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### **Speculation Disguised as Results**

Richardson, R.C. 2007: *Evolutionary Psychology as Maladapted Psychology*. MIT Press, Cambridge, Mass and London. 248 pp., \$30.00; £19.95. ISBN 978-0-262-18260-7.

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The title of Philip Kitcher's (1985) critique of sociobiology, *Vaulting Ambition*, was drawn from *Macbeth*: "vaulting ambition, which o'er-leaps itself." This neatly encapsulated Kitcher's message: The reach of (pop) sociobiology's claims exceeded the grasp of its evidential support. Robert Richardson, a philosopher at University of Cincinnati, says the same of evolutionary psychology: "Evolutionary psychology as currently practiced is often speculation disguised as results" (p. 12). As Richardson characterizes it, evolutionary psychology assumes the human mind is a set of species-specific, universal psychological adaptations, and it aims to explain how selection designed those psychological adaptations during our lineage's Pleistocene past (p. 13). But, Richardson argues, adaptationist explanations in evolutionary psychology consistently fall woefully short of meeting the evidential standards to which adaptationist explanations within evolutionary biology are held. Accordingly, we should "reject the pretensions of *evolutionary* psychology largely as unconstrained speculation, as claims ungrounded in evolutionary history" (p. 38).

Richardson makes his case in the book's central chapters by considering three approaches to the empirical evaluation of adaptationist hypotheses. Chapter 2 discusses "reverse engineering," inferring the adaptive function of a trait from its structure and then reconstructing evolutionary history from adaptive function. Chapter 3 considers what Richardson calls the "dynamic approach," which involves gathering

data regarding trait heritability, ancestral population structure, ancestral ecological conditions, and strength of selection in those conditions. Chapter 4 focuses on the (phylogenetic) comparative method.

Each of these chapters follows the same formula. First Richardson lays out the details of the empirical approach under consideration, with attention to the evidential standards against which a hypothesis regarding adaptation must be judged. Then he offers a case study, drawn from evolutionary biology, in meeting those standards. The function of this step of Richardson's argument is to demonstrate that he is not fabricating impossibly high standards for adaptationist explanations; rather, he is drawing on "the standards from respectable work in evolutionary biology" (p. 38). Finally, Richardson examines sample adaptationist claims from evolutionary psychology and shows how they fall far short of meeting the empirical standards under consideration.

Richardson also suggests that it is unlikely that evolutionary psychologists ever *could* meet respectable evidential standards *if* the objective is to provide adaptationist explanations of uniquely human psychological traits. For such explanations would need to be supported by phylogenetic analysis, and, because humans occupy such a sparsely populated clade, "what is known of hominid phylogeny ... is just not enough to support the program of evolutionary psychology" (p. 158). This argument has also been compellingly made by the philosopher Jonathan Kaplan (2002), most recently in his collaboration with the evolutionary biologist Massimo Pigliucci (Pigliucci & Kaplan 2006).

Richardson's arguments are informed, informative, and incisive, and they provide an important cautionary brief against the adaptationist program in evolutionary psychology. That said, there are a couple of small problems.

First, Richardson advertises his arguments as critical of "evolutionary psychology," but is not careful to circumscribe the intended scope of that term. In a broad sense — what Dunbar and Barrett (2007) call "evolutionary psychology in the round" — evolutionary psychology is simply the evolutionary study of human behavior and mentality. In a narrower sense, the term has been used to describe a particular research program within this field — namely, the research program of "the Santa Barbara school" (Laland & Brown 2002), or "Evolutionary Psychology" (Buller 2005), whose "members"

include David Buss, Leda Cosmides, Steven Pinker, and John Tooby. All of Richardson's arguments in fact target explanations offered by Santa Barbarians — Buss on jealousy, Cosmides and Tooby on cognition, and Pinker on language. But demolishing those targets doesn't thereby lay waste to "evolutionary psychology in the round." In fact, I think that some work in the field does an excellent job of meeting the empirical standards that Richardson endorses (see, e.g., Hawkes 2003). So greater care about the scope of the critique would have been welcome.

Second, Richardson gets a couple minor points of exposition wrong. For example, he claims that Tooby and Cosmides "see human reason as, specifically, an adaptation for social exchange" (p. 142; cf. pp. 19 and 134). This isn't quite right. According to Tooby and Cosmides (1992) "human reason" isn't a unitary phenomenon; rather, what we call "human reason" consists of "hundreds or thousands" of specialized cognitive processes (Tooby & Cosmides 2000). Some, but not all, of these cognitive processes are adaptations for social exchange (notably their postulated "cheater-detection module").

But these minor problems do not affect the soundness of the arguments that Richardson does provide against the sorts of adaptationist explanations offered by Santa Barbara-style evolutionary psychologists. Those arguments are on target and, I believe, decisive.

But will evolutionary psychologists listen to the message, recognize some of the inherent limitations of their investigations, rein in their unsubstantiated speculations, and try to meet a higher empirical standard in their explanations? I doubt it. There is a lamentable tendency among too many evolutionary psychologists to view the world as divided into "allies" and "enemies" and then, naturally, to see any criticism as coming from "enemies" (see, e.g., Daly & Wilson 2008, p. 396). This tendency becomes toxic to rational debate when it is claimed that critics are "not just sceptical, they are angry, and we are still not entirely sure what they are angry about" (Daly & Wilson 2008, p. 396). The absence of a reason for "anger" is actually evidence that criticism isn't motivated by anger. Indeed, I challenge the reader to find one hint of anger in Richardson's book (or, for that matter, in Buller 2005). What the reader *will* find is the measured execution of the Socratic commitment to critical inquiry. It appears impossible for some to entertain and reflect upon the option that fellow evolutionists actually have honest

intellectual disagreements with much of the evolutionary psychology program and that those disagreements stem from considerations having to do with evolutionary theory itself and its use in explaining human behavior.

It is unfortunately common for evolutionists to feel that they are locked in a battle with (various forms of) creationists for the educational future of Western Civilization (see, e.g., Pigliucci & Kaplan 2006, pp. 269-270). I'm not unsympathetic to that feeling. But evolutionists can show themselves to be essentially different from their religious opposition by demonstrating an unwavering commitment to the ideals of critical inquiry, even if that means welcoming criticism of some of our most deeply held beliefs about evolution. If criticism is summarily dismissed with arguments *ad hominem*, rather than considered seriously, the evolutionary community begins to resemble the religious communities it opposes.

So, if you value critical inquiry more than partisan rhetoric; if you believe that scientific knowledge grows through both “conjectures *and refutations*” (in the famous words of Popper 1992); and if you find intellectual fulfillment in contemplating both sides of a debate; then you will find Richardson's book interesting and valuable. On the other hand, if you're already convinced that any criticism of evolutionary psychology must be part of an angry campaign of persecution; if you believe that scientific knowledge grows by allowing weakly supported conjecture to go unchallenged; and if you believe that perhaps the Athenians were right to execute Socrates for his “irreverent” public questioning of established opinion; then you don't have to read this book to know you don't like it.

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