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Resistance to evolutionary psychology as a continuation of conflicts over scientific integration

Christopher D. Rodeheffer, James R. Daugherty, Gary L. Brase*

Department of Psychology, Kansas State University, 492 Bluemont Hall, Manhattan, KS 66506-5302, United States

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ABSTRACT

The history of scientific progress is marked by a process of conceptual integration: Different fields of inquiry become intertwined and interconsistent as they grow. Evolutionary psychology is a continuation of this process and, like previous integrations, has generated substantial resistance from different social and political circles. Looking into the future, we can outline the nature of the resistance from socio-political conservative and socio-political progressive forces. Such worldview conflicts can be particularly contentious on topics related to human behavior and human nature, as they tend to challenge the central tenants of these conflicting worldviews. There is also, however, a set of future conditions that would promote evolutionary psychology and the conceptual integration of behavioral science disciplines. These conditions include a strong understanding and value placed on scientific conceptual integration as well as support by science education that emphasizes critical thinking and inquiry. Evolutionary psychology would also be aided by hard protections (e.g., laws and regulations) against political interference in science. In addition to typical resistance to conceptual integrations, the success of evolutionary psychology depends on overcoming a number of counterintuitive aspects of how evolution by natural selection works. These include the difficulty of visualizing the evolutionary process, the long time scales involved in the evolution of complex adaptations, the seductiveness of mind/body dualism, and the human desire for immediate explanations of all phenomena.

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1. Conceptual integration

A remarkable feature of scientific progress over the past few centuries has been the persistent and relentless merging of formerly distinct realms into integrated scientific understanding. Fields such as physics, astronomy, chemistry, and biology all began separately, developing their own identities. Over time, however, these fields achieved a *conceptual integration* [1,2]. These fields now constitute a body of interconnected knowledge (as well they should, given that the most general objective of science is to describe the true nature of the world), and in many ways this conceptual integration is a signature hallmark of the success of modern science. This is not to say that conceptual integration in the sciences is – or ever has been – easy. Copernicus and Galileo encountered resistance to their efforts to show how the earth and the heavens were part of the same system. Descartes ran into similar problems when arguing that the human body operated according to the same principles as the bodies of other animals. Darwin continued the integration between humans and other animals, but ran into opposition that continues even today. This article explores the nature, extent, and potential futures of this resistance to scientific progress generally, and evolutionary psychology specifically.

* Corresponding author. Tel.: +1 785 532 0609.

E-mail address: gbrase@ksu.edu (G.L. Brase).

There has always been resistance to certain scientific advances. Quite often the process of conceptual integration results in some ideas becoming completely untenable (for example the idea of a flat earth, an earth-centric universe, phlogiston theory, and the notion of an *élan vital*); the integration simply makes it too obvious that these ideas do not fit with existing scientific truths. The problem, in terms of the advancement of science, is that these erroneous ideas are not disconnected from the real world of people and institutions – sometimes powerful, pervasive, and persuasive people and institutions, and their ideas can often be intuitively appealing. Therein lies much of the difficulty for science: separating the good versus the bad ideas. As Carl Sagan once noted, “the fact that some geniuses were laughed at does not imply that all who are laughed at are geniuses. They laughed at Columbus, they laughed at Fulton, they laughed at the Wright brothers. But they also laughed at Bozo the Clown” [3, p. 64].

Conceptual integration, although not an easy road to travel, is the answer for the social sciences. Within the social sciences, many different disciplines exist (e.g., anthropology, communication studies, economics, history, human geography, political science, psychology, and sociology), with many of those divisions further broken into subfields. In psychology, for example, there is social psychology, cognitive psychology, developmental psychology, industrial/organizational psychology, neuropsychology, health psychology, positive psychology, and so on. These divisions have stemmed the rate of scientific progress within the social sciences and have resulted in disparate lines of research that converge rather poorly. What is needed then, is a conceptual integration within the social sciences, much like we have seen with the natural (including medical) sciences. E.O. Wilson [4] compared the productivity of the medical sciences to that of the social sciences, and noted that the productivity of the social sciences is relatively slow and halting. This observation of the social sciences lends support to Kuhn’s [5] conclusion that the social sciences are still in the “prescience” stage and conceptual integration could lead to a unifying paradigm.

In simple terms, what conceptual integration means is that a theory proposed by any one area of the social sciences should hold up in another social science domain. For example, a theory originating in psychology should hold up when evaluated in the light of what is known in anthropology (and in economics, and in sociology, etc.). Tensions or disagreements between fields should suggest a flaw in theory for one or both fields and should encourage all involved parties to work towards a remedy. This process is already occurring in the medical sciences; a new theory about a particular disease must run the gauntlet of being consistent with what is known in biology, chemistry, anatomy, genetics, endocrinology, and so forth. If a theory fails this test of consistency then it is generally discarded.

The difficult process of conceptual integration in the social sciences can be achieved through the application of evolutionary theory, as it can serve as an underling framework into which different ways and levels of investigating human thought and behavior can be integrated. Its application would produce theories that are both parsimonious and ecologically valid. Theories on human reasoning are one example of how the application of evolutionary principles has benefited psychology [6,7]. By considering the types of specific situations in which humans recurrently have had to make inferences (e.g., social exchanges [7,8] and hazard avoidance [9,10]), researchers have produced theories that are both parsimonious and ecologically valid in comparison to theories that have tried to explain human reasoning faculties in a general, formal-logical sense (e.g., mental models theory [11,12] and natural deduction theory [13,14]).

Unfortunately, the theory of evolution by natural selection has always been steeped in resistance because it runs up against some intuitively appealing ideas that are promoted by powerful and entrenched advocates such as resolute social conservatives and social progressives. Evolutionary theory, for its part, also entails some not-so-intuitive ideas (see the last section in this paper). The additional step of applying evolutionary theory to human behavior sharpens this conflict. Evolutionary psychology hits upon the still sensitive junctions between humans and other animals, between the physical and the mental, between the secular and the divine. In short, the integration versus the persistence of intellectual divisions – within science and within the larger society – will be an important factor in the growth and acceptance of evolutionary psychology versus its stagnation and rejection.

2. Culture wars

Outside of science, one of the significant intellectual and cultural divisions within western society today is the so-called “culture wars” between traditional/conservative social values and progressive/liberal social values. Although the conservative/liberal distinction has long been a feature of politics, it has more recently become a division between two more general ideological world views: Polarized positions on political, legal, social, cultural, scientific, and religious issues [15,16].

Recent years have seen a greater degree of conflict between scientific issues and cultural conservatives (e.g., [17]), but this is not the only potential for conflict. It only takes a longer review of the past to find conflicts between science and cultural progressives [18]. In fact, evolutionary approaches to understanding human behavior have, at various times, been embraced or reviled by both the conservative right and the progressive left [19–24]. The right has hailed evolutionary theory as a justification of social structures, free-market economic systems, and *liaise faire* political structures, but condemned evolutionary theory as a corrupting influence on religious and moral values. The left has hailed evolutionary theory as a link between humans and the natural world, the value of all life (including non-human life), and changeability over time, but recoiled from evolutionary theory as a biological basis for sex differences, interpersonal conflict and interpersonal differences. There is little reason to think that these decades-long patterns will change in the future.

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