
COMMENTARIES

Why Should Evolutionary Psychology Be a Science?

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The most interesting question about Ketelaar and Ellis's target article (this issue) is not whether evolutionary psychology is a science but why they want to show that it is. The obvious answer—because the truths of science and the knowledge gained by science are somehow “better” than those of social science—is not enough. After all, the social sciences are so called because it is held that by appropriating the methods of science, the knowledge gained thereby will be somehow on par with the knowledge of the “hard” sciences (“The sociologist should assume the state of mind of physicists, chemists and physiologists” [Durkheim, 1895/1982, p. 37]); but that does not seem to be the case. And it is not the case that by simply calling evolutionary psychology a science, and by showing that it operates the way a science operates, makes it so. So although the obvious answer is true, there is more going on than mere reclassification. We outline an argument that the epistemology of evolutionary psychology is on a sounder footing than any other variety of psychology not because of the adoption of a scientific framework of study but because of the adoption of a fundamental scientific theory—Charles Darwin's theory of evolution by natural selection—as its basis.

First, there is a response to the failure of the social sciences to come up with any meaningful generalizations that stand up to the attacks of scientific rigor. Rosenberg (1988) argued that the foundation of all social sciences is the claim that:

Given any person, x , if x wants d and x believes that a is a means to attain d , under the circumstances, then x does a . (p. 25)

Actions are explicable in terms of beliefs and desires. The assumptions are that we can only infer anything about the workings of the mind from the objectively observable actions of the individual. This

is essentially folk psychology, which we all use (successfully) to survive in the complex world in which we live, but which suffers from a lack of generality in any predictions it might make; for we all use it subjectively, and it has a peculiarly human focus: It doesn't help us to explain nonhuman behavior except in particular instances. Because of such limitations there can never be any universal laws or predictions made by any of the social sciences. So the questions asked in the social sciences, particularly in psychology, are unanswerable except in some basic folk psychological way.

Second, the questions we are asking are themselves changing. The interesting questions are not what causes depression or why I want to have sex with my mother. They are questions such as why there is a universal incest taboo or why children are most likely to be killed by stepparents or how depression can be advantageous or why extrapair copulation is so common in humans. The focus of the questions is not societal, it is species wide and so we expect the answers to be species wide (but not necessarily species specific).

Next, consider the subject of human evolutionary psychology (we observe the distinction made by Daly & Wilson, 1999, between evolutionary psychology and human evolutionary psychology because the latter only makes sense in terms of the former): the human mind-brain. The brain is a unique organ in that it is intentional; that is, it has the property of being about something; it represents internally and subjectively the external world. This makes it different from other organs, such as hearts or lungs, not only in degree of complexity but also in kind. It doesn't make sense to say that a heart is about anything, but it does make sense to explain the heart functionally and teleologically: It pumps blood, and this leads to causal explanations involving pressure, valves, muscular contractions, and so on. But this approach does not help us much with the mind; it is one thing to give a te-

leological explanation such as to say that the mind controls the body, but there is not yet an answer to the question of just how the idea of wanting something is translated into the actions that lead to the attainment of the goal, or of what the underlying physical properties of a memory are. We are looking for functional and causal explanations to explain the human mind and consciousness. And because science has a track record of providing such explanations, we turn to science—not just the methodology of science but its subject matter, too—to help us explain the human mind.

But we are Darwinians (Ruse, 1986) and we have to place the human brain in the context of all brains: fly brains, fish brains, bird brains. Here is a feature that many organisms have in common, so it seems natural that we should look for some evolutionary explanation. This leads to questions about fly intentionality, fish intentionality, bird intentionality, and human intentionality: Are they on a continuum? Is there no such thing as intentionality? Perhaps intentionality is what distinguishes humans from the rest of the animal kingdom? (Although it is hard to deny intentionality to a ferret, e.g., when it scampers up one's pant leg.) How do we explain chimp behavior? The tool use of Galapagos finches? The web spinning of spiders? We tend to shy away from beliefs and desires except as metaphors for blindly programmed genes. The thrust of evolutionary theory has been to move us from the notion that we have a special place in the universe to the notion that natural selection has to explain all life in the universe, including us humans. We also look for the underlying physical causes of beliefs and desires, as evidenced by the success of the pharmacology industry. Depressed? Knock back some Prozac. Can't get it up? Have some Viagra (but not too much).

When the questions change it is an indication that the epistemology, too, is changing. Incest avoidance is not a universal belief or a social convention, it is a way

in which we are genetically programmed to act to prevent inbreeding, which increases the incidence of (harmful) heterozygous recessive genes. It may be that we see incest avoidance manifest as a belief that incest is wrong or the lack of desire to have sex with one's parent, but it is then a desire we are incapable of forming (and so it is impossible to explain in terms of beliefs or desires, which necessarily admit some underlying ideas of free will); or it may be that we see it as a social proscription, which, quite coincidentally, seems universal. But it is the evolutionary explanation that provides universality and the basis for the prediction that in all sexually reproducing species incest will be extremely unlikely.

The avowed goal of (human) evolutionary psychology is to study the mind as an adapted organ, selected because of its ability to solve evolutionary problems. It is because science comes up with the goods in terms of explanation and prediction that evolutionary psychology becomes a science.

Note

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Metatheories, Evolution, and Psychology: Once More With Feeling

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In a previous commentary in *Psychological Inquiry* (Caporael & Brewer, 1995), we took issue with Buss's (1995) claim to represent *the* evolutionary psychology

and tried to make the point that critiquing his version of evolutionary theory in psychology is not tantamount to rejecting evolutionary explanation for human social