While I was still an undergraduate, I was privileged to participate in an interdisciplinary graduate seminar convened by Ray Hyman, Richard Littman, and Doug Hintzman of the Psychology Department at the University of Oregon and Cheyney Ryan of the Philosophy Department there. I recall one day that Hintzman brought in a copy of Dan Dennett’s *Brainstorms*. He pointed to a diagram of mental representation constructed by Dennett and remarked that it must have been drawn by a philosopher, since a psychologist would construct a diagram with fewer lines and arrows. He was referring specifically to those lines and arrows that were allocated to beliefs and desires. But then, what alternative is there?

The principal concern of this book is to address the question of how best to characterize proximate mechanisms within the context of evolutionary explanations of human behavior and social organization. The most important task in my view is to evaluate the adequacy of belief-desire, or propositional-attitude, psychology as a role model for proximate level explanation, as this model has come to dominate explanation in the relatively new field of evolutionary psychology. I believe the widespread acceptance of belief-desire psychology by evolutionary psychologists is a big mistake and perhaps an evolutionary dead-end for the discipline. I will argue instead that evolutionists need to embrace the mechanistic perspective. This perspective views the mind-brain as a physical system that operates by means of non-sentence like processes. Accordingly, I will attempt to move proximate explanation away from cognition and towards motivation. That move, however, does not entail that cognition will be ignored. The nature of cognition and its role in the explanation of behavior must be addressed.

When one opens the first chapter in E.O. Wilson’s tome, *Sociobiology: The New Synthesis*, he or she must be struck by the architectural magnificence of such a cross-disciplinary structure that encompasses many well established independent or semi-independent disciplines. In this plan, sociobiology is shown to be

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1 I refer the reader to Hintzman’s excellent review of connectionist models, “Human Learning and Memory: Connections and Dissociations.” *Annual Review of Psychology, 41*: 109–139, 1990
intimately connected to various sister disciplines that include cellular genetics, population genetics, and various forms of behavioral biopsychology, including physiological psychology and ethology. Wilson provided a Miroesque diagram with three temporal guideposts indicating how he saw the evolution in the relationships between these disciplines to have proceeded from 1950 to 1975 (the time of conception), and then again from 1975 to the year 2000. Over the course of time, the share allocated to population genetics became larger, while cellular genetics appeared to remain approximately constant.

The one salient feature in the diagram is that connections between the growing field of population genetics and those allocated to behavioral ecology became more pronounced. The bridge between ecology and population genetics, on the one hand, and physiological psychology and ethology, on the other, continues to exist, but the territory occupied by the latter two actually shrank. Some critics have argued since then that population genetics has come to imperialize the behavioral sciences, in fact cannibalizing them in the process. Enter evolutionary psychology. (Although there is no allocation in Wilson’s diagram for evolutionary psychology, one can easily see that it would fit in with physiological psychology and ethology—as would cognitive neurobiology.) Its principal architects regard the goal of evolutionary psychology to be a research program capable of providing an account of the evolution of adaptive psychological mechanisms.

Evolutionary psychology has proven to possess imperial ambitions of its own, attempting to displace sociobiology as the paradigm of choice. This power grab is motivated by the cannibalization of psychology by population genetics at the hands of sociobiologists. Evolutionary psychologists are attempting to reclaim lost (or stolen) territory. Several commentators, such as Irons (1989) and Blurton Jones (1989), have tried to paint the internecine dispute as a false dichotomy, but evolutionary psychologists tend to defend their turf, arguing that adaptive mechanism is key and that sociobiologists have irredeemably abandoned this element of explanation.

My objective is to build a charter for a mechanist approach to the evolutionary analysis of the psychological mechanisms that underlie behavior. The information processing model that currently holds sway amongst evolutionary psychologists is fundamentally inimical to a materialistic view of life, mind and behavior. I think the appeal of the information processing model is because it appears to provide a fast route to scientific progress. This is understandable when a discipline is comparatively young and surrounded by hostile forces. Of course, one wishes to be a member of what Imre Lakatos described as a progressive research program rather than a member of a degenerating one. And while I even advocate Feyerabend’s twin principles of proliferation and tenacity, especially for young scientific disciplines, at some point I think progress can best be made by shoring up one’s metaphysical commitments—if only because these come to hinder the development of conceptual coherence in the research tradition. In short, although of possible heuristic value in the early going, I think the cognitive turn in evolutionary psychology is a mistaken commitment that needs to be addressed. I think we need to focus on motivational endowments at the level of neural mechanisms,
but the evolutionary history of such mechanisms is an essential part of the story and cannot be neglected. I think it is time we attempt to conceptualize proximate and ultimate forms of causation in terms consistent with philosophical materialism, not in terms consistent with mind-body dualism.

In the first chapter, the commitment of evolutionary psychology to information processing metaphysics, more specifically mind-body dualism, is examined and critiqued. The second chapter is a logical extension of the first. The focus of the second essay is on the key role that motivational endowments play in the explanation of behavior. Reinforcement theory plays a major role in the arguments presented in the both these essays. Reinforcement theory provides an explanation of non-cognitive aspects of motivational endowments. A mechanist account that includes reward event theory challenges the basic tenets of folk psychology. The third chapter attempts to find a coherent path through the modularity issue, examining the domain-specificity arguments advanced by evolutionary psychologists, as well as those provided by theorists offering a cognitive development approach.
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