

EVOLUTIONARY PSYCHOLOGY MEETS CULTURAL PSYCHOLOGY

Review of *Evolution, Culture and the Human Mind* (2010) edited by Mark Schaller, Ara Norenzayan, Steven J. Heine, Toshio Yamagishi & Tetsuya Kameda.
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The aim of this book, as laid out in the opening chapter by three of its editors, Ara Norenzayan, Mark Schaller and Steven Heine, is to integrate the fields of evolutionary psychology and cultural psychology. Both of these fields have, largely separately, experienced a great deal of success and increasing popularity during the last couple of decades. Evolutionary psychologists, continuing the earlier efforts of sociobiologists in the 1970s and 1980s, have sought to explain psychological traits in terms of evolutionary theory, and in particular how natural selection has shaped aspects of human cognition to solve specific adaptive problems faced by our ancestors such as finding food or choosing mates. While some research in this vein has received a certain degree of criticism (LALAND and BROWN 2002), in general evolutionary psychologists should be commended for moving psychology further away from the untenable “blank slate” view that human cognition is infinitely malleable and unstructured, and for showing that the traditional focus of psychology on proximate mechanisms can be enriched by a consideration of those proximate mechanisms’ ultimate, evolutionary function and origin. The major contribution of cultural psychologists, on the other hand, has been to demonstrate that psychological traits originally found in Western participants and assumed to be human universals, such as cognitive dissonance or the correspondence bias, are in fact subject to often quite substantial regional variation. Even basic processes of attention and perception have been found to be shaped by the particular norms and values acquired by other members of society, such as the holistic cognitive style of East Asian people and the analytic cognitive style of Westerners. While cultural variation in human behaviour has long been studied by cultural anthropologists, the latter’s reluctance to adopt scientific tools such as the experimental method,

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quantitative statistical tests and other bread-and-butter tools of the psychologist has made the cultural psychologists' contribution invaluable.

On the face of it, evolutionary and cultural psychology would seem to be intrinsically conflicted. Evolutionary psychologists have typically made claims about presumed human universals, from incest avoidance to mate preferences to homicide patterns. Cultural psychologists, on the other hand, are concerned with variation between societies in psychological traits. Evolutionary psychologists are interested in how natural selection has shaped cognition via genetic inheritance; cultural psychologists are interested in how human cognition is shaped by the norms, beliefs and attitudes we acquire via social learning. However, the contributors to this book all take the view that this genes vs. culture (or nature vs. nurture) dichotomy is false and outmoded. This is to be commended, and the inclusion of chapters by practitioners from both fields in the same volume is to the editors' credit.

However, it is one thing to deny a simplistic genes vs. culture dichotomy, quite another to specify exactly how genes, cognition and culture interact to produce observed patterns of human behaviour. The first five chapters (by Rozin; Baumeister; Chiu, Kim & Chaturvedi; Dutton & Heath; and Kirkpatrick) all grapple with these conceptual issues. Although each varies in its focus, all of them appeal in some way to the idea of cultural evolution (MESOUDI, WHITEN and LALAND 2004; RICHESON and BOYD 2005) as a way of integrating culture and evolution. This approach views culture as a Darwinian evolutionary system of variation, selection and inheritance that acts in parallel to genetic evolution. Human behaviour can therefore be seen as the joint product of both genetic evolution and cultural evolution. This cultural evolutionary framework guides, for example, Dutton and Heath's impressive chapter, which reviews an extensive body of evidence concerning the psychological mechanisms that govern cultural selection (e.g. concrete, surprising and emotionally salient information all exhibit selective advantages in cultural evolution) as well as sources of cultural variation (e.g. novelty-seeking or establishing social identity). Rozin similarly discusses cultural change in terms of variation, selection and inheritance, while Chiu et al. remind us that cultural evolution is by no means a new idea: one of the first psychologists to conduct cross-cultural psychological comparisons, Donald Campbell, was also a pioneer in the field of cultural evolution (e.g. CAMPBELL 1960).

The following five chapters present evolutionary explanations for specific cultural phenomena: supernatural concepts (Solomon et al.), religious beliefs (Shariff, Norenzayan & Henrich), cooperation (Nesse) and egalitarianism (Kameda et al.). The final six chapters all concern cultural variation, and how to explain that variation. Topics include colour terms (Roberson), institutions (Yamagishi & Suzuki), individualism-collectivism (Kitayama & Bowman), homicide (Daly & Wilson), pathogen prevalence (Schaller & Murray) and mate choice (Kenrick, Nieuweboer & Buunk).

Once the chapters start dealing with these specific topics, differences in approaches begin to emerge. Although often denied, there is still something of a divide between those evolutionary psychologists who explain cultural variation in terms of “evoked culture”, i.e. different expressions of a universal human nature in response to different ecological or social conditions, and those cultural psychologists who explain cultural variation in terms of “transmitted culture”, i.e. socially learned norms, beliefs and attitudes. Daly and Wilson, for example, argue that regional variation in the US in homicide rates, in particular North-South differences, are adaptive, evoked responses to contemporary patterns of income inequality. States that are more unequal are more violent because they contain greater male-male competition. This contrasts with NISBETT and COHEN’s (1996) hypothesis that greater Southern violence is caused by culturally transmitted norms characteristic of a “culture of honour”. Such norms, they argue, emerged when the lawless South was settled by isolated herders who had to react aggressively to defend their livestock from bandits, and have been transmitted relatively unchanged through subsequent generations. Kenrick et al. and Schaller & Murray make similar points to Daly & Wilson concerning cultural variation in mating behaviour and personality traits, i.e. that they are adaptive, evoked responses to different social and ecological conditions.

These arguments are hindered by a lack of clarity in the terms “evoked” and “transmitted”. Just because behaviour correlates with a relevant environmental factor (e.g. income inequality) doesn’t mean that it is not the result of transmission. Cultural evolution (incorporating “transmitted culture”) does not have to be arbitrary and unrelated to environmental variation. In fact, mathematical models suggest that cultural evolution is a powerful means of adapting to local environmental conditions compared to individual learning and genetic adaptation (RICHERSON and BOYD 2005). Cultural evolution can magnify small, adaptive biases in single individuals to generate large-scale, population-level cultural adaptations. In other words, evoked responses get selectively transmitted. Proximate developmental studies are sorely needed here in order to determine exactly when and how children and young adults acquire different behavioural and psychological traits (aggression, xenophobia, mate preferences etc.). However, developmental studies are notable in their absence from this volume, with the admirable exception of Roberson’s chapter on children’s acquisition of colour terms (which, incidentally, are acquired primarily via cultural transmission from members of the local community rather than, as once thought, being fixed human universals).

Another general point that emerges from this book is the need for more sophisticated tools for understanding cultural change. In my view the cultural evolution (or gene-culture coevolution) approach noted above offers exactly these tools, and I think that cultural/evolutionary psychologists would do well to borrow these tools more extensively. For example, Kitayama & Bowman present an intriguing hypothesis that individualism is an adaptive response to recently settled frontier regions. Such regions tend to be ecologically harsh, unfamiliar and sparsely

populated, making an individualistic focus on one's own survival more important than participation in collective institutions. Consistent with this hypothesis, Kitayama & Bowman show that people from more recently settled environments (e.g. the United States or the Japanese island of Hokkaido) exhibit greater individualism than their respective ancestral populations (e.g. Western Europe and mainland Japan respectively). However, these predictions remain rather limited: as well as simply predicting a significant difference between region A and region B in a certain trait, we would ideally also want to predict quantitatively exactly to what extent region A should differ from region B (plus regions C, D and E). This might be done by drawing on the sophisticated quantitative models developed by evolutionary biologists to explore how demography and migration affect genetic variation, but replacing genetic variation with cultural variation. Kitayama & Bowman's hypothesis resembles "repeated bottleneck" models, in which successive founder populations exhibit a predictable and quantifiable reduction in (genetic or cultural) variation due to their smaller population size and the harsher conditions of frontier environments. This model has been used to explain regional variation in cultural traits such as prehistoric handaxes (LYCETT and VON CRAMON-TAUBADEL 2008), and there is no reason why similar models could not be constructed for culturally-transmitted psychological traits such as individualism (perhaps assuming selection for individualism as Kitayama & Bowman suggest). Such models would provide specific, quantitative estimates of individualism for different regions depending on variables such as time since colonisation, population density, availability of resources etc., that could then be empirically tested.

Another tool that might be useful in testing the ideas presented in several of the chapters concerns cross-cultural comparisons. Several chapters present cross-cultural correlations between certain psychological or behavioural traits and some social or ecological condition, such as Daly & Wilson's demonstration that homicide rates correlate cross-culturally with economic inequality, or Schaller & Murray's findings that xenophobia, extraversion, promiscuity and religion correlate cross-culturally with a history of pathogen prevalence. A problem with cross-cultural correlations such as these is that each society is not necessarily an independent data point: two Western European countries, for example, may be similar in certain psychological traits not because they both independently evolved those traits for functional reasons but because they both inherited those traits from a common ancestral society. Biologists are well aware of this problem given that two species, like two societies, may be similar not for any functional reason but simply because they share a common ancestor. Consequently, biologists have developed sophisticated techniques known as phylogenetic methods that control for historical relationships. The same methods can be applied to cultural datasets (MACE and PAGEL 1994). The reliability of the aforementioned cross-cultural comparisons of psychological traits would be enhanced if similar phylogenetic controls were applied, to ensure that similarities are in fact due to the hypothesised functional

factors (e.g. pathogen prevalence or economic inequality) rather than being an accident of shared history.

So while there is a broad consensus that a cultural evolutionary framework provides the best way of integrating the two fields, the real benefits of a cultural evolutionary approach have yet to be seen, such as the use of demographic models or phylogenetic analyses to predict and explain specific patterns of cultural variation. And although remnants of a “genes vs. culture” dichotomy remain, such as in the arguments over evoked vs. transmitted culture, these disagreements are largely a matter of focus and emphasis rather than substantial theoretical disagreements. Overall, this book provides a valuable first attempt to integrate the fields of evolutionary and cultural psychology.

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