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Invited Commentary

Human behavioral ecology - necessary but not sufficient for the evolutionary analysis of human behavior

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This is a timely review of human behavioral ecology (HBE), emphasizing its strength in providing conceptual coherence to a variety of fields within the social sciences—particularly economics, political science, demography, and anthropology. The breadth of venues where this work is now published, together with the increasing disciplinary range of our collaborators, suggests that a behavioral ecological framework for the social sciences has appeal way beyond the narrow anthropological clique where it first found its home. I strongly agree with the authors’ conclusion that our field provides a threshold for fruitful integration of the natural and social sciences, much as Wilson (1998) was calling for with his appeal for consilience.

I have 3 comments. The first is that the heavy reliance on HBE east of the North Atlantic will no doubt upset some very prominent players in the United States who have made major contributions to the field, particularly those using rich archaeological sources. The second is that although the authors are right in pointing out that HBE is increasingly applied to survey data from industrialized societies, they underestimate the critical contributions to HBE from behavioral and demographic studies of small-scale societies where elements of traditional behavior can still, to some extent, be related directly to reproductive, health, and economic outcomes. Given the intense political and economic pressures on these populations to “modernize,” researchers should prioritize studying the evolutionary patterning of behavior in these rapidly disappearing groups, before they vanish entirely. But these are issues of emphasis and advocacy, not conceptual disagreement. My third concern is more serious and addresses the importance of transmitted culture.

HBE has successfully identified socioecological factors associated with behavioral variability, both within and between populations, and revealed the existence of traits (such as low voluntary fertility) that appear to be detrimental to fitness, but it has not addressed the elephant in the room—cultural transmission. A big question, and one that engages evolutionary biologists more generally, is whether and how different systems of inheritance lead us away from conventional optimality models (Jablonka and Lamb 2005). More specifically, for humans, how does the fact that many of our traits are acquired through socially transmitted information affect the patterning and distribution of traits across and within populations?

The authors follow their predecessors in making a strong case for adopting the phenotypic gambit, essentially methodological agnosticism, when applying evolutionary models to the study of human behavior. I strongly endorse their view that simple HBE models have brought us a long way beyond the dichotomy still useful? Science. 334:1512–1516.


REFERENCES


