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BEN BRADLEY, *Darwin's Psychology*. Oxford: Oxford University Press, 2020, 432 pp., \$43.95.

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How can we unify psychology and evolutionary theory? Most scientists who style themselves as “evolutionary psychologists” do so by approaching the human mind as a suite of structures that evolved by natural selection because they helped early humans better adapt to the challenges posed by their hunter-gatherer lifestyles. As natural selection is the guiding ethos of these scientists, Charles Darwin is their prophet. He was not himself able to construct a true science of evolutionary psychology, for only in the last half century have we developed the tools and concepts that are allowing us to fully realize his inchoate vision. But he was the spark that kindled the flame.

Ben Bradley thinks these scientists get things exactly upside down. On his account, Darwin did build a true science of mind and behavior. And contemporary evolutionary psychology’s fetishization of natural selection gives priority to exactly that aspect of Darwin’s thought that is *least* important to his account of psychology. For Bradley, a true evolutionary psychology would return to Darwin as its source and foundation. His argument is refreshing and original and is well worth reading, not only for his inventive interventions in the philosophy of

psychology, but also for his creative and persuasive interpretations of Darwin's approach to the evolution of mind and behavior.

The heart of Bradley's project—and of his interpretation of Darwin—is a refocus away from natural selection and toward the evolutionary agency of individual organisms. Although Darwin is commonly understood to have conceived natural selection as a causal power—indeed as *the* causal power that drives evolutionary change—this is a misinterpretation. For Darwin, natural selection is an *effect*, a consequence of the fundamental causal powers of inheritance, variation, and the struggle for existence. Darwin placed the greatest weight on the last of these powers, seeing the living world as a “theatre of agency” (p. 2) with natural selection and evolution arising as *consequences* of purposive organismal interactions. Bradley traces Darwin's fascination with the agency of organisms back to when, as a young student in Edinburgh, he observed the eggs of *Flustra*, a marine invertebrate, using their hair-like cilia to propel themselves through the water. Darwin would later extend his studies of behavior to plants, ultimately concluding that they too have agency. Many plants are exquisitely sensitive to the most delicate stimuli and can communicate impulses from one part of the plant to another. He even likened a plant's primary root—its “radicle”—to the brain of an animal, holding it responsible for registering impressions from the plant's environment and directing its movements accordingly. When Bradley speaks of “Darwin's Psychology,” then, he does not refer to a purely human phenomenon. Psychology, as Bradley understands it, is at base the study of the interactions of all living organisms pursuing their purposes in the “theatre of agency,” and lies at the center of Darwin's evolutionary thought.

For Bradley, Darwin's understanding of agency is necessarily embodied and situational. Any individual consciousness necessarily exists in the body of some organism going about its

particular purposes in the world. Consider emotions. From the title of Darwin's book on the subject—*The Expression of the Emotions in Man and Animals*—we might be tempted to think of emotions as existing prior to, and being the cause of, the facial and bodily movements that express those emotions. But Darwin's understanding of agency entails that emotions always and necessarily arise only in an already-embodied form. The ground of the emotion, on Bradley's account, is not some antecedent internal state of consciousness but the needs, goals, and desires of some particular individual organism seeking to make its way in some particular ecological context.

Darwin's psychology, as Bradley conceives it, is also a profoundly social phenomenon. As we go about our daily lives, humans and other animals move and act in patterned ways. These behavior patterns only acquire their meaning as emotional expressions in the context of interpersonal interactions. Humans (and other social animals) have an innate capacity to read each other's behaviors. "Sense is typically *read into* an expression by others, who interpret it according to the social situation of which it forms part" (p.22, emphasis in original). The emotional meaning of expressions is, on this view, more properly seen as a function of this interaction than as arising from an antecedent and independent mental state.

This process of reading then rebounds on itself. I read your expressions, and attribute emotions to you based on those expressions and their contexts. At the same time, you read me reading you, examining my expressions in an effort to understand what meaning I am making of your expressions. Bradley uses this conception of "doubled reagency" in the first instance to explain Darwin's account of blushing: we blush not because of our behavior, but because of how we see or imagine our behavior being interpreted by others. Blushing may seem trivial in the context of emotional expression generally, but Bradley builds on it to take on larger game. When

a male bird engages in sexual display, for example, he is always simultaneously reading the room. He is seeking to charm potential mates, thus relying on their ability and desire to read his behaviors as enticements. But he is also trying to discourage male rivals, relying in turn on those rivals reading his displays not as enticements, but as threats. His displays do not *reveal* already existing meanings—they *acquire* their meanings in the context of this complex, recursive network of social interactions. As Bradley sees it, this doubled reagency is central to Darwin's evolutionary psychology, accounting as well for the evolution of group cohesion in social animal communities, of conscience, and indeed of culture as a whole.

On Bradley's account, putting agency at the center of psychology has far-reaching methodological consequences as well. Even those who acclaim Darwin's theory of evolution by natural selection as one of science's crowning achievements often exhibit an inclination to view his writings on the human mind and its cultural products with bemusement, even embarrassment. This is no doubt partly due to his often retrograde pronouncements on racial and sexual matters. But there is also a persistent concern with the methods he brought to the study of mind. Darwin observed his dog barking nervously in response to an umbrella blowing about in the wind. This, he proclaimed, was analogous to how "savages" come to believe in unseen spirits as the causes of physical phenomena like thunder and lightning. A zookeeper he had befriended told him about a monkey that would hide a stone it used to break open nuts from the other monkeys and not allow them even to touch it. Darwin declared that "Here, then, we have the idea of property." These instances, and many others like them, strike many readers as anecdotal and speculative—as just not very *scientific*.

A key part of Bradley's project is to rehabilitate these methods. We have, he believes, too unthinkingly internalized the conception that psychology can only become a science if we clearly

and explicitly operationalize the concepts we use to study it. On this conception, if we want to study love, we might propose that a lover seeks the loved one's company above all others, gives the loved one gifts, and dates the loved one. By operationalizing "love" in this way, we might indeed make it more tractable as a research object. But at what cost? In the "theatre of agency," we can only understand organisms by observing them in the context of their interactions and physical situations, and that requires us to put our boots on and go out into the wild and observe them living their lives in all their messiness and particularity. In a personal notebook penned shortly after he returned from his voyage aboard the *Beagle*, Darwin reminded himself of precisely this: "mere single specimens in skins worse than useless." Because he himself had "aided in such sins," he admonished himself to "Respect good describers." Living beings can only be truly understood in "their relation to the external world, & every possible contingent circumstance." ("Notebook E," 1838-1839, pp. 52-54.) He developed and deployed this commitment to description over the rest of his long career. It was, of course, grounded in the old natural history tradition, and it therefore sits uncomfortably with what Bradley calls "the modernist subordination of description to definition by operation" (p.26). But, for Bradley, that is all so much the worse for the modernists.

I have my reservations about Bradley's positive project to remake psychology. Although he is surely right to remind us of the value of studying behavior in the field, there may be more to learn in the laboratory than he seems to allow. But his portrait of Darwin, and his delineation of the lessons we can draw from understanding Darwin's theory and practice of psychology, are innovative, insightful, and persuasive. His book merits, and repays, careful study.