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Evolutionary Epistemology and Its Implications for Humankind. By FRANZ M. WUKETITS. Albany: State Univ. of New York Press, 1990. 262 pages. \$64.50; \$21.95 (paper).

Evolutionary Ethics. Edited by MATTHEW H. NITECKI and DORIS V. NITECKI. Albany: State Univ. of New York Press, 1993. 368 pages. \$49.50; \$16.95 (paper).

If what we know (epistemology) and what we ought to do (ethics) can both be given an evolutionary explanation (based on biology), then human life will have been rather thoroughly naturalized. Here are two books that ask whether and to what extent that can be done; both inquiries are revealing, but not always in the ways their authors and editors intend. Wuketits advocates an evolutionary epistemology, but also finds that human knowledge vastly transcends any produced by natural selection or found elsewhere in biology. In the Niteckis' collection, evolutionary ethics, advocated by some, is met mostly with philosophical skepticism.

The Wuketits volume is an introduction to the field by a professor of philosophy of science at the University of Vienna who also teaches philosophy of biology at the University of Graz, Austria. An enthusiastic evolutionary epistemologist, he guides us through evolutionary natural history as a cognition process, the evolution of human knowledge, the evolution of culture, the evolution of science, and the challenge of all this to philosophy.

What Wuketits is best at doing is having his cake and eating it too. He makes repeated claims that evolutionary epistemology thoroughly naturalizes humans: "Humans, like other organisms, result from organic evolution" (p. 25; p. 47); "Even their mental capacities result from organic evolution" (p. 1); "If we take evolutionary epistemology seriously, then the special status of our species with respect to knowledge is gone" (p. 4). And yet he makes repeated claims about what he likes to call the "transgression" of biology. "The evolution of scientific knowledge may be described as an information process based on, but at the same time transgressing the

boundaries of, biological information processing" (p. 8, with more transgressing on pp. 17, 20, 92, 105, and elsewhere); "I use the term *transgress* in the sense of 'go beyond'" (p. 105; also p. 2).

Wuketits nevertheless advocates "an evolutionary interpretation of the growth of scientific knowledge" (p. 52), because "the growth of our knowledge is the result of a process closely resembling what Darwin called 'natural selection': that is, *the natural selection of hypotheses*: our knowledge consists, at every moment, of those hypotheses which have shown their (comparative) fitness by surviving so far in their struggle for existence; a competitive struggle which eliminates those hypotheses which are unfit" (pp. 45-46, following Karl Popper).

It is clear here that Wuketits does not really mean *natural* selection in the biological sense (those organisms survive that leave the most genetic offspring), but *rational* selection of the best or truest hypothesis. A scientific theory, tracing causes, "is a *rational* accomplishment transgressing old evolutionary programs" (p. 93). "I do *not* contend that human rational knowledge is *nothing else* but biological information processing" (p. 106). Wuketits carefully distinguishes between what he calls ratiomorphic processes, which work without consciousness, as do instinct and genetic programs, and rational processes, which require conscious deliberation and evaluation. "Human beings are able to transgress their own ratiomorphic apparatus" (p. 127). Humans have the capacity for the "creation of knowledge, not only for the sake of survival but for its own sake" (p. 107).

But now we want to ask in what sense this rational selection that transcends natural selection still constitutes an evolutionary epistemology of some nonbiological or transbiological kind. The word *evolutionary* here means only "historically developing." Wuketits really prefers to call his view a "theory of systems conditions" (p. 23). "Culture can be understood as the most sophisticated learning process requiring particular modes of explanation and as a particular type of evolutionary epistemology. This type of evolutionary epistemology, too, requires a view of (cultural) evolution that goes beyond strict Darwinism and is to be characterized as a systems view" (p. 127).

So are we humans extraordinary or not? The answer is yes on the odd pages of the book, no on the even ones. Take statements like these: "Information processing in humans, too, can be explained as an evolutionary phenomenon" (p. 4) or "Any powers we have, be they at the organic or mental level, are to be explained, then, as results of organic evolution" (p. 2). And set them side by side with statements like these: "Indeed one thing makes humans unique in the animal kingdom: our capacity for *culture*" (p. 29); "The biological approach is needed but not sufficient to explain the peculiar paths of cultural evolution" (p. 30); "The principles of cultural evolution are not the same principles we know from organic evolution. . . . Cultural evolution requires explanations beyond the biological theory of explanation" (p. 31); or "No advocate of evolutionary epistemology would deny the peculiarity of (human) rational knowledge" (p. 54). We say in one sentence, "Cultural evolution indeed is a break with organic evolution; at least, it is a new *quality* in the long chain of evolutionary processes since the origin of our universe some 20 billion years ago." We say in the next sentence, "Cultural evolution can be regarded as a particular case of the universal natural history" (p. 135).

You can say if you like that this is still evolutionary epistemology, but all that is really meant is that human knowledge, though unique, shares with evolutionary natural history a developmental character. The evolutionary perspective has won, but this is a pyrrhic victory if anyone thinks much, or anything, has been reduced to biology. Human knowledge in culture, though it "is a result of" (p. 6) evolution, "is not ontologically reducible to" (p. 7) mere biology.

So what is the cash value of evolutionary epistemology? Human ideas develop historically and are not static and immutable (p. 49). Also, "the Kantian a priori is to be interpreted as a phylogenetical a posteriori" (p. 81). An individual human may have a priori knowledge that is innate in his or her genes, but it is only there as a result of an evolutionary selection for such knowledge. We might think that evolutionary epistemology precludes the Kantian transcendental epistemology; but no, that too is possible (p. 184). It means "emergentism": "that mind is an evolutionary novelty and that it is not to be reduced to brain in an ontological sense . . . but that it has emerged" (p. 196).

One thing Wuketits is quite sure of is that evolutionary epistemology means that there is nothing supernatural, or, as he terms it, supranatural. The logic here seems to run as follows: If evolved, then not divine. "Species are not immutable and . . . their transformation is due to *natural* forces (and not to any spiritual principle or God's action in the world)" (p. 12). "*Homo sapiens* is the result of long-term evolutionary processes; our emergence is not due to supranatural causes but to natural mechanisms" (p. 33). "Mental capacities emerged. . . . Therefore, we have no reason to believe that mind had to be imposed by a deity" (p. 197).

Here *Zygon* readers may wonder. When humans emerge, able to transcend animal capacities, and reflect rationally, choosing the best hypothesis, evolution is "producing a system whose functional properties differ fundamentally from those of all preceding systems" (p. 108, following Konrad Lorenz). "The human brain has produced cultural systems that have developed characteristics that transgress their producer, so to speak: that is, characteristics that cannot be sufficiently explained by their producer's evolution" (p. 127). "The pyramids of Egypt and the myths around them have no adequate biological explanation" (p. 131). "Humans did not create culture to be better adapted to their environment and to be better and more efficient vehicles for their genes; culture, as an extrasomatic product of human systems, does not serve only for survival in a strict biological sense. . . . Darwinian fitness cannot explain any outstanding cultural creativity" (p. 145). "Cultural evolution is to be characterized by a novel mode of information processing (language, writing) that has no predecessors in organic evolution" (p. 151). All such cultural activity may be natural, but it advances beyond anything previously known in biological or physical nature, and cannot be explained by it. So how can we be so sure this is just natural?

If nature underdetermines all these outcomes, then the natural premises really do not contain the cultural conclusions. That is what transgressing, going beyond, means. But Wuketits wants no resort to mysticism or religion. "The emergence of life on earth can be explained without resort to any mystical factor" (p. 108). Nor does he permit any metaphysics. "Metaphysics in its widest sense is identical with *irrational* belief" (p. 200).

But Wuketits resorts to a lot of mumbo jumbo about repeated transgressions, getting something higher by going beyond something lower, astonishing emergence, and results that are not reducible to their causes, then baptizing it all “evolutionary epistemology,” as though a scientific-sounding name could cover up the hocus-pocus.

From physical premises one derives biological conclusions, and, taking these in turn as premises, one derives cultural conclusions. One derives rational action from causal reactions. Maybe we have a naturalized epistemology. Still the result, the output (humans), quite serendipitously exceeds (“transgresses”) the causes, the input of sheer matter and energy. Maybe all this is not supernatural, but nature the consequence (result) regularly supersedes the precedent (cause), superposing inexplicable novelties, especially in the human realm. Such a story could veil more of the divine than Wuketits allows, not in spite of these startling developments, but because of them.

When Wuketits reaches ethics, he is adamant that there is nothing morally normative in biology (pp. 200–204): “As a scientific theory, evolutionary epistemology contains only descriptive premises, . . . it does not contain prescriptive premises” (p. 201). Since evolutionary epistemology is the only kind there is (the only respectable, scientific kind), one wonders where we are going to get any ethics for the cultures which, Wuketits has also adamantly maintained, operate with new qualities unprecedented in biological nature. This is an especially acute problem since metaphysics and religion are not allowed and there is no help in science. In Wuketits’s book there is simply no answer.

In desperation, we might then turn to the Niteckis and their *Evolutionary Ethics*. The Niteckis are both at the Field Museum of Natural History in Chicago, and this collection comes out of a conference held there. But hopes here will be soon dashed, for we are warned at the start that the book is mostly controversy; the authors are diverse and disagree, and there are no conclusions. Perhaps these authors illustrate, confusedly and splendidly, that Wuketits is right: evolutionary ethics is one thing we cannot get from an evolutionary epistemology.

The Niteckis include several classics (a long extract from Thomas H. Huxley, for example), as well as contemporary discussion (with advocates of evolutionary ethics Michael Ruse and Richard D. Alexander facing a host of skeptics—Elliott Sober, George C. Williams, Alan Gewirth, and others) and a section on the pros and cons of sociobiology (with a long, excellent article by Daniel J. Povinelli and Laurie R. Godfrey, “The Chimpanzee’s Mind: How Noble in Reason? How Absent of Ethics?”).

We can take only one example here. In the section advocating evolutionary ethics, consider Alexander’s discussion of morality and deception. Humans have evolved so that they will act (unless they make mistakes) to maximize their offspring and genetic relatives; all ethical behavior comes under this constraint. Ethics is self-interest. But people do not admit this—indeed, people do not know this—and they say they sometimes help others altruistically. So there must be deception, lots of it. The deception is twofold. The moral agent (so-called) deceives others into thinking that they are gaining by the agent’s sacrifice, when really the aider is gaining more than the aided; by this deception the putatively moral self wins and the other loses. At a second level, these putatively moral people even deceive

themselves about doing this, because that makes them still more effective deceivers. "People do not see themselves as designed to maximize their inclusive fitness. They do not think of their activities as serving only reproduction. They tend to be hostile to any concept or discipline that seems to rely upon this kind of reduction" (p. 183). Alexander laments that even academics, including philosophers and other highly educated people, such as Wuketits, resist his theory.

How are we to explain this? Simple: "If morality is actually an evolved phenomenon—a way people have worked out to serve their own interests in ways that tread on the toes of others in acceptable fashion—then anyone who analyzes morality, who attempts to bring its cost-benefit decisions into his own and others' consciousnesses, is likely to be judged immoral both for doing it in his own mind and for trying to cause it, or risking its happening, in others' minds" (p. 187). So the deception rises even higher, to a third level. People who resist Alexander's theory are doing so because it is in their self-interest to resist his theory, and this is deceptively disguised as their interest in defending authentic morality.

If that is so, then it is pointless to continue on and consider the arguments of the skeptics in the next section. None of these skeptics thinks, we might add, that Alexander is immoral, but they do think he is wrong. But there is no need, really, to consider their protesting arguments, if Alexander is right. We already know what they are doing, deceiving us by sincerely pretending to seek the truth. We might also want to protest that Alexander needs to meet their arguments and not attempt an end run around them. But if he did that he would be seeking the truth himself, not just trying to maximize his own offspring, and he might himself prove to be a counterexample to his own theory.

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