancing, while women were in charge of productive activities and acted confident and self-assured (Mead 1935). In other words, Chambri men and women acted like stereotypical Western women and men, respectively, thus reversing our usual expectations about sex roles and demonstrating their arbitrariness. The only difficulty with this is that it was not true. When the Chambri were restudied by Deborah Gewertz (1981) in the 1970s, they were found to have sex roles that matched those of other human societies. Although Chambri women were economically productive, it was the men who controlled their output, and the men's gossiping and preening reflected not their passivity but their competition with one another.

Brown then discusses the details of how universals are to be conceptualized and demonstrated, the history of the study (or lack of study) of universals, and various ways of explaining universals. Although these are the most technical parts of the book, they are thoughtful and useful, and they include a good, brief discussion of how evolutionary theory is used in the study of social and sexual behavior.

Brown devotes one entire chapter to the detailed examination of one possible human universal, the practice of incest avoidance. This example is useful in that it is relatively well-studied, but it is also problematic for a number of reasons. First, because this topic has been studied for so long, many readers will already be familiar with most of what is presented, and little in this chapter is very new. To keep readers' interest, a less well-known example may have been better—as usual, the unusual is more interesting than the everyday. Second, as Brown acknowledges, incest avoidance may not actually be a universal characteristic of human societies, if we are to believe data about the frequency of brother-sister marriage in Roman Egypt (Hopkins 1980). Finally, even if incest avoidance is accepted as a universal, there is no single accepted explanation for it, and although Brown clearly favors the idea that it is a reflection of our evolved nature, he does not present a definitive argument for that position.

In many ways, the penultimate chapter is the most interesting. It presents a list of human universals in the form of a description of a single people, called the "Universal People," or UP. While some of the universals listed are mundane, many are surprising and fascinating, and they clearly go beyond the level of universals that we all must share simply because we have similar bodies and live on the same planet. For example, in the area of religion, Brown writes that the Universal People

have religious or supernatural beliefs in that they believe in something beyond the visible and palpable. They anthropomorphize and (some if not all of them) believe things that are demonstrably false. They also practice magic, and their magic is designed to do such things as to sustain and increase life and to win the attention of the opposite sex. They have theories of fortune and misfortune. They have ideas about how to explain disease and death. They see a connection between sickness and death. They try to heal the sick and have medicines for

this purpose. The UP practice divination. And they try to control the weather.

The UP have rituals, and these include rites of passage that demarcate the transfer of an individual from one status to another. They mourn their dead. (p. 139)

This is a long enough list of characteristics that are far enough removed from the mundane level of the requirements of human existence to impress even the most committed cultural relativist. This chapter might make a good introduction to our species for someone from another planet or even for beginning students in the social sciences. The book as a whole might have been more compelling and interesting if this chapter had been the first or second chapter, thus forming the basis for the more technical chapters.

Although Brown is often quite blunt and even somewhat threatening about the implications of his view of the Necker cube of human cultures for the other viewpoint, advocates of the study of cultural diversity and of a multicultural curriculum can turn human universals to their own advantage. If the purpose of studying other cultures and teaching our students about them is to promote cross-cultural tolerance and understanding, then it is important to be able to show that although cultural differences are important and worthy of respect, they are somewhat superficial. Underneath it all, we are all the same species, with a remarkable amount in common, and, fortunately, it is often easier for us to understand one another than appearances might suggest.

Human Universals is a stimulating and valuable book, but it has two notable drawbacks. First, as Brown himself points out, in style the book is a compromise between a popular and a scholarly work. This compromise is not always a comfortable one. Those who might be attracted to it as a popular work are likely to be bored and frustrated in the more technical chapters, and those who expect a certain level of scholarly rigor may be equally frustrated by its looseness and informality. Second, it is not really a finished project. An appropriate subtitle for it might be "A Proposal for Research," because that is really what it is. It sets the agenda for a very promising research project by pointing out the usefulness of human universals to the study of human nature, but it does not go very far down the path described.

It is to be hoped that Brown and others will pursue this project in the future. Whether Brown's idea proves true or not, the knowledge generated about our species would be invaluable. The main obstacle to this endeavor is the resistance of anthropologists to the idea that human evolution may have something to tell us about human behavior, but Brown's own experience provides hope that this can be overcome. Until the 1970s, he went along with the prevailing wisdom that human cultures are endlessly variable and essentially autonomous, only to have his view altered drastically by a careful consideration of human universals. If Brown was able to go through such a conversion, then so might other cultural anthropologists, and perhaps the convert Brown will be to anthropology what Paul was to the Gentiles.

REFERENCES

- Cronk, L. 1990. *Gethenian Nature, Human Nature, and the Nature of Reproduction: A Fantastic Flight through Ethnographic Hyperspace*. Presented at a conference at Texas

- A&M University, "The Fantastic Imagination in New Critical Theories," March 3.
- Dawkins, R. 1982. *The Extended Phenotype*. Oxford: Oxford Univ. Press.
- Geertz, C. 1973. *The Interpretation of Cultures*. New York: Basic Books.
- Gewertz, D. 1981. "A Historical Reconsideration Of Female Dominance among the Chambri of Papua New Guinea." *American Ethnologist* 8: 94-106.
- Hopkins, K. 1980. "Brother-Sister Marriage in Roman Egypt." *Comparative Studies in Society and History* 22: 303-54.
- Mead, M. 1935. *Sex and Temperament in Three Primitive Societies*. New York: Morrow.
- Steadman, L. B. 1971. *Neighbours and Killers: Residence and Dominance among the Hewa of New Guinea*. Ph.D. dissertation, Australian National University.

LEE CRONK
 Assistant Professor of Anthropology
 Texas A&M University
 College Station, TX 77843

A Theory of Religion. By RODNEY STARK and WILLIAM SIMS BAINBRIDGE. Vol. 2. Toronto Studies in Religion. New York: Peter Lang, 1989. 386 pages. \$52.50

With the publication of his classic article, "A Deductive Ideal-Type Method" (*American Journal of Sociology*, 56, July, 1950), Arnold M. Rose became one of the first sociologists to throw down the gauntlet. Recognizing that sociological ideal types had affinities to the "truisms" (read "axioms") of economics, Rose challenged his colleagues to find the necessary application to develop a deductive sociological theory to mirror the axiomatization of economics.

Forty years later, in their book *A Theory of Religion*, Rodney Stark and William Sims Bainbridge have taken up Rose's challenge. The result is—to my mind—the finest consistent application of the deductive method for the construction of a sociological theory of religion of which I am aware. The authors have applied the *more geometrico* to the sociology of religion with a deftness which suggests other historical comparisons. One readily remembers those past thinkers who—with varying degrees of success—attempted such axiomatization within their respective disciplines: Baruch Spinoza in metaphysics, Alfred North Whitehead and Bertrand Russell in mathematics, Saint Thomas Aquinas in theology, Hans Reichenbach in the theory of relativity, and Léon Walras in economics. In constructing a theory having both great universality and specificity, Stark and Bainbridge have made plausible its empirical confirmation.

On the basis of an axiomatization of rudimentary exchange theory, Stark and Bainbridge are able to deduce explanations of some of the most interesting social and cultural features of religion. From seven axioms (encompassing 104 supplementary definitions), they derive 344 propositions, most of which are susceptible to scientific verification. Unfortunately, the proliferation of conclusions makes an adequate thousand-word summary difficult. Still, the authors' intended project

[*Zygon*, vol. 28, no. 3 (September 1993).]

and some of its more general conclusions can be described.

From "truisms" (or axioms) such as the fact that human action and perception take place through time (Axiom 1), that humans seek perceived rewards and avoid perceived costs (Axiom 2), that some rewards are limited in supply (Axiom 5), and that some rewards are consumed when attained (Axiom 6), the authors construct explanations of religious behavior which square with a mass of sociological data collected over the past century. The picture of religion which emerges is one driven by rewards, costs, and compensators (reward substitutes). One learns, for example, that religion is the complex product of deprivation and privilege and that the distinction among church, sect, and cult is determined by the ability to secure rewards. Churches reward the individual most directly. Sects (more typically) offset the failure to gain rewards already procured by churches by offering alternative compensators. Cults are distinguished from either by their prolific invention of novel compensators and their tendency to maintain high levels of internal tension. Compensators are also linked to the evolution of the gods. The expansion of the varieties of compensators in society is attended by the expansion of the scope of the deities. Nevertheless, the tendency of humans to demand specific rewards and compensators means that "radical monotheism" (to use Niebuhr's phrase) is rarely, if ever, achieved. This explains the frequency with which one discovers cults of saints even in ostensibly monotheistic religions.

The specificity and practicality of the compensators distinguish magical behavior from religious behavior. The more highly specific and practical the behavior is, the more magical it is; the less specific and practical, the more religious it is. Consequently, magic is always in danger of very specific disconfirmation, whereas religion is more difficult to disconfirm. Even so, the vitality of religion stems from its ability to provide rewards and at least relatively specific compensators. If its compensators become too general, religion becomes an abstract philosophy of life without relevance to those seeking specific rewards or compensation.

Stark and Bainbridge come to the unorthodox conclusion that secularization is a process rarely lethal to religion; on the contrary, it often drives the creation of new religious groups. Religion can accommodate secularization by divesting itself of vulnerable mythologies, explanations, and compensators while creating new specific compensators which lessen tension. It can also respond by separating itself from secular life, thereby increasing the tension between it and society. Under secularization, constant circulation of membership among religious groups and the constant adaptation and transmutation of religious organizations are processes driven by the avoidance of costs and by the search *for* and provision *of* compensators and rewards.

None of the positive sociological content of *A Theory of Religion* is particularly new. Many of its judgments were first made by Stark and Bainbridge in *The Future of Religion*, and the authors admit that the latter provides the empirical foundation for much of what finds formalization in *A Theory of Religion*. Consequently, the works complement each other in interesting ways. *The Future of Religion* is a more fragmented textual field; it consists of a series of research papers published over a five-year period and organized—*post factum*—along general themes (such as the religious economy, sect movements, cults, etc.). *The Future of Religion's* purpose is

exploratory; it provides the sociological spadework and new hypotheses necessary for the raising of *A Theory of Religion's* logical structure.

The proposal of new sociological hypotheses is not the primary intent of *A Theory of Religion*. Rather, its originality lies in the way the authors bring into a deductive unity (within the theoretical framework of exchange theory) those sociological propositions which were previously proposed but which remained previously unconnected in *The Future of Religion*. It is pitched not as a series of suggestive discoveries but as a positive program for research. Unfortunately, the formal aspect of the work's architectonic—its most original feature—is also the most difficult to describe. Much easier is a description of how Stark and Bainbridge's theory might be engaged.

An engagement of *A Theory of Religion* might be accomplished in any of three ways. First—in the way invited by the authors—the reader might set out to test its conclusions empirically. Stark and Bainbridge admit that the falsification of many propositions in a grand theory can spread laterally, and then horizontally, until the most general principles are either undermined or called into question. This will result either in the rejection of the axioms outright, or in the revision of some of its key definitions and propositions. The authors invite the reader to attempt such revision, recognizing that it can only build a better theory.

Second, the reader might try to subject the axioms or definitions of the theory to criticism on the basis of their counterintuitive or counterfactual implications. This would be more difficult than an empirical refutation because the balance and universality of the axioms and definitions effectively insulate them against such criticism. Still, there is no question that some propositions, definitions, and axioms are susceptible to further clarification, particularly with respect to their level. Take, for example, proposition P1: "Rewards and costs are complementary: a lost or forgone reward equals a cost, and an avoided cost equals a reward." This proposition would be more appropriately placed as an additional axiom or definition—and not as a testable proposition—since it establishes the *fundamental* reciprocity of cost and reward. Indeed, it is not really clear that it can be deduced from the other axioms and definitions.

Third, the reader might argue that the proposed theory is incomplete because it ventures no explanation of the *formation* of values. Those attempting this criticism of *A Theory of Religion* will find their success hampered because the strength of this theory lies precisely in the fact that it is compatible with a variety of axiologies and is not wedded to any one exclusively. The authors do admit that *in the absence of other factors*, the market determines the value associated with a reward. They also admit that the axiological principle behind their theory's epistemology is "*Thou shalt build a deductive theory*" because "it provides maximal conceptual coherence and because it works" (p. 320). Thus, the Benthamite or Millian utilitarian calculi, the Aristotelian eudaemonism, or even the Nietzschean will to power should all be explicable within the generalizations of this theory. By providing a theory of religion capable of explaining all varieties of religious evaluation without making any one of these paradigmatic, Stark and Bainbridge have adequately preserved the distinction between facts and values. It is one thing to describe and explain behavior resulting from a kind of valuation. It is another thing to adopt that standard of valuation. The

revisability of this theory's propositions in light of sociological data means that no axiology will be allowed to drive the theory even though all axiological behavior should be describable within it.

The value of *A Theory of Religion* lies in the distance it carries sociology toward a scientific theory of religion and in the sustained rigor of its deductive application. It is a "must read" for anyone interested in the scientific study of religion or the formal axiomatization of sociology. Though it stands alone well, it also serves as a valuable theoretical supplement to its sister volume, *The Future of Religion*. Lamentably, and unlike its sister volume, *A Theory of Religion* remains relatively unknown. Though currently in print, its only entry in *Books in Print* appears under Bainbridge's name.

THOMAS RYBA
Notre Dame Theologian in Residence
St. Thomas Aquinas Center at Purdue University
West Lafayette, IN 47907

Creation and the History of Science. By CHRISTOPHER KAISER. London: Marshall Pickering, 1991. 316 pages. £13.99 (Grand Rapids: Eerdmans Publishing Co., 1991. 316 pages. \$17.95)

A welcome development of the last few years has been widespread recognition that issues of science and religion can be profitably studied in terms of their history. Indeed, it can be cogently argued that without historical perspective all our current discussions will be curiously foreshortened and lack an essential element of understanding. The present book attempts to address an important aspect of this problem.

To place the doctrine of creation in its historical context must be much more than an exercise in theological history (or historical theology). Inevitably, questions of science, or at least of humanity's understanding of nature, prove to be of critical importance. This occurs for the simple reason that our modern compartmentalism of knowledge would have been incomprehensible in the early Christian world and unacceptable for several centuries later. A sharp differentiation between science and theology is entirely a modern phenomenon. So in a series entitled "The History of Christian Theology," it is surely right to include a volume entitled *Creation and the History of Science*.

The author, trained in both science and theology, is currently Professor of Historical and Systematic Theology at Western Theological Seminary, Holland, Michigan. Within 300 or so pages, he has compressed nearly two millennia of Christian thought about the natural world. The series editor, Paul Avis, rightly commends the book as a resource for all concerned with the interaction of Christian theology with natural science. From Basil (on whom much is written) to Bohr (whose contributions are telescoped into a few pages), the constantly shifting relationships between science and the Christian religion are chronicled with care and thoroughness. Despite a certain dryness of style and the diversity of factual material included, the author succeeds in maintaining interest for much of his narrative. Any attempt to be as comprehensive as this is bound to pose problems for readers unfamiliar with the whole field of inquiry. Certainly he leaves no stone

untuned beneath which may lurk an unsuspecting divine speculating on nature or a practitioner of science wrestling with issues of deep theology. With one major exception (see the following), he can certainly not be accused of avoiding difficult subjects.

The value of Kaiser's book as a resource for the general reader is considerably heightened by his use of a wide range of secondary sources, an evident familiarity with at least some of the primary material, and a judiciously selective bibliography. As a broad-canvas survey, it must surely replace older works that served their own generations so well in specific areas of the subject. One thinks of Wallace-Hadrill's *The Greek Patristic View of nature* (1968) and John Dillenberger's *Protestant Thought and Natural Science* (1961). At least the present reviewer welcomes the author's insistence on specifying the relevant biblical passages which are so often taken for granted (or even misquoted) in this genre of literature.

Yet certain features of the book leave one slightly uneasy. Perhaps the most insistent doubts are raised by the lack of clear-cut thesis or motif. To be sure, Professor Kaiser speaks frequently of what he calls "the creationist tradition" (nothing to do with the modern movement of that name). However, this fails to unify the book for several reasons. Partly, it is a question of definition. At first, the tradition is defined in terms of four broad beliefs: the comprehensibility of the world; the unity of heaven and earth; the relative autonomy of nature; and the ministry of healing and restoration. However, on page 73 his summary identifies four rather different components—and goes on to add another two. Elsewhere, the tradition is defined differently again. This lack of precision generates an uncomfortable feeling that what is called "the creationist tradition" is in reality nothing more than the views of those who believed in a Creator as distinct from the world created. These, of course, varied widely over space and time. A tradition so fluidly conceived thus encompasses everything and explains nothing.

There are some very good features of Kaiser's historical writing: his dislike of simplistic generalization; his willingness to engage with philosophies as widely ranging as hermeticism, materialism, and romanticism; and his recognition of the cruciality for science of such events as the Paris Decree of 1277 and the Protestant Reformation. Nevertheless, it is at the level of historiography that he is most vulnerable. At a trivial level, Cavendish was Henry (not Charles), Coulomb was Charles (not Henry), and Davy was not Humphrey but Humphry. The supernova that transformed astronomical thinking was in 1572, not 1604. Throughout the book, the nineteenth-century term *scientist* is applied to persons long before the word, with its implications of specialization, was invented. Even more anachronistic is the suggestion that Aristotle was a "physicist"! The dubious evidence of Luther's *Table Talk* is presented as evidence of his anti-Copernican attitudes.

More seriously, one may question a judgment that dismisses Copernicus's references to hermetic writings as "merely in the way of literary illustration"; there is plenty of other evidence for his hermetic leanings. And in the light of evidence that Davy was more a romantic than an orthodox Christian, it is curious to read that "the inconsistency is more of a problem for the present-day historian than it was for the early nineteenth-century scientist." Is it not the task of the historian to identify as precisely

as possible the nuances of belief in his or her subjects? In Davy's case, the argument for a creationist position in almost any sense of the term rests on the flimsiest foundation.

One other major historical judgment demands some comment: the decision to concentrate on physical science and to avoid altogether questions associated with evolutionary biology. Remarkably, the author offers no preface (in which such decisions might be explained), but the publisher's blurb does proclaim the book to be "a comprehensive survey of the relationship between the theology of creation and the history of science." It is hard to imagine any more important example of that relationship than in the context of the Darwinian controversies when (for example) questions of natural theology assumed a wholly new significance. In these circumstances, comprehensiveness can hardly be claimed but, within its self-imposed limits, the book can be warmly recommended as one of several new essays on this theme. Lacking the historical sophistication of John Brooke's *Science and Religion: Some Historical Perspectives* (1991), it nevertheless displays more clearly the theological issues at stake. And although it does not focus as closely on specific themes as Harold Nebelsick's recent books *Circles of God* (1985) and *Renaissance and Reformation* (1992), it ranges much more widely in its use of recent historical scholarship. It deserves a wide readership.

COLIN A. RUSSELL

Professor of History of Science and Technology
The Open University
Milton Keynes
United Kingdom

Portraits of Creation: Biblical and Scientific Perspectives on the World's Formation. By HOWARD J. VAN TILL, ROBERT E. SNOW, JOHN H. STEK, and DAVIS A. YOUNG. Grand Rapids, Mich.: William B. Eerdmans Publishing, 1990. 285 pages. \$14.95 (paper).

This book presents a comprehensive, balanced, and readable critique of views espoused by theologians and scientists as they try to come to terms with the universe and its origin. The four authors were, at the time of writing, fellows of the Calvin Center for Christian Scholarship in Grand Rapids, Michigan. Young, a geologist, and Snow, a professor of science and technology studies, contributed two chapters each. Stek, an Old Testament scholar, wrote one, and Van Till, a physicist, added two chapters along with an introduction and an epilogue. Despite such diversity of disciplines, the book hangs together well, and the aim of the authors to produce a team effort is amply fulfilled.

The usefulness of the book is, however, impaired by the absence of an adequate index. There is in fact an index of biblical references, of use especially in connection with Stek's chapter, "What Says the Scripture?" There is also an index of principal names, but this is very selective and in no way covers the many footnote references encountered on the way. There

[*Zygon*, vol. 28, no. 3 (September 1993).]

© 1993 by the Joint Publication Board of *Zygon*. ISSN 0591-2385

is, however, no way of looking back to discover on what page a particular point was made, which one would like to refer to again, without reading the whole chapter; and which chapter? This reviewer does feel this to be a deficiency since it limits the book's use as a reference work unless one has an excellent memory.

Having dealt with the negative points, let me be positive about the contents. Each chapter is eminently readable and prefaced by a good synopsis. The style is lucid and understandable, one would imagine, by most laypersons. This is not to denigrate the scientific content, but merely to emphasize the felicity of the writing. Science *can* be written about in a comprehensible way, and this book is a good example.

The introduction sets the tone of the whole, summed up in Van Till's words: "Resolution of the disagreement between natural science and Christian belief will become possible only when, in an atmosphere of mutual respect, Christian brothers and sisters sit down and diligently do their homework together drawing from the rich resources of both biblical and scientific scholarship" (p. x).

Chapter 1 by Young, "Where Are We?", examines the present state of the science-faith interface in a very balanced review. As so often, confusion arises in people's minds because of the meanings attached to words frequently employed in such discussion—for example, *creation* and *evolution*. I feel that an analysis on the lines of Poole's, which sharply distinguishes between these terms and their associated "isms," is valuable in cutting through the fog. (M. W. Poole. "Perspectives on Creationist Apologetics." *Faith and Thought* [London: The Victoria Institute, 1987] vol. 113, p. 131.)

Snow's chapter "How Did We Get Here?" deals, not with our human origin, but with the origin of the "conflict metaphor," as between science and religion. It includes a very useful, short summary of the development of the philosophy of science. We sometimes forget that the discussions we are involved in today have been going on since the early days of Christianity.

"The Discovery of Terrestrial History" by Young is almost the longest chapter. It deals with the fossil records and views concerning these that have been expressed throughout the ages. The exposition moves quickly over the centuries until it reaches the subject of diluvialism, or flood geology, which occupied the minds of eighteenth- and nineteenth-century scientists. They tried to reconcile what they observed with the Genesis account, and were far from arrogant and God-denying as sometimes portrayed. The excellent critique of diluvialism leads to the evidence for a very old earth, and the chapter concludes with twenty pages of data from the Colorado plateau as an illustration.

From the earth we move heavenwards as Van Till contributes his chapter "The Scientific Investigation of Cosmic History," a masterly essay on contemporary astronomy. Most of the discussion centers on the life history of the stars, from red giants through to white dwarfs. The evidence for the great age of the earth is very persuasive, but the actual methodology of calculation is never outlined. For example, there is no mention of radio astronomy and more recent techniques. What is stressed is the fact of the dynamic nature of the universe—a continuous process that we must take on board in order to understand. We are warned that the Big Bang metaphor cannot tell us anything about creation *ex nihilo*, which is a matter

of faith rather than fact. The very title *Big Bang* is unfortunate: it suggests destruction rather than construction, which gives ammunition to its opponents. The Christian apologist should be aware of this in discussion.

One is aware of a trans-Atlantic difference when reading these articles, for example, the concern among U.S. Christians over evolution. Van Till distinguishes between evolution as a description and evolutionism as a credal formula. The traps associated with the use of these words have been well outlined by Poole in the reference already mentioned.

Van Till also contributes the chapter "The Character of Contemporary Natural Science," an analysis of what is and what is not open to scientific investigation. Can science be value free? Science can investigate the formation and behavior of the universe but can say nothing about its origin and governance. The author helpfully spells out the criteria for the correct practice of the scientific enterprise, whatever may be the beliefs of the practitioner. He cites competence, integrity, and sound judgment. Sound warnings are given against allowing religious commitments to modify the scientific enterprise. We should beware of "psychoceramic" (crackpot!) ideas. The criteria given are tested in a case study when the author returns to astronomy and the peculiarities exhibited by star clusters.

Creationism has been mentioned, and the chapter by Snow is entitled "A Critique of the Creation Science Movement." The prosecution of science along creationist lines will not stand up to the criteria given by Van Till in the previous chapter. There is much special pleading and selection of data, and all of this Snow deals with in an excellent essay. "Critics return again and again to the cavalier manner with which creation scientists often treat evidence which seems to conflict with their claims" (p. 179). Van Till mentions the shrinking sun as an argument used by creationists. One could also draw attention to the claim made concerning the change in the velocity of light on very shaky evidence. An interesting comparison is made between creation science and sectarianism in the way each deals with Scripture, using under- or overemphasis of some parts. To the question of how the believing scientist can reconcile both his belief and practice, Van Till replies, "Is it credible to suggest that a scientist should be able to respond to the stimulus of religious commitment in the design of a research program and still manage to maintain appropriate stands of competence, integrity, and judgment when evaluating the result?" (p. 186). The creationist answers this one way. For other scientists there will be tensions that have to be lived with. "The pervasive lack of critical judgement which characterises the literature is due to its role as a folk science, intended to offer comfort and assurance to believers rather than to make a contribution to our deeper understanding of the created world" (p. 202).

J. H. Stek, author of the last essay, "What Says the Scripture?", warns us not to read his contribution too hastily. This is a hermeneutical tour de force, setting the Hebrew account in the context of other religions and cultures of the time. There is a wealth of references to Scripture for closer study, but here again an index would have been valuable for reading back. Much use is made of the "royal metaphor" also employed in other religions. "The Biblical metaphor for creation is that of kingdom not machine" (p. 255). We know God through creation and not innately. Stek claims that theologians have made a distinction between Creation and Providence to an extent that obscures the meaning of fiat—"let there be." This phrase

encompasses not only origin but also preservation and governance. The chapter concludes by outlining the view of human beings as God's stewards, mediators between God and the world. Particularly is this true for scientists who struggle to reconcile theology with science. Stek maintains that "theology and science remain for us unfinished tasks," and we learn that human understanding of the Bible is as subject to fault as human understanding of Creation. But above all else we must maintain the view that the Creator is not a deceiver. This chapter needs a review of its own to do it justice.

The final summing up by Van Till is entitled "Where Do We Go from Here?" What can the Christian do to improve the relationships between scientists and nonscientists in the Christian community? Several striking guidelines are set out that will challenge the reader. For example, we are warned not to hold on to a particular picture of God's work in Creation as definitive, nor any received tradition as infallible. More positively, we need to encourage study in difficult areas and not fear change. "This search will draw us toward a heightened appreciation of the awesome majesty and mystery of God and His ways" (p. 277).

The reviewer has already noted the differences in emphasis on different sides of the Atlantic, e.g. the creationist movement. It is strange that none of the authors mentions either the Gaia hypothesis nor the anthropic principle, both of which seem to be points of discussion in European circles.

A. BRIAN ROBINS
Joint Editor, *Science and Christian Belief*
185 Wickham Road
Croyden CRO 8TF
England