ination. There is no reason to believe that these affect only the non-*g* factors. Oddly, the authors attribute the higher-than-average IQ distribution of American Jews to cultural effects. Yes, and why not for those of African descent too?

There are also differences in mean brain size among populations, including differences among populations of different races. The authors say that the sizes of African-American brains are about 0.8 standard deviation smaller than those of European-Americans. There is now appreciable evidence for a sex-specific correlation of about 0.3 to 0.4 between brain size and IQ score in relatively homogeneous populations (an apparently unpublished finding of no detectable correlation within families may possibly be a result of relatively low variation in one or both variables within families, but I have not seen the data). It is indeed just possible that some part of the difference in IQ distributions between African-Americans and European-Americans is related to brain size, but the latter itself is not exempt from environmental influence. A study incorporating degree of European admixture could prove enlightening.

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THE CASE OF THE FEMALE ORGASM: BIAS IN THE SCIENCE OF EVOLUTION.

By Elisabeth A Lloyd. Cambridge (Massachusetts): Harvard University Press. $27.95. vii + 311 p; ill.; index. ISBN: 0-674-01706-4. 2005.

In this engaging and carefully argued account, philosopher Elisabeth Lloyd guides her readers through one of the most fascinating controversies in evolutionary theory. The interest in evolutionary accounts of female orgasm goes back to the early sex research of Alfred Kinsey and has continued into the present through the work of evolutionary biologists, anthropologists, sociobiologists, and sex researchers. Given the broad range of disciplines and approaches involved, one might be led to think that this issue has been well and carefully treated; au contraire argues Lloyd.

In this book, the author follows up on an argument she began making nearly 20 years ago, which was subsequently championed by Stephen Jay Gould. Essentially, consistent with the earlier work of Donald Symons, Lloyd argued that the most well-supported evolutionary explanation of female orgasm was the byproduct account. In the intervening decades, she has exhaustively reevaluated the claims made in support of various adaptationist accounts of the evolution of female orgasm and found them to be exceedingly problematic. The difficulties plaguing some of the earlier accounts include ignored evidence, androcentric bias, and flawed reasoning. Some readers might be inclined to think that these kinds of errors have been relegated to a former era and, therefore, Lloyd's criticisms are outdated. The penultimate chapter on sperm competition accounts developed in the mid-1990s puts this criticism to rest. The author exposes some deeply troubling shortcomings in this contemporary hypothesis. According to Lloyd's analysis, Baker and Bellis (authors of the sperm competition account) fail to demonstrate the three necessary components of their hypothesis. First, they fail to show that female orgasm is tied to uterine upsuck; second, they provide insufficient evidence to demonstrate that uterine upsuck is tied to increased fertility; and, finally, they make no connection between increased fertility and reproductive success. The fact that this work is commonly cited in support of evolutionary explanations of female orgasm as an adaptation bespeaks the need for Lloyd's careful treatment.

The final chapter of the book provides an excellent synopsis of the challenges presented to evolutionary biologists when developing hypotheses for complicated phenomena. The author is at her best as she suggests where the problems lie and how to address them. Here she outlines some of the frequently reoccurring evidentiary problems with evolutionary accounts of female orgasm: she describes four background assumptions (adaptationism, androcentrism, procreative focus, and human uniqueness) that have, through tacit acceptance, had a negative influence on the development of a robust evolutionary account. Finally, Lloyd focuses on the conceptual commitments of evolutionary theorists involved in the debate. Here she distinguishes between various types of adaptationism and the ways in which these commitments shape a particular theorist's work. I found this section to be wonderfully useful in explaining the persistence of these debates.

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NOT BY GENES ALONE: HOW CULTURE TRANSFORMED HUMAN EVOLUTION.

By Peter J Richerson and Robert Boyd. Chicago (Illinois): University of Chicago Press. $30.00. ix + 332 p; ill.; references and author index and general index. ISBN: 0-226-71284-2. 2005.

The central thesis of this book is that socially transmitted culture is crucial for a full understanding of human behavior, while at the same time human culture has a biological basis and can be considered an evolutionary system in its own right. This pluralistic approach, emphasizing both cultural

and biological explanations of human behavior, can only be commended in its attempt to bridge not only the natural and the social sciences, but also different disciplines within the social sciences.

Unfortunately, previous work in this "gene-culture coevolution" or "cultural evolution" tradition, including Richerson and Boyd's seminal earlier work, has not received the attention it deserved, often due to its highly mathematical nature. This book is, however, an accessible and math-free overview of the field by two of its leading authorities. Numerous fascinating case studies are used to illustrate the central argument, which is presented as a series of simple chapter headings: Culture Is Essential; Culture Exists; Culture Evolves; Culture Is an Adaptation; Culture Is Maladaptive; Culture and Genes Coevolve; and (paraphrasing Dobzhansky) Nothing About Culture Makes Sense Except in the Light of Evolution. The authors draw from an impressively wide range of sources to support these claims, from the ethnographic and archeological records to economic and psychological experiments. Of particular interest are the detailed cultural explanations of the demographic transition and, using a model of cultural group selection, the phenomenon of widespread human altruism toward nonkin.

One minor criticism is the omission of recent work that applies phylogenetic analyses to anthropological and archeological data, which is somewhat surprising given the authors' commitment to the use of biological tools in the social sciences. The title of the book also seems a little one-sided given the interactive nature of their gene-culture coevolution perspective (although *Not By Either Genes or Culture Alone* is perhaps not quite as catchy).

In summary, this is an excellent and authoritative account of a much needed "third way" between the positions of certain anticultural evolutionary psychologists and certain antievolutionary social scientists. It is highly recommended not only for students new to the area, but also to scholars of either of the above persuasions who have previously been put off by the math.

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The Biology of Civilisation: Understanding Human Culture as a Force in Nature.

By Stephen Boyden. Sydney (Australia): University of New South Wales Press; distributed by University of Washington Press, Seattle (Washington). $22.50 (paper). xv + 189 p; ill.; index. ISBN: 0-86840-766-6. 2004.

Biohistory is emerging as a new field that attempts to bridge the gap between the social and biological sciences. The goal of biohistory appears lofty: to synthesize our understanding of the human animal from both cultural and biological perspectives. This ambition is more than academic. The human race is approaching an era in which our use of the biosphere will far outstrip its regeneration, and understanding the biological and cultural underpinnings of human ecology could be instrumental in reversing this trend. However, a long-standing academic divide frustrates efforts at such a synthesis. One source of this rift is the divergent approaches used by social and biological researchers. Social scientists generally investigate the modern forces shaping human cultures, social practices, and mores. Although biologists can also focus on the effects of the current environment, all biology is connected by the common framework of evolutionary history. Can the study of biological evolution illuminate our understanding of human cultural evolution? The answer appears to be yes, but with caveats.

In *The Biology of Civilisation,* Stephen Boyden offers a practical and quite enjoyable field guide to the biohistory and potential future of the human race. The book is intended for a general audience, and while the writing is nontechnical and concise, the author's rather humble style belies a sweeping knowledge of past and present human culture. Boyden begins the volume with a brief description of both the biological and cultural ancestry of the human species. Throughout, his analysis is never divorced from basic biological and evolutionary tenets. In the first three chapters he defines culture and outlines its relevance for the human race. Although culture is not uniquely human, the author shows how cultural forces have shaped critical aspects of humanity and often with quite irrational results. It is specifically these illogical paths that form the two linked themes of the book. The first theme describes the discord between the modern human environment and the ancestral conditions in which most human traits were shaped. The second theme shows that cultural evolution occurs without mechanisms to ensure that traits are beneficial. Hence, harmful cultural features—termed "cultural maladaptations"—can spread and render serious costs to society. The second theme points out the main difference between the idiosyncratic process shaping cultural traits versus natural selection on biological traits: under natural selection, only more favorable features can spread. Boyden does not draw this contrast, perhaps because it is implicit; however, this difference remains the key limitation to a synthesized biohistorical approach.