see that a clever turn of phrase, or a strategic ambiguity, has sometimes done as much for scientific progress as even the most rigorous inference from even the hardest data.

References and Notes

1. E. O. Wilson, *Consilience: The Unity of Knowledge* (Knopf, New York, 1998).
2. Cartwright advances this argument in her recent book, *The Dappled World: A Study of the Boundaries of Science* (Cambridge Univ. Press, Cambridge, 1999), which is a sequel to her *How the Laws of Physics Lie* (Oxford Univ. Press, Oxford, 1983).
3. T. Dobzhansky, *Genetics and the Origin of Species* (Columbia Univ. Press, New York, 1937).
4. E. Schrödinger, *What Is Life? The Physical Aspect of the Living Cell* (Cambridge Univ. Press, Cambridge, 1944).

BOOKS: PSYCHOLOGY

Some of the Truth

John Polkinghorne

It takes a pretty self-confident reductionist to suppose that a book of a few hundred pages can dispose of all the questions that have been asked for many centuries about a complex aspect of human experience. Only those who think that they possess the master key that turns every intellectual lock could attempt so implausible an enterprise. After Daniel Dennett's bombastically entitled *Consciousness Explained*, now comes Pascal Boyer's *Religion Explained*. Such grandiose attempts fail in their imperialistic intentions, but that does not mean that they are without more modest interest. The single level of the reductionist discussion is a significant dimension, if only one, of the many-layered subject at hand.

Boyer is a professor at Washington University in St. Louis whose research focuses on the relations between cognitive development and the acquisition of cultural concepts. His chosen explanatory principle is an anthropologically based social science set in the context of evolutionary psychology. Two self-imposed restrictions severely limit the adequacy of his discussion. One is the complete bracketing off of the possibility that there might be truth about a transcendent reality contained within the diverse accounts of encounters with the sacred. It would be odd indeed to talk about science without considering its relation to the physical world. In the case of religion, however, we are briskly told that there will be no discussion of the view that it contains any truthful insight, and that is that. The second limitation is that the many examples of religious beliefs and practices discussed in the book are almost exclusively drawn from what one might call tribal religion. The world's great faith traditions (such as Buddhism, Christianity, Hinduism, Islam, and Judaism) are only very occasionally referred to, and then in simplistic and tendentious terms. This approach is the equivalent of seeking to explain science by reference only to accounts of the early alchemists—a topic not without interest, but scarcely the whole story. As far as this book is concerned, the typical religious figure is the shaman. Those significant religious figures, the prophet and the mystic, are conspicuous by their absence.

Boyer has recourse to a number of explanatory techniques. One is evolutionary psychology, with its discourse that can never be free from a degree of just-so storytelling, though Boyer has the honesty to often preface such episodes by the qualifier "quite likely." Coupled with this, the author uses the dubiously atomistic theory of culture that understands its subject as arising from the competing propagation of "memes." (It is a standard trick of the evolutionary reductionist to make everything look as genetic as possible.) Another of his resources is what one might call "the New Phrenology," a modular account of the human mind in which thoughts are supposed to arise from the interaction between separate, evolved "inference systems."

The author often takes some simplistic statement about religion, such as the claim that religion's use is to buttress morals, and stands it on its head: "To some extent religious concepts are parasitic upon moral intuitions" (the latter to be understood, of course, sociobiologically). In actual fact, the connection between religion and morality is more complex than either of these extreme positions. The two sets of insight stand in a subtle relationship of support, not altogether unlike the mutual self-sustaining of theory and experiment in science.

Much of *Religion Explained* is concerned with rather general issues. Boyer offers interesting insights into topics such as child development and only brings religion explicitly in toward the end of these discussions. The book's tone has the flatness that goes with reductionism, so that the actual richness of personal encounter is simply discussed in terms of the mind's "person-file system." Boyer provides no strategic explanation of the many-layered phenomenon of religion, but he certainly gives us some tactical insights derived from his chosen discipline—just as the sociologists of science have some things of value to say without being able to give an adequate account of the whole. For example, he makes the perceptive comment concerning the phenomenon of religious fundamentalism that it is "neither religion in excess nor politics in disguise. It is an attempt to preserve a certain kind of hierarchy based on coalition, when this is threatened by the perception of cheap and therefore likely defection." Religion explained? No. Religion illuminated? Up to a point.

Religion Explained
The Evolutionary Origins of Religious Thought
by Pascal Boyer
Basic Books, New York, 2001. 383 pp. $27.50. ISBN 0-465-00695-7.

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BROWSINGS

Kokopelli. The Making of an Icon. *Ekkehart Malotki.* University of Nebraska Press, Lincoln, 2001. 177 pp. $35, £24. ISBN 0-8032-3213-6.

The image and name of the humpbacked fluteplayer Kokopelli appear on everything from jewelry and t-shirts to nature trails and string quartets. Malotki finds that the figure's popularity developed through cultural misunderstandings and linguistic corruptions that have blended and confused several elements: a prehistoric rock art motif from the Four Corners area; the contemporary icon based on this rock art; the Hopi kachina Kookopölö, modeled on the robber fly, who has a hump and is associated with fertility but never carries a flute; and *maahu*, the cicada, whose flute playing warms the earth and ripens crops. In addition to discussing these ethnographic elements, the author presents six Hopi oral tales that demonstrate the contrast between the traditional material and today's ubiquitous mythical fluteplayer of the Southwest.