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Book reviews

Male, Female: The Evolution of Human Sex Differences. By David C. Geary, Washington DC: American Psychological Association, 1998, ISBN: 1-555798-527-8, \$49.95 (US)

Male, Female: The Evolution of Human Sex Differences is a welcome addition to the literature on the evolutionary biology of human behavior. David Geary has managed to review and synthesize decades of work in a 400-page volume that is appropriate both as a reference work for instructors and researchers and for use in the classroom. The book is divided into nine chapters, each of which develops a coherent theoretical position that is both supported and challenged with abundant references to empirical results. The description of empirical work is among the book's greatest strengths, facilitating both critical discussion and further research. Approximately 1,200 works, both classic and contemporary, are included in the reference section. Each chapter ends with a two-page summary that reiterates the main thread of the chapter's argument. Throughout the text, readers are directed to related material in other chapters. All of these features make the book an excellent choice for either advanced undergraduate or graduate courses in biology and human behavior.

Chapter Six is the most original contribution of the book and its theoretical heart. Entitled "The Evolution and Development of the Human Mind," it argues that human behavior has been designed by natural selection to achieve control over the social, biological, and physical resources necessary for reproduction. It further argues that the skills necessary to achieve that goal are adjusted to the constraints of different local environments during development. Heckhausen and Schultz (1995) seems to be the crucial inspiration for the material in this chapter and would make a good supplement to this text in a classroom setting. The model presented is one of a modular brain specialized for processing different kinds of social, biological, and physical information. Emotions provide positive and negative feedback as behaviors either advance or fail to advance the goals of control. The result is an ongoing process of adaptation to local circumstances, guided by evolved cognitive modules, emotions, and development. In Chapter Six and throughout the book, Geary emphasizes the importance of intraindividual variability and adaptive flexibility. "Strategic variability," which allows for the optimization of behavior with respect to changing local circumstances, is central to his approach throughout the book, as is adaptive developmental plasticity.

The developmental process is discussed in more detail in Chapter Seven ("Developmental Sex Differences"), which highlights the ontogeny of sex differences in behavior. The nature of those sex differences in behavior for mature and maturing individuals is described in the final two chapters, entitled "Sex Differences in Brain and Cognition" and "Sex Differences in Modern Society." These chapters treat sensitive material and are appropriately careful in their presentation. Readers are reminded, for example, that "for nearly all of the sex differ-

ences described throughout this book, there is an overlap in the distribution of girls and boys and women and men. As a result, none of the implications described . . . can be used to make judgments about any individual boy, girl, man, or woman” and that it is incorrect to assume that “human sex differences that have biological origins are unchangeable.” These pronouncements, standard fare for the readers of this journal, are not left behind in introductory paragraphs or tucked away in concluding ones, but guide the presentation of evidence throughout. Both the magnitude of sex differences and the degree of overlap between sexes are consistently described when the data allow for it. As with the other chapters, Chapters Seven through Nine are richly endowed with empirical results, the sheer volume of which adds strength to the arguments that Geary weaves. The flip side of that comprehensiveness, however, is that some sections, such as the one devoted to play, can become cumbersome for those without special interest in the topic under discussion. At times, the volume of empirical support for relatively uncontroversial conclusions (e.g., women invest more heavily in parenting than do men, in Chapter Four) allows the reader’s attention to wander. Statements of theory and inference often suffer from the same repetitiveness. Phrases such as “In other words” and “Put another way” are liberally sprinkled throughout. For different readers, these will be either helpful aids to understanding or annoying speed bumps along the way. At least some of the students in my advanced undergraduate class found them to be the latter.

The introductory chapters are an admirable and comprehensive coverage of important theory in human sociobiology. The treatment of sexual selection theory as it applies to humans is particularly expansive, as would be expected. However, the cursory introduction to natural selection and the forces of evolution may be inadequate for those with little or no background in evolutionary biology. The discussion of sexual selection in primates in Chapter Three (“Sexual Selection in Primates and During Human Evolution”) is heavily slanted toward the *Hominoidea* and the *Cercopithecoidea*, drawing most frequently from Smuts’ work with *Papio anubis* and from chimpanzee studies. Conspicuous for the minor role that they play are bonobo studies, which occupy only a few paragraphs in a 40-page chapter. Also absent are a description of the phylogenetic relationship between the primate species mentioned and a discussion of the role of phylogeny in evolutionary inference. The chapter concludes with speculations about sexual selection during hominine evolution. These center on the importance of male-male competition, male coalition formation, and female preference for males who could provide social support and protection from other males. Chapter Four is devoted entirely to paternal investment. It is one of several chapters that integrate a brief discussion of hormonal bases of behavior into its argument. It also includes a more extended discussion of the impact of fathering on the well-being of children, once again with ample empirical support. It is refreshing to see such a substantial number of pages devoted to one of the traits that sets humans apart from closely related species and that varies substantially both within and across human populations. The advanced reader will wonder why Geary did not attempt to integrate the literature on concealed ovulation more fully into his discussion of the selective forces shaping paternal investment in human ancestors. Chapter Five (“Sexual Selection in Contemporary Humans”) is divided into sections on female choice, male choice, female-female competition, and male-male competition, with more attention given to the “choice” sections than to the “competition” sections. At times it was hard not to read Chapter Five as a manual on dating, an ever-present danger for books and articles that discuss the evolutionary

psychology of human mate choice. Students in my class found the drawings of a woman and man rated as attractive by members of the opposite sex to be disturbing (even frightening) and to be potentially racist, because both were readily identified as being of European/Caucasian heritage, provoking a useful and passionate discussion. The attention paid to “mating decisions and preferences that emerge in the absence of any [social or ecological] constraints,” although justified as heuristic by Geary, will be read by some as an example of pandering to sexist stereotypes. To Geary’s credit, he presents both evidence and interpretation in great detail and explains why each subject was included in the book in the first place, facilitating both a critical consideration by the reader and a critical discussion in the classroom.

There are subjects about which it can be said that a little bit of knowledge is a dangerous thing. This is true of human sociobiology, particularly as it concerns the biology of sex differences in behavior, and particularly in a society in which sexist discrimination, sexual harassment, rape, and other forms of sexual aggression are still widespread. *Male, Female* does not lend itself willingly to the kind of overinterpretation that can serve to buttress these social ills. It is careful to point out the limitations of its arguments; the development of theory is deliberate; and the presentation of empirical evidence is extensive. As such, it facilitates meaningful discussion grounded in the critical evaluation of theory and interpretation of evidence. The attention paid to describing the extent and sources of interindividual and intraindividual variability undercuts essentialist stereotyping, while helping the reader to a more complete, evolutionarily informed understanding of why persistent sociosexual patterning in behavior exists cross-culturally. The empirical rigor and careful explanations, both of which are excessive at times, make for a book with some dry patches (my students were less generous in their evaluation), but the reader who perseveres will be rewarded with a deeper understanding, whether or not he or she is convinced by Geary’s arguments.

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Introducing Evolutionary Psychology. By Dylan Evans and Oscar Zarate, New York: Totem Books, 1999, 176 pages, ISBN 1 84046 043 1, \$10.95 (US)

My standard advice to those who seek a solid introduction to the theory and practice of evolutionary psychology is to read (in this order): *The Blind Watchmaker* (Dawkins, 1986/