The innate versus the manifest: How universal does universal have to be?

John Tooby[a] and Leda Cosmides[b]

[a]Department of Anthropology (Biological Wing), Harvard University, Peabody Museum, Cambridge, MA 02138 and [b]Department of Psychology, Stanford University, Stanford, CA 94305

With this target article and his other recent papers, Buss has provided a tour de force of empirical investigation into human mating preferences. As such, his work constitutes a major contribution to the effort to explore the evolutionary psychology of human mate selection and to the larger debate on the relevance of evolutionary biology to psychology. Claims that human behavior and human psychology have been shaped by our evolutionary history are claims about a universal human nature (with some rare exceptions; Tooby & Cosmides, submitted). Consequently, the ideal approach is to test evolutionarily derived hypotheses cross-culturally, something that is rarely done, because of the logistical problems involved. Although no cross-cultural study ever approaches the ideal, Buss's work exhibits many virtues rare in cross-cultural research, including a good attempt to standardize data-gathering procedures. Cross-cultural tests have become especially important because of the frequent accusation that the major evolutionary hypotheses (inclusive fitness theory, sexual selection theory, etc.) cannot withstand cross-cultural scrutiny, and are instead simply an expression of Western ethnocentrism projected onto the animal and non-Western world (Sahlins 1976).

But how universal does a universal need to be to establish something about human nature? This depends on whether one's hypothesis is about behavior or psychology. If the hypothesis is about universal human behavior, then devout Popperians will tell you that a single exception falsifies the universal claim. Anthropological traditionalists (although not Popperians in the sense of advancing falsifiable theories of their own) are, by and large, not much interested in the enterprise of searching for human universals. They are already familiar with the vast reservoir of variability within and especially between cultures. Even though evolutionarily oriented anthropologists return, again and again, with the finding that humans actually behave in a far more Darwinian fashion than a credulous acceptance of local ideology would lead the traditional ethnographer to believe, the skeptical anthropologist or critic can still point to enough variability to make the search for behavioral universals a lean and foolhardy pursuit. The standard Boasian rejoinder to those who make claims about a universal human nature is to point to cultures where things superficially appear otherwise (e.g., Mead's [1949] *Male and Female*). Within-culture variation also offers fertile ground for the skeptic: Suicides, homosexuals, celibates, the religiously inspired abandonment of worldly pursuits, and so on, offer apparent falsifications of claims about universal fitness striving. The result has been a standoff. Traditional anthropologists point to the complexly variable patterns of human behavior, while Darwinian anthropologists (in Symons's [1989] sense) argue for an evolutionary cynicism: that beneath the mask of bizarre cultural ideology lurk deceptive individuals manipulating their fellows to maximize their inclusive fitness.

If, on the other hand, one's hypothesis is about features of an innate, universal human psychology, then the claim of universality must be tested differently. Genetics had enormous difficulty making progress as a science until geneticists drew the distinction between genotype and phenotype: between the inherited basis of a trait and its observable expression. We believe that a similar distinction will be equally useful for an evolution-based psychology. We will refer to this as the distinction between an individual's innate psychology and an individual's manifest psychology and behavior. One observes variation between individuals and across cultures in manifest psychologies or behaviors; one views these as the product of a common, underlying evolved innate psychology, operating under different circumstances. The mapping between the innate and the manifest operates according to principles of expression that are specified in innate psychological mechanisms; these expressions can differ between individuals when different environmental inputs are operated on by the same procedures to produce different manifest outputs (Cosmides & Tooby 1987).

This view is at least implicitly accepted by almost everyone involved in the debate on human nature. However, by making it explicit, one can clearly see that cross-cultural tests of evolutionary hypotheses depend directly on associated claims about the nature of innate psychological mechanisms, especially about the rules that govern their expression in various conditions. One useful distinction is Mayr's (1976) closed versus open behavior programs, referring to programs that are open to environmental inputs, and hence variable in expression, versus those that are closed to environmental input, and consequently uniform in expression. The search for universal human behaviors limits one to finding only closed behavior programs; however, the search for our evolved innate psychology allows and requires the mapping of all mechanisms, closed or open.

Yet, how can one distinguish between variable expression of an innate procedure and no mechanism at all? Fortunately, that is not the real choice. As Symons (1987b) has cogently argued, the real nature–nurture debate is between those who believe the human mind has many psychological mechanisms that are domain-specific and special-purpose (e.g., mate-choice mechanisms), and those who believe human behavior is the product of a few global, domain-general mechanisms (e.g., the culture theorists' hypotheses about culture-learning, norm imitation, etc.). Because all behavior is the result of some mechanism or set of mechanisms, the choice is not between a mechanism and no mechanism, but between one mechanism and another. In rejecting the hypothesis that domain-specific mechanisms govern mate choice, one is necessarily claiming that domain-general mechanisms account for the existing distribution of mate preferences – the implicit claim of culture theorists (Sperber 1984; Symons 1987b; Tooby & Cosmides 1989).

In order to evaluate the claims of culture theorists empirically, we need to recognize that such claims entail theories about innate psychological mechanisms: in fact, equipotential mechanisms. If the mechanisms were not equipotential, they

would operate differently on different domains, and would therefore not be domain-general. Is it reasonable to believe that our innate psychology is equipotential? What kind of predictions about cross-cultural distributions of mate preferences does such a family of theories entail?

Like the rain, the burden of falsifiable prediction about cross-cultural variation (as well as specific claims about mechanisms) falls on the domain-specific and the domain-general alike. The evasive critical stance that only the evolutionarily oriented have to shoulder this burden is untenable. To date, culture theorists have confidently rested their case on what now appears to be uncertain ground: that manifest universality across cultures is the requirement that evolutionary hypotheses about human nature must meet, and that, on the other hand, any degree of cross-cultural variability establishes that the behavior in question is the product of "culture." The distinction between a universal innate psychology and individually variable manifest behavior renders this argument unfounded. Culture theorists are instead left with an uneasy relationship to the data on human cultural variation. Until they replace their present range of mechanism-agnostic theories with theories that specify how equipotential, domain-general mechanisms predict the statistical distribution of existing societies, culture theory as it stands predicts the null hypothesis: that differences between cultures are random with respect to evolutionary hypotheses and therefore that, for example, sex differences should occur as frequently in one direction as the other. The assertion that "culture" explains human variation will be taken seriously when there are reports of women war parties raiding villages to capture men as husbands, or of parents cloistering their sons but not their daughters to protect their sons' "virtue," or when cultural distributions for preferences concerning physical attractiveness, earning power, relative age, and so on, show as many cultures with bias in one direction as in the other.

Until then, Buss has provided a strong prima facie case that evolved, domain-specific psychological mechanisms regulating mate preference exist. His ranking of the relative uniformity of cross-cultural expression of such preferences provides an important clue that should help in mapping out the mechanisms' procedures: The more universal preferences are the product of more closed behavior programs, whereas the more variable are the expression of more open behavior programs.[1]

NOTES

1. Specifically, we would suggest that the high valuation of chastity, although by no means universal, recurs with enough regularity in independent societies to imply the involvement of a domain-specific mechanism, and therefore that reshaping the hypothesis is called for. We suggest that, other things being equal, men monitor and choose mates who are less sexually experienced or active than average. Where competition for husbands is intense, females and their kin will compete to signal such a relative lack of experience, driving the population average for female premarital sexual activity downward. Where women are economically more self-sufficient, women are less restrained by the need for male investment and can disregard such preferences on the part of men to a greater degree, driving the cultural average upward.

*Please address all correspondence to Leda Cosmides.

References

Cosmides, L. & Tooby, J. (1987) From evolution to behavior: Evolutionary psychology as the missing link. In Dupre, J. (Ed), *The latest on the best: Essays on evolution and optimality*. Cambridge, MA: MIT Press.

Mayr, E. (1976) Behavior programs and evolutionary strategies. In Mayr, E. (Ed), *Evolution and the diversity of life: Selected essays*. Cambridge, MA: Harvard University Press.

Mead, M. (1949) *Male and female*. New York: Morrow.

Sahlins, M. (1976) *The use and abuse of biology: An anthropological critique of sociobiology*. Ann Arbor: University of Michigan Press.

Sperber, D. (1984) Anthropology and psychology: Towards an epidemiology of representations. *Man (N.S.) 20*: 73-89.

Symons, D. (1987) If we're all Darwinians, what's the fuss about? In Crawford, C. B., Smith, M. F., & Krebs, D. L. (Eds), *Sociobiology and psychology: Ideas, issues and applications*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Symons, D. (1989) A critique of Darwinian anthropology *Ethology and Sociobiology* 9(5).

Tooby, J. & Cosmides, L. (submitted) On the universality of human nature and the uniqueness of the individual: The role of genetics and adaptation. *Journal of Personality*.

Tooby J. & Cosmides, L. (1989) Evolutionary psychology and the generation of culture, Part I. Theoretical considerations. *Ethology and Sociobiology* 9(5).