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Volume 12 | Number 3 Article 7

March 1984

Trees Clap Their Hands: Faith, Perception, and the New Physics (Book Review)

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Davis suggests two criteria as follows:

> First, people are rational in believing a mysterious doctrine only if there is good reason to believe that its contradictory character is only apparent. (p. 141)
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> God may be legitimately described as three-in-one because God is one when considered as a certain kind of thing and three when considered as another kind of thing. I believe this is indeed enough to provide good reason to believe that what we have here is not a contradiction but rather a mystery. (p. 142)
>
> What about the second criterion? It says that people can rationally believe a mystery if the mysterious doctrine makes the best available sense of other statements they have reason to believe or if they have reason to believe the doctrine was revealed by God. I believe this criterion is satisfied in the case of the Trinity. (p. 143)

I think it should be apparent that the criteria are the crux of the matter in reaching our conclusions concerning the attributes of God. There are those who feel that holding God to be everlasting instead of eternal denigrates God to the level of creatures in the created order of time. They believe that the references to God's changelessness are not concerned to show his steadfast nature but that they indicate that God is essentially an a-temporal being.

Is there then a *reasonable* way to solve the apparent contradiction between the idea of an eternal and timeless God and a God who is involved in creation and in the history of redemption? The answer is "No." Yet by Davis's own criteria one can maintain that God is eternal by insisting that the Bible reveals God to be eternal while at the same time showing that He is involved in time. We can accept the analytical disparity by raising the whole problem to the status of mystery just as Davis did with the problem of the Trinity. Many do not want to take the route which makes God everlasting instead of eternal. They feel that it may jeopardize God's transcendence and too closely identify God with universal processes. The advantage of Davis' criteria is that it allows one to maintain either position without endangering one's analytical respectibility.

And the Trees Clap Their Hands: Faith, Perception, and the New Physics, by Virginia Stems Owens. Grand Rapids, MI: Wm. B. Eerdmans, 1983, 148 pp. Reviewed by Russell Maatman, Professor of Chemistry.

There have been many interpretations of the twentieth century revolution in physics, with its strange ideas about the nature of matter, time, and the limitations of our knowledge. To put it mildly, Owens' interpretation is different. Her approach is both Christian and poetic. The book abounds in poetic and allegorical uses of Scripture.

Owens explains that she is a spy. When those around her eat, talk, or watch a television program, she secretly examines seemingly very small things—the color of a woman's eyes, a raindrop splashing on the pavement, a person walking across the room to refill a plate of food —as she is on the trail of the hidden meaning of life. The secret of ultimate meaning is hidden within anything in the world, she says, and everything is linked to everything else.

There are no chapter titles; instead, the content of each chapter is introduced by literary quotations. Thus, at the beginning of the fourth chapter the quotation (from Laurel Lee), "I know I'm not seeing things as they are, I'm seeing things as I am," Owens uses to introduce "dancing," a concept she returns to repeatedly in later chapters. Thus, for her, the idea of uncertainty in observation, introduced by Heisenberg, is not satisfactory: "We're not *observing*. Heisenberg, we're *dancing*. Locked in an embrace with the world, our retinal cells quivering at the approach of the pulsating photons like any giddy girl at the prom, we are ourselves phenomena dancing with phenomena. No more looking at things in perspective, artfully abstracting ourselves from the situation as though we feared rejection, feared finding no partner" (p. 49).

She takes this kind of dancing in an unexpected direction. Intrigued by a deduction made by John S. Bell in 1964, she accepts his conclusion that ". . . the spatially separated parts of reality cannot be independent" (p. 18). Therefore, information need not be transmitted with a speech no greater than the speed of light: "Faster than the speed of light, intelligence is passed around. . . . This is telepathy on what we have come to think of as an inorganic, dead, deaf-and-dumb level. The universe is dancing" (p. 57). She says that Heisenberg's physics is Platonic and that both Heisenberg and Descartes mistakenly attempted to separate thought from matter. She adds, "But cleaving thought from matter, excising form from content, the dancer from the dance, leaves us with a corpse dangling in our arms. And in the end a Platonic corpse smells no better than a Cartesian one. In either case, the world is killed because it is despised" (p. 87).

Owens uses two physical ideas in relating the new physics to the Christian faith. First, as already men-

tioned, she claims that objects can "know" of each other's actions more quickly than light can pass from one to the other. Second, we may not conclude that our work is finished if we have learned only about the average behavior of particles—such as electrons—even though in quantum mechanical procedures we assume that we cannot know more than average behavior. Owens claims that we may not give up until we know *individual* behavior. These are interesting physical ideas held by a few physicists. But it hardly seems appropriate to imply that either the minority or the majority opinion among physicists is *the* position one must take in integrating our physical understanding with our faith. It is one thing for Christians to make conclusions about the entire scientific enterprise; it is another for the Christian community to insist that a certain paradigm is the correct one. The trees do clap their hands (the title is taken from Isaiah 55:12) in praise of the Lord, even if they do not communicate with each other by means of signals transmitted more rapidly than the speed of light.

There are a few obvious scientific errors ("light years later," "cesium molecule" (both on p. 56), and the statement that oxygen is heavier than ozone (p. 130)). These errors are not important in themselves, but they do raise the question of whether the author has correctly dealt with the conclusions of the most sophisticated science of our day. Also, she has almost uncritically accepted the ideas and writings of Albert Einstein and David Bohm, two physicists known to take a minority position. I did not feel that the opposing point of view was examined as extensively.

Nevertheless, Owens' conclusions could be correct. Readers who would like to examine a different view of twentieth century physics, expressed in a different way, with a Christian starting point, different from the humanistic starting point usually encountered, should read this book.

Science and the Quest for Meaning, by Donald M. MacKay. Grand Rapids, MI: Wm. B. Eerdmans, 1982, 75 pp. Reviewed by Russell Maatman, Professor of Chemistry.

This excellent book is based on the University of Waterloo (Ontario) 1979 Pascal Lectures on Christianity given by Professor MacKay of Keele University in England.

MacKay is a professing Christian and head of Keele University's Research Department of Communication and Neuroscience. The title of his first lecture is "Does Science Destroy Meaning?" His answer: "What I want to argue here is that, from a thoroughgoing Christian perspective, science and technology are in principle to be positively welcomed as an immense enrichment of the meaningfulness of human life, even if they do not of themselves answer the ultimate questions of meaning" (p. 4). He then refutes criticisms of the scientific approach, effectively showing, for example, that science is not rationalistic and that it does not lead to an acceptance of impersonal forces. Typical of the careful way he analyzes is his demonstration that "chance" is not such an impersonal force; that is, ". . . chance is not a name for an entity 'out there' that does things" (p. 15). As in his other writings, MacKay insists—still in defense of proper science—that it is poor science to mix levels of interpretation. Thus, it is wrong to maintain that the computer is "nothing but" electrical circuitry, or "nothing but" a series of programs. Condensing all the levels to one, he says, is reductionism. Properly understood, says MacKay, scientific activity is an expression of religious obedience.

"The Meaning of Science" is the title of the second lecture. MacKay will not relegate science to the moral sidelines: ". . . (S)cience in our modern sense finds its greatest encouragement in the biblical doctrine of the natural world as God's creation" (p. 39). But, says MacKay, God also upholds His creation every instant, and science properly carried out describes this upholding: it discovers "scientific laws." God causes all the events which we observe; we use those observations in the process of formulating those laws; and His upholding also means that He causes miracles, unexpected events, to occur (p. 47).

What, then, does science mean? "First and foremost, it means an increase in our accountability; an increase in opportunities for compassionate action and the exercise of responsible foresight for the benefit of our fellow men . . . . Secondly, I think science means unlimited growth of our wonder and awe at the mysterious universe in which we find ourselves" (p. 56). It also means we have ". . . confidence in the trustworthiness of the Creator who holds in being the natural world" (p. 57). But scientists and those who use scientific discoveries can be tempted because through those discoveries people obtain power: "In the last analysis, science and technology are worse than useless unless our society is *morally* realistic in selecting the ends to which these shall be applied" (p. 59).

An unusually interesting feature of the book is the question-and-answer discussions at the end of each lecture. MacKay handles difficult questions well, and in places his answers rise to the level of an effective Christian apologetic. This well-written book should be widely read.