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Book Review

A Necessity for Sex Difference Researchers

A Review of David C. Geary, *Male, Female: The Evolution of Human Differences* (2nd ed.). American Psychological Association: Washington, D.C., 2009, 568 pp., US\$69.95, ISBN 9781433806827 (hardcover).

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Male, Female: The Evolution of Human Differences (2nd ed.), written by University of Missouri Curators' Professor and Thomas Jefferson Professor David C. Geary, is the long-awaited update to a classic treatise on sex differences originally published in 1998. The new edition has been largely expanded (by 171 pages) and summarizes much of the research relating to sex differences that has surfaced in the last 12 years. The book begins with a review of the broad processes of natural and sexual selection (Chapters 1-4) and then covers sexual selection in primates before moving on to humans (Chapter 5). The book then reviews work on fatherhood (Chapter 6), mate choice and mate competition (Chapters 7 and 8), cognition (Chapter 9, 12, 13), and child development (Chapters 10 and 11). In chapters 10 to 13, the theoretical groundwork laid in the first half of the book comes together with sex difference research in behavior, brain development, and hormones.

The thesis of the book is captured at the end of Chapter 3 (Sexual Selection): "Whether sexual reproduction centers on female choice, male-male competition, male choice, female-female competition, or some combination, the result is the evolution of sex differences for those traits that facilitate choice and competition" (p. 67). The significance of intersex choice and intrasex competition, in turn, trace ultimately back to sex asymmetries in parental investment. If parental investment was the same for both sexes, intersex choice would not differ, intrasex competition would revolve around the same traits, and there would be subsequently no selection pressures for the evolution of sex differences. The book is structured around this framework, with the author drawing from its logic to integrate the research on sex differences and to outline its predictions where relevant studies are lacking.

The end result is an impressive showcase of explanatory power: male-male competition accounts for phenomena such as greater male mortality (p. 217), risk-taking (p. 230), attention to male groups (p. 296), rough-and-tumble play (p. 302), tendency towards group activities (p. 304), and sensitivity to angry men (p. 357). Female-female competition accounts for greater

female emotional sensitivity—especially towards other females (p. 357), and potentially explains greater language proficiency (p. 363). Male-male and female-female competition combine to predict nuanced social styles of each sex (p. 324), with a female tendency towards small numbers of high-cost dyadic relationships. Female choice explains male obsession with cultural success, muscularity (p. 355), and interest in politics (p. 251). Male choice explains the female concern with physical attractiveness and body image (pp. 236, 354).

Although evolution-based researchers often swear by sex differences, one will learn from reading this book that differences in many areas—and their supposed evolved bases – are not always clear-cut. In a systematic approach to reviewing studies, Geary repeatedly demonstrates that there's a substantial amount of variation and complexity in sex differences and in the relationships among factors typically associated with sex differences (e.g., hormones). For many sex differences, there are simply gaps, limitations, and inconsistencies in the research and thus, ambiguities in the current state of understanding. Much of the data is correlational, and thus, could be explained by a variety of factors. The same point is even true for causal relationships. For example, while there does seem to be a relationship between paternal involvement in boys and their eventual social competency, this relationship is “confounded by genetic and child evocative effects, in addition to maternal effects” (p. 154). Additionally, whether and to what extent the sexes differ depends on contextual factors. Although parental investment theory predicts that females of most species should have higher criteria in mate choice, in “cultures with socially imposed monogamy” (p. 205), men's mate preferences and standards approach those of women's. Variance within sex is also derived from evolutionary theories. For example, although men tend to invest relatively less in offspring, they vary their investment with cues such as physical resemblance, an indicator of genetic relatedness (p. 157).

Geary uses a very objective overall tone in this book. Nevertheless, the author states his position on various issues (while making it clear that he is doing so). For instance, he argues that the social organization of ancestral humans is more similar to that of gorillas (pp. 138-139), especially *Gorilla gorilla*, than our closest relatives, *Pan troglodytes* and *paniscus*. The gorilla model, with its high paternal investment and certainty, might therefore be a more appropriate starting point in certain respects. Further on, he also argues that sexual selection (e.g. male-male competition), and not the sexual division of labor, is the more likely explanation for most human sex differences (e.g., greater male size) (pp. 141-142); hunting, as an aspect of ancestral life, developed after the emergence of sexual dimorphism. He restates this position when examining sex differences in development (Chapter 10) and folk biology (Chapter 13). Readers will likely find his summaries, extrapolations, and speculations to be on target and compelling.

New predictions of sex differences are also made, especially towards the end of the book, where the paucity of evolutionarily-inspired research becomes painfully obvious. Areas relatively unexplored include sex differences in theory of mind and kin detection (Chapter 12), folk biology and tool use (Chapter 13), pointing the way for aspiring researchers with interests in

studying sex differences.

Geary should also be credited for an even-handed treatment of non-evolutionary perspectives (at least in comparison to what non-evolutionists generally have to say about evolved dispositions). For example, he discusses Eagly and Wood's social role theory (pp. 268-270), which proposes that sex differences are mainly a product of social expectations. Geary acknowledges that social norms do influence gender-related behavior (see also p. 340) and that he "cannot do complete justice" to the social role model. But he points out, rightly so, that these theorists have "downplayed the potential importance of sexual selection for understanding human sex differences" (p. 269). And his argument lies in the evidence marshaled throughout the book: the same sex differences emerging again and again, across species and societies.

Overall, *Male, Female* is especially well-organized, thorough, and well-documented (the reference section contains 110 pages of cited works). As noted in the Preface, the new edition is more accessible than the first edition, so educated lay readers who want to obtain a deeper and broader understanding about sex differences may also be able to read this book. However, the aim here is "to analyze, synthesize, and integrate our vast knowledge of human sex differences in terms of the principles of sexual selection and to integrate this knowledge with several new ideas about the evolution of human social dynamics..." (pp. 3-4). Clearly, this is a serious undertaking that will likely be under-appreciated by the mildly interested college student or anyone who requires literature to be padded with pop-culture references or generous subjective interpretation. Indeed, the overall style here is much closer to that of an enormous *Psychological Bulletin* review article than the latest offering from Malcolm Gladwell. But for sex-difference researchers and graduate students, this is an indispensable resource. The book also provides a very good review of much of the literature on underlying broad dimensions (e.g., sexual selection) as well as specific life domains including, for example, male parental investment. Thus, researchers generally interested in evolutionary processes should benefit from this comprehensive offering.