

Sex on the Brain

THE BIOLOGICAL DIFFERENCES BETWEEN
MEN AND WOMEN

by Deborah Blum

Viking Penguin, New York, \$24.95, 352 pp.
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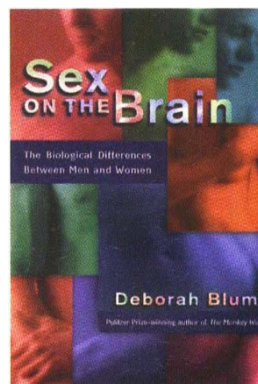
If there were ever any feminists who insisted that men and women are exactly alike, they have fallen silent in the face of countless everyday instances in which the two sexes seem to be, as best-selling authors suggest, from different planets ("Women are from Venus, Men are from Mars, Royalties are from Heaven"). Today the question is, "To what extent is society responsible for inculcating in boys and girls the sex differences in adult human behavior?" Any author interested solely in selling books would be well advised to either insist that there are no biological mechanisms underlying human sex differences, hinting at a conspiracy within society or science to exaggerate the influence of the Y chromosome, or that all human sex differences are the result of biological destiny — in which case, the societal conspiracy would be the suggestion that we can do anything at all about human sex differences in behavior. These two books would appeal to opposite ends of the political spectrum but, like *The Bell Curve*, might stir enough controversy to stimulate considerable sales. Thus it is a relief to read Deborah Blum's comprehensive and thoughtful review of what we know and do not know about the differences between the sexes.

As she makes clear, not only are women and men from the same planet, but the Earth is (and has long been) swarming with females and males shaping each other in the service of life. Blum, a science reporter for the *Sacramento Bee*, has walked this middle course before in her Pulitzer Prize winning newspaper series about the use of animals in research. That series led to her 1994 book, *The Monkey Wars*. Like that book, Blum's new book carefully

sifts the evidence and offers an even-handed appraisal of what science can tell us. This time the subject is that fundamental dichotomy of human nature, the sexes.

Perhaps the most interesting aspect of the book is that Blum is not afraid to remind us of her perspective on this debate. Raised in a liberal family during the feminist movement, entering a traditionally male career as a reporter, then pushing further onto masculine turf by specializing in science reporting, she offers her own wry comments in passing ("Androgens, from the Greek andros, for male ... Estrogens, from the Greek oistros, for gadfly [is this sexist or what?]"). The introduction relates Blum's reactions to her young sons' fascination with predatory dinosaurs and toy guns, despite her indifference to the former and outright aversion to the latter. In discussing the differences in the way men and women behave at home and in the workplace, she openly admits wanting men and women to become more equal partners and wonders aloud whether and when it will ever take place. Without intruding, her personal observations remind us how pervasive these issues are for anyone who aspires to be a good mate or a good parent.

Blum reviews the theory about why sexual reproduction is so common among animal species, what we know about sex differences in the brain of humans, and the different ways in which men and women deal with emotions. There is a discussion of whether hu-



mans are really monogamous (concluding we are somewhere between mildly polygamous and "ambiguously monogamous"), and of what we know about the development of human sexual orientation (women are more plastic than men, probably no man ever "chose" to be gay). Chapters are devoted to the health consequences

of androgens and estrogens and a controversial chapter discusses the issue of whether rape is a purely aggressive, destructive act or is tainted with sexual drive derived from a long evolutionary history of men as "live fast and die young" reproductive strategists. A final chapter skillfully recaps the book and offers a grim warning of the danger of applying current scientific views too vigorously to social/political/legal decisions such as who should reproduce, and what roles men and women should assume. Despite what a reader might presume from the book's subtitle, Blum rejects biological determinism. But neither does she pretend that biology is irrelevant: "...we have to get away from the outdated notion that biology assigns us a fixed place. If the study of gender biology ... tells us anything, it's that life is flexible, designed to adapt, tailored for change" (p. 280). Thorough, clear, respectful of science without being overawed, this highly readable book will interest anyone who's ever wondered why men and women are so very different.

Immunology

THE MAKING OF MODERN SCIENCE

by Richard B. Gallagher & Jean Gilder

Academic Press, New York, \$39.95, 236 pp.
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The book entitled *Immunology: The Making of a Modern Science* is a compendium of articles by immunologists who have contributed variously to the development of immunology as a sci-

ence. It is a compilation of personal recollections of the discovery process, readily accessible to the reasonably educated reader. It is based on the proceedings of a meeting held in 1992, was published in 1995 by Academic Press and only recently arrived on my desk. For this reason, it reads as though the various essays were written between 5 and 10 years ago (the accompanying photograph of each author looks even more dated!). This is not necessarily a handicap, as all of the essays look to the past, rather than to the future — the norm for scientific literature. Nevertheless, there are certain glaring omissions in the modernity of this science, such as the discovery that apoptosis is a central