

---

## AUTHOR'S RESPONSE

---

### The Future of Evolutionary Psychology

**David M. Buss**

*University of Michigan*

Several years ago, I occasionally had a depressing thought about the future of our field. The image was that, a century into the future, evolutionary psychology would be seen as merely a footnote in the history of psychology, sort of like phrenology—an intriguing idea, perhaps, but one that had not panned out. The field had concluded, in this nightmare vision, that evolution had left no mark on the human mind. As the research within the past decade and the reflections of 14 thoughtful commentators demonstrate, however, my previously feared scenario now seems inconceivable. Theoretical precision will improve, to be sure. The limits and constraints of evolutionary psychological models will be probed. The empirical data base will become more extensive, refined, and sophisticated. But, if the commentator's reactions are any guide, evolutionary psychology is here to stay.

One of the astonishing facts that unites 13 of the 14 commentators is this: They accept the fundamental premise that psychological science must be anchored or informed by evolutionary principles. I am not so naive as to believe that this reflects the view of all psychologists. It does not. Resistance, skepticism, and even overt hostility to evolutionary approaches continue to be seen from some quarters, albeit in increasingly muted form (see Kenrick's commentary). Nonetheless, it is inconceivable that a decade ago so many scientists with such diverse backgrounds and theoretical perspectives would come to a consensus on the centrality of evolution for the discipline of psychological science.

Although the views of the 14 commentators are undoubtedly unrepresentative in many ways, they do reflect the solid foothold that evolutionary psychology has achieved within the field of psychology over the past decade. Most major introductory psychology textbooks now have extensive treatments of evolutionary psychology. Nearly all introductory social and personality texts have extensive discussions of evolutionary psychology, most notably in sections on human attraction, sexuality, and mating. Given the mushrooming empirical data base, it is safe to predict that these sections will expand in the coming years. As Simpson

observes, evolutionary psychology is a paradigm whose time has come. Now those who fail to understand the basics of inclusive-fitness theory, sexual-selection theory, and parental-investment theory are increasingly found only among the backwaters of academia.

#### Competing Evolutionary Models and Hypotheses

One of the issues that is difficult to explain to people who are unfamiliar with evolutionary psychology is that it is not a monolithic set of hypotheses that yields one single invariant prediction about each phenomenon. I am sometimes asked, for example, "What is the evolutionary explanation for homosexuality?" or "What is the evolutionary explanation for female orgasm?" One characteristic of a healthy science is that, on the cutting edge, there are competing hypotheses that vie for attention. The commentators nicely illustrate this point—that there can be viable alternative models and hypotheses by different theorists (or even by the same theorist), all of whom accept the importance and centrality of evolutionary theory.

Caporael and Brewer, for example, argue that some evolutionary psychologists have underestimated or ignored the importance of group living and coalition formation as a primary strategy for survival. Although I think they overstate the case because many evolutionary psychologists have made very similar arguments (see, e.g., Alexander, 1987; Buss, 1986; Hogan, 1983; Smuts, 1992; Tooby & Cosmides, 1988), their points are important in focusing attention on the evolutionary psychology of groups. I look forward to seeing whether the "alternative" approach advocated by Caporael and Brewer will be capable of generating specific predictions and whether those predictions actually pan out empirically. The important point is that these competing alternative accounts all accept evolutionary psychology as the guiding metatheory for psychological science. Given the common starting ground, progress can be expected to be rapid.

Progress can also be accelerated by taking heed of Gangestad's call for improving the precision of evolutionary psychological models. He is correct that many evolutionary arguments have lacked fully formed cost-benefit analyses. I would add to Gangestad's suggestion that it is often the costs that tend to be ignored (see also Dawkins, 1982, p. 47). For example, because of the obvious adaptive benefits for men of short-term mating strategies, given the low minimum obligatory levels of male parental investment, the costs of short-term mating (e.g., in reputational damage, in acquiring sexually transmitted diseases, in destroying existing long-term mateships) have been relatively ignored until recently (Greiling, 1993).

### **Is Rational-Choice Theory an Alternative to Domain-Specific Psychological Mechanisms?**

One central issue still under debate is the degree of domain specificity or domain generality of particular mechanisms. Harris and Pashler, for example, after providing an elegant set of arguments for the importance of functional explanations in psychology, argue that many evolved mechanisms are likely to be domain general. They argue for the general faculties of "rational choice," "means-end thinking," and "cognition" as potential alternative explanations to more domain-specific accounts in particular areas such as mate preferences or cheater detection.

Although I do not doubt Harris and Pashler's argument that people have the ability to calculate relations between means and ends, I disagree with their claim that rational-choice theory—as specified in a manner independent of content—can really generate the same sorts of content-specific predictions that more modular models of mechanisms predict. I use one example to illustrate this point—sex differences in the content and focus of sexual jealousy.

Long before there were specific empirical tests, several evolutionary psychologists predicted that men's jealousy would focus more on the possible sexual infidelity of the partner, whereas women's would focus more on the diversion of resources, emotional involvement, or commitment (Daly, Wilson, & Weghorst, 1982; Symons, 1979). It is important to note that nonevolutionary psychological theories had never generated this prediction—perhaps because the adaptive problem of paternity uncertainty due to the fact that fertilization occurs internally within women is something that only an evolution-minded scientist would think of. Nonevolutionary psychologists generally fail to think about adaptation and function and, furthermore, would not be led to the view that specific problems of reproduction would lead to the evolution of particular psychological mechanisms. In our labora-

tory, we have thoroughly documented sex differences in the weighting given to the triggers of sexual jealousy using psychological and physiological methods, providing powerful confirmation of the predictions of evolutionary psychologists (Buss, Larsen, Westen, & Semmelroth, 1992).

Now I suppose that a "rational-choice" or "means-ends" theorist might argue: "I could have predicted exactly the same findings—men can obviously 'figure out' that, if other men have sex with their wives, then their paternity will be jeopardized. And, it's because they can use their rationality to calculate these means-ends relations that men get so jealous over real or suspected sexual infidelities."

Two arguments lead one to question the viability of rational-choice theory as an alternative explanation. First, it is not clear why, except on evolutionary accounts, it would be "rational" for men to care about their paternity certainty to begin with. Why would it be rational for men to go berserk when they believe that their partners are having sex with other men? Why would it be rational for men to invest in children who carry their genes and not in children carrying the genes of other men? Nothing within rational-choice theory suggests that men would be driven to behave in these ways or to have these particular goals.

Second, the rational-choice theorist and the domain-specific evolutionary psychologist would make differing predictions. The rational-choice theorist would have to predict that, if the wife is taking birth-control pills or is known to be infertile, then there is no reason that the husband should get jealous if she has sex with another man. It might even be "rational" for him to encourage his wife to have sex with other men if she indicated that this might increase her happiness. After all, his paternity is not jeopardized. The domain-specific psychologist, in contrast, would predict that cues to sexual infidelity would still trigger a man's rage and sexual jealousy, even if his wife is taking reliable birth control, just as artificial sweetener still tastes "sweet" even though a person rationally "knows" that it contains no sugar.

To my knowledge, there have been no studies that have examined whether men whose partners take birth-control pills get less sexually jealous than men whose partners do not take birth-control pills. I predict no difference. A rational-choice theorist, I believe, would have to say that a man flying into a jealous rage upon coming home and finding his contracepting wife *flagrante delicto* with another man would be behaving "irrationally." To an evolutionary psychologist, however, he is responding to the "ancestral cue structure" that his content-specific mechanisms were designed to process.

Such studies would be fascinating to conduct. Regardless of the outcome of such studies, however, the

key point is that content-independent rational-choice theorists and content-dependent domain-specific evolutionary psychologists do generate different predictions, at least in some domains. This means that we can conduct our scientific business as usual and let the weight of the empirical evidence be the arbiter.

### **The Nature of Evolved Psychological Mechanisms**

Many of the commentators focused on the nature of psychological mechanisms—an appropriate focus given the centrality of these mechanisms to evolutionary psychology. This is surely one of the most vexing issues, not just for evolutionary psychology, but for the entire field of psychology. Indeed, one can credit evolutionary psychology for making the problems, difficulties, and complexities of understanding psychological mechanisms explicit rather than implicit as the field moves further away from the black-box naivete of radical behaviorism and more firmly toward the view that we must understand the psychological processes that occur within the heads of humans.

One issue is whether the concept of “psychological mechanism” is necessary at all—or is merely a “category error,” as Hendrick asserts. The radical behaviorist arguments marshalled by Hendrick have long been discarded, and a simple thought experiment will illustrate why. If you expose men and women to exactly the same stimulus, such as a videotape of a woman smiling at a man, they respond differently—men infer more sexual intent, whereas women infer more friendliness (Abbey, 1982; Buss, 1994). There is only one way, to my knowledge, to account for these differences in responses: There must be something different about the psychological mechanisms of men and women. The postulation of such psychological mechanisms (or some form of information-processing device) with causal properties is absolutely necessary to account for differences of this sort. Indeed, it was in part this realization that led the cognitive revolution to overthrow the assumptions of radical behaviorism several decades ago.

Graziano raises another important issue pertaining to predicted structure of psychological mechanisms. He notes that middle-level theories such as Trivers's theory of parental investment do not specify the exact psychological mechanisms that are expected to have evolved. Part of the problem is that adaptive problems, even those that can be precisely identified, underdetermine the nature of adaptive solutions. Warm-blooded animals, for example, must all solve the problem of thermal regulation, but humans sweat, dogs evaporate water from a protruding tongue, and birds ventilate by adjusting their feathers. Similarly, knowing that males in species with internal female fertiliza-

tion face the adaptive problem of paternity uncertainty does not tell us precisely which mechanisms males in particular species will have evolved to solve this problem. In this sense, there is simply no substitute for solid empirical work to anchor and refine evolutionary hypotheses about particular psychological mechanisms.

Masters raises another important issue regarding psychological mechanisms. He argues that the evolved mechanisms are to be found by cognitive neuroscientists in our neurotransmitters rather than in our psychological mechanisms or information-processing devices. In my view, this is not a choice that must be made because they are two different levels of analysis for describing the same thing. Not being a dualist, I believe that psychological mechanisms are instantiated in the brains of humans, just as computer programs are instantiated in particular computer hardware. However, just as one can describe a computer software program in information-processing terms independent of the particular machine on which it is carried out (after all, you can run the program on a Mac or an IBM), it is also useful to describe psychological mechanisms in information-processing terms, even if we were ever to reach the point of knowing a great deal about the neurotransmitters responsible for them (see Tooby & Cosmides, 1992). Having said this, I endorse the view that cognitive neuroscience is likely to tell us a great deal about the nature and functioning of our evolved psychological mechanisms and look forward to collaborations between evolutionary psychologists and cognitive neuroscientists (see, e.g., Gazzaniga, 1992).

One final issue about the nature of evolved psychological mechanisms pertains to Simpson's argument that we should move toward a taxonomy of mechanisms. I totally agree with Simpson's argument, as well as with his specific suggestions for the lines along which this should occur. I anticipate that, as more and more evidence cumulates about the precise nature of our psychological mechanisms, efforts at taxonomy will become increasingly important and successful.

### **Adaptation and Functionality: Is Evolutionary Psychology Really New?**

Two commentators raise relatively minor quibbles about how “new” evolutionary psychology really is. One could debate the issue for months and not get very far, but perhaps a few words of clarification are in order. At one level, evolutionary psychology is certainly not new. I view Darwin as the first evolutionary psychologist, and, in this sense, evolutionary psychology can be viewed as more than a century old, dating back to 1859.

Having said this, however, it is equally true that the particular ways in which the field of psychology could be evolutionized have not been forthcoming until the

past 10 or 15 years. Indeed, the last century of psychology is one huge testament to the profound absence of adaptationist or functional accounts in our field. When function has been brought in at all by psychologists, as Harris and Pashler point out, they are utterly lacking in anchoring of any clear notion of adaptive problem. Attributing “dysfunction” or “maladaptation” to phenomena or feelings psychologists find intuitively bad or troublesome is hardly a sound basis for functional accounts.

If one were a liver theorist or a lung theorist, it is inconceivable that one could understand much without understanding the function of these organs—that is, determining what they were “designed” to do. As Daly and Wilson point out, mechanisms obviously evolved and are organized the way they are in order to achieve something. Nearly all major advances in the life sciences are predicated on discovery of function.

Thus, I am somewhat perplexed by Graziano’s suggestion that asking questions about origin and function will somehow “inhibit research on the processes that induce a mechanism to operate in the here-and-now.” I see the two sorts of questions (How does a mechanism operate? What was it designed to do?) as inextricably bound to each other. For example, to use the sexual-jealousy example described earlier, understanding the adaptive problem jealousy was designed to solve provides a powerful guide to how it is likely to function and what cues (in the here-and-now) are likely to trigger its activation. Questions about function often inform us about mechanism, just as probing how a mechanism operates informs us about issues of function.

Regardless of these quibbles, the fact remains that most psychologists still do not seem to feel the need to ask questions about the functions of the psychological processes they investigate. In this sense, I look forward to the day when our field can look at itself and accurately declare the tenets of evolutionary psychology to be “not new.”

### Standards of Evidence

Kenrick, who endorses evolutionary psychology, criticizes critics of evolutionary perspectives for imposing a double standard for scientific evidence—imposing higher standards for evolutionary than for nonevolutionary perspectives. Simpson, although also endorsing evolutionary psychology, calls for more precise and stringent standards of empirical verification—arguing for predictions about distributional form, effect size, group overlap, and confidence intervals.

Although I agree with Kenrick that it seems hypocritical of critics to hold a double standard—see also Meehl’s (1973) essay on the well-known “antibiological bias” among social scientists—I think that in some ways the critics have had a salutary effect on the field.

Because of the numerous critics of evolutionary approaches—some quite thoughtful, others superficial and based on misinformed stereotypes of the approach—evolutionary psychologists have been forced to clarify and tighten their hypotheses and conduct more rigorous empirical tests of them. For example, evolutionary psychologists have tested particular hypotheses using dozens of experiments to rule out alternative explanations (e.g., Cosmides, 1989; Cosmides & Tooby, 1992); using several different methods and data sources, including psychological and physiological techniques (e.g., Buss et al., 1992; Larsen & Buss, 1991); and using samples from different cultures (e.g., Buss, 1989a; Hill & Hurtado, 1989; Kenrick & Keefe, 1992) and even testing hypotheses across different species (e.g., Smuts, 1992; Wilson & Daly, 1992). In this sense, the imposition of higher standards has produced more powerful and unassailable findings. I have no problem with evolutionary psychologists taking the lead in improving standards of scientific rigor.

### Genetic Variability

Both Masters and Scarr call for a greater role for genetic variability in evolutionary psychology. This is an issue that I have struggled with extensively (see Buss, 1984, 1990, 1991). There is a real issue here. Evolutionary pressures sometimes produce opposing forces. Natural selection tends to produce relative uniformity or species typicality at the level of basic mechanisms (see Tooby & Cosmides, 1990, for an extensive argument about why this is the case). On the other hand, parasites, assortative mating, frequency-dependent selection, and alternative-niche selection tend to produce genetic variability (Hamilton, 1980; Plomin, DeFries, & McClearn, 1980; Tooby, 1982).

I have argued elsewhere that humans have evolved psychological mechanisms that are designed to attend to and respond to these individual differences in others (Buss, 1989b, 1991). Furthermore, theorists such as Gangestad and Simpson (1990) have generated evolutionary accounts for the origins of some forms of genetic variability. I welcome Masters’s and Scarr’s attempts to integrate genetic variability, in a more theoretically satisfying manner, into the field of evolutionary psychology. Genetic variability specifically and individual differences more generally remain among the most fascinating and challenging phenomena for the field as a whole.

### Feminism and Politics

Hinde worries about “feminist hackles” being raised by evolutionary psychology. Kenrick derides the self-

righteous, ignorant, arrogant, and insulting critics who accuse the theories of evolutionary psychologists as having “nefarious political implications”—a view apparently embodied by Hood. Although I share Kenrick’s dismay about the unfairness and ignorance upon which these views are based, they seem common enough in the minds of some people to warrant addressing them directly. After all, even Einstein said that God does not play dice with the universe—a religious belief that apparently affected his rejection of quantum mechanics. The links between science and ideology are complex and real, and they deserve scrutiny.

First, it must be emphasized that there are many feminists among the ranks of evolutionary psychologists. In particular, feminist evolutionists such as Gowaty (1992), Lancaster (1991), and Smuts (1992) have spearheaded a movement to integrate evolutionary thinking with feminist thinking. Indeed, a recent conference was conducted among feminist evolutionists precisely to discuss the lines of convergence between the two and how existing gaps can be bridged. Furthermore, Buss and Malamuth (in press) edited a book that integrates feminist and evolutionary perspectives on sex, power, and conflict. Although the final word is not in, feminist evolutionists make it clear that evolutionary psychology is not antithetical to feminism. Furthermore, they argue, the two modes of thinking and discourse have a lot to learn from each other. In my own thinking, for example, reading feminist literature has been central to focusing my attention on the importance of hierarchy and male control of resources (Buss, 1994). In turn, evolutionary psychology, I believe, provides some profound insights into the origins of “patriarchy,” male control of resources, and why male coercion of women often centers on sexuality (Buss, 1994). I endorse Smuts’s (1992) eloquent arguments about the complementary nature of evolutionary thought and feminist thought.

Second, it is my observation that those who most stridently accuse evolutionary psychologists of being ideologically driven are themselves strongly driven in their thinking by ideology. Although I am not a Freudian, there is pretty strong evidence for the existence of projection! Much of social science in this century has been predicated on notions of the infinite malleability and improbability of humankind. Many social scientists endorse what has been called the *romantic fallacy* of viewing humans as inherently good but as having been corrupted by the evils of Western civilization, poor socialization practices, poverty, or patriarchy. As Konner (1992) observed: “We have never quite outgrown the idea that somewhere, there are people living in perfect harmony with nature and one another, and that we might do the same were it not for the corrupting influences of Western culture.”

It cannot be denied that personal factors sometimes affect science and the sorts of hypotheses one advances or endorses. Sulloway, for example, cogently demonstrates that birth order is strongly linked to whether one endorses or opposes particular scientific revolutions. However, one of the strengths of the scientific enterprise—in contrast to other modes of inquiry—is that it has procedures for correcting these biases. Thus, I would offer this advice to those who oppose evolutionary psychology: Articulate a compelling alternative metatheory and demonstrate in the arena of empirical testing that the alternative is superior by the normal standards of science—superior in accounting for known facts, superior in generating new facts, and superior in providing a heuristic to important domains of inquiry. Until that is done, derogating evolutionary psychologists by attributing nefarious ideological motivations remains an *ad hominem* escape from doing the hard scientific work.

As a final comment on this issue, I personally endorse the view that “knowledge is power.” I believe that we are better off possessing accurate scientific knowledge about our human nature than we are by blinding ourselves to the sometimes harsh and unpleasant aspects of that nature. Not all agree with this view. After giving a lecture on my cross-cultural study on desires in a mate, a woman urged that I suppress my findings by not publishing them. “Don’t women have it hard enough,” she argued, “without science telling them that men’s desires that cause women pain are rooted in our evolved psychology?”

My feeling is that the answer is “No.” For those who are trying to make the world a better place for women (and men), interventions based on ignorance are almost surely more likely to fail than interventions based on knowledge. The damage caused by interventions founded on either ignorance of knowledge or erroneous beliefs may be incalculable. Whatever our goals as individuals, collectives, and societies, we must confront the truth about our human nature, however disturbing it may turn out to be.

### Resistance to Evolutionary Psychology

In my view, evolutionary psychology is a revolutionary scientific paradigm—one that provides an attractive metatheory for psychological science, has attracted a large number of adherents, and has accrued an attractively expanding empirical base. Despite these advances, there is resistance to evolutionary psychology, just as there is resistance to all revolutionary scientific paradigms (see Sulloway). And, perhaps it is reasonable that there be resistance—after all, many revolutionary ideas turn out to be wrong or ill-conceived.

Two of the commentaries—Sulloway’s and La Cerra and Kurzban’s—offer some insights into the psycho-

logical nature of the resistance to evolutionary psychology and hence provide some clues to how this resistance can be overcome. Sulloway points to birth order, and the clear implication is that firstborn scientists will be more resistant to evolutionary psychology than laterborn scientists. I know of no studies on this issue, but it would be fascinating to discover whether Sulloway's general findings about birth order and scientific revolutions apply to this one. Are there more secondborns and laterborns among the ranks of evolutionary psychology and more firstborns who oppose it?

La Cerra and Kurzban point to other factors—that those psychologists who are already established in the more traditional modes of thought in the field might lose individual status if the new paradigm were adopted. They might suffer status losses—in part because it would require relinquishing the very ideas that led to their status to begin with and in part because they would lack the requisite scientific expertise to make rapid scientific advances and hence to retain their elevated status in the scientific community. Furthermore, because evolutionary psychology would blur and even dissolve some of the traditional scientific boundaries between the different subfields of psychology (and even between psychology and other social sciences), traditional psychologists are threatened with territorial invasion.

These do not exhaust the sources of resistance to evolutionary psychology. Other psychological sources of resistance include (a) ignorance of what evolutionary psychology is (e.g., viewing it as a “genetic determinist” position rather than the interactionist position it is), (b) poor training, leading most social scientists to lack educational grounding in the biological sciences, (c) antibiological bias, which pervades training and textbooks in social science, (d) religious views (e.g., that evolutionary thinking is contradictory to various theological doctrines such as creationism), (e) mistaken beliefs (e.g., the view that accepting evolutionary psychology would be to oppose various ideological commitments, such as the desire to improve society in various ways), and many others.

In my view, evolutionary psychology, in principle, should be able to provide the tools to understand these forms of resistance. Capitalizing on our evolved psychology of status and prestige, for example, is one promising route for change. That many of the prestigious awards given by the American Psychological Association are going to evolutionary psychologists and to those publicly sympathetic to evolutionary psychology—for example, to Leda Cosmides, Barbara Smuts, Richard Nisbett, Randy Larsen, Kent Berridge, and myself—can be expected to affect the prestige-seeking psychological mechanisms of budding young psychologists. In this sense, evolutionary psychology, by providing deeper insight into the fundamental psy-

chological mechanisms of humans, will yield the seeds of its own success.

### Notes

I thank Heidi Greiling, Larry Pervin, and Todd Shackelford for helpful comments on an earlier draft of this article.

David M. Buss, Department of Psychology, University of Michigan, Ann Arbor, MI 48109-1346.

### References

- Abbey, A. (1982). Sex differences in attributions for friendly behavior: Do males misperceive females' friendliness? *Journal of Personality and Social Psychology*, 32, 830–838.
- Alexander, R. D. (1987). *The biology of moral systems*. New York: Aldine de Gruyter.
- Buss, D. M. (1984). Evolutionary biology and personality psychology: Toward a conception of human nature and individual differences. *American Psychologist*, 39, 1135–1147.
- Buss, D. M. (1986). Can social science be anchored in evolutionary biology? *Revue Europeene des Sciences Sociales*, 24, 41–50.
- Buss, D. M. (1989a). Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures. *Behavioral and Brain Sciences*, 12, 1–49.
- Buss, D. M. (1989b, June). *A theory of strategic trait usage: Personality and the adaptive landscape*. Paper presented at the Invited Workshop on Personality Language, University of Groningen, Groningen, The Netherlands.
- Buss, D. M. (1990). Toward a biologically informed psychology of personality. *Journal of Personality*, 58, 1–16.
- Buss, D. M. (1991). Evolutionary personality psychology. *Annual Review of Psychology*, 45, 459–491.
- Buss, D. M. (1994). *The evolution of desire: Strategies of human mating*. New York: Basic.
- Buss, D. M., Larsen, R., Westen, D., & Semmelroth, J. (1992). Sex differences in jealousy: Evolution, physiology, and psychology. *Psychological Science*, 3, 251–255.
- Buss, D. M., & Malamuth, N. (in press). *Sex, power, conflict: Feminist and evolutionary perspectives*. New York: Oxford University Press.
- Cosmides, L. (1989). The logic of social exchange: Has natural selection shaped how humans reason? *Cognition*, 31, 187–276.
- Cosmides, L., & Tooby, J. (1992). Cognitive adaptations for social exchange. In J. Barkow, L. Cosmides, & J. Tooby (Eds.), *The adapted mind* (pp. 163–228). New York: Oxford University Press.
- Daly, M., Wilson, M., & Weghorst, S. J. (1982). Male sexual jealousy. *Ethology and Sociobiology*, 3, 11–27.
- Dawkins, R. (1982). *The extended phenotype*. Oxford, England: Oxford University Press.
- Gangestad, S. W., & Simpson, J. A. (1990). Toward an evolutionary history of female sociosexual variation. *Journal of Personality*, 58, 69–96.
- Gowaty, P. A. (1992). Evolutionary biology and feminism. *Human Nature*, 3, 217–249.
- Gazzaniga, M. S. (1992). *Nature's mind*. New York: Basic.
- Greiling, H. (1993, June). *Women's short-term sexual strategies*. Paper presented at the Conference on Evolution and the Social Sciences, London School of Economics, London, England.
- Hamilton, W. D. (1980). Sex versus non-sex versus parasite. *Oikos*,

AUTHOR'S RESPONSE

- 35, 282–290.
- Hill, K., & Hurtado, A. M. (1989). Hunter-gatherers of the new world. *American Scientist*, 77, 437–443.
- Hogan, R. (1983). A socioanalytic theory of personality. In M. M. Page (Ed.), *Nebraska Symposium on Motivation*. Lincoln: University of Nebraska Press.
- Kenrick, D. T., & Keefe, R. C. (1992). Age preferences in mates reflect sex differences in human reproductive strategies. *Behavioral and Brain Sciences*, 15, 75–133.
- Konner, M. (1992). *Why the reckless survive*. New York: Norton.
- Lancaster, J. B. (1991). A feminist and evolutionary biologist looks at women. *Yearbook of Physical Anthropology*, 34, 1–11.
- Larsen, R., & Buss, D. M. (1991). Sex differences in jealousy. *Psychophysiology*, 27, S47.
- Meehl, P. E. (1973). *Psychodiagnosis: Selected papers*. New York: Norton.
- Plomin, R., DeFries, J. C., & McClearn, G. E. (1980). *Behavioral genetics: A primer*. San Francisco: Freeman.
- Smuts, B. B. (1992). Male aggression against women: An evolutionary perspective. *Human Nature*, 3, 1–44.
- Symons, D. (1979). *The evolution of human sexuality*. New York: Oxford University Press.
- Tooby, J. (1982). Pathogens, polymorphism, and the evolution of sex. *Journal of Theoretical Biology*, 97, 557–576.
- Tooby, J., & Cosmides, L. (1988). *The evolution of war and its cognitive foundations* (Tech. Rep. No. 88-1). Institute for Evolutionary Studies.
- Tooby, J., & Cosmides, L. (1990). On the universality of human nature and the uniqueness of the individual: The role of genetics and adaptation. *Journal of Personality*, 58, 17–68.
- Tooby, J., & Cosmides, L. (1992). Psychological foundations of culture. In J. Barkow, L. Cosmides, & J. Tooby (Eds.), *The adapted mind* (pp. 19–136). New York: Oxford University Press.
- Wilson, M., & Daly, M. (1992). The man who mistook his wife for a chattel. In J. Barkow, L. Cosmides, & J. Tooby (Eds.), *The adapted mind* (pp. 289–322). New York: Oxford University Press.

