



Review of *Inferior: The True Power of Women and the Science that Shows It* by Angela Saini

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REVIEW

Even in the 21st century, in what is unfortunately perceived as a “postfeminism”ⁱ era, the popular belief that men are from Mars, and women are from Venusⁱⁱ persists. That is, the misperception that women are fundamentally different from men, and, as the title of Saini’s book suggests, intellectually and physically inferior to men is still problematic both in popular culture and in the scientific community. Saini’s *Inferior* offers a breadth of empirical evidence that contradicts these misperceptions, while simultaneously laying bare the workings of sexism and bias in research that have contributed to these misperceptions. While offering numerous examples, rich in scientific rigor, Saini’s writing style also is accessible to the lay person who may be unfamiliar with the particulars of scientific validity and generalizability in research.

Saini points out the persistent problem of underrepresentation of women in engineering, physics, and mathematics in the United States, despite the fact that women currently comprise nearly half of the scientific workforce. Saini argues that this persistent problem exists not because it is the natural order of things – rooted in biological differences between the sexes. Grounded in the fundamental statistical concept of variation, Saini effectively argues that if women are naturally less capable of being engineers, physicists, or mathematicians, then this biologically rooted fact would not vary across cultures and geographic locations. However, in places such as India and Iran, the proportion of female engineering students is higher than males (a third of all engineering students in India are female). This simple variance begins to demonstrate that the root of the problem is not in biological differences between the sexes, but in gendered differences in culture, socialization, and persistent sexism, that is part

and parcel of the social system which includes the scientific community and practices within science. Saini highlights her overarching argument in the book with a poignant vignette from her childhood,

“When I stood on my own on that playing field, aged sixteen, shooting rockets into the air, I was in love with science. I thought it was a world of clear answers, untainted by subjectivity or prejudice. A beacon of rationality free from bias. What I didn’t yet understand was that the reason I found myself alone that day was because it’s not.”³

Overall, this book highlights not only the science that dispels myths about sex differences, but also sexist bias within scientific research that has impacted the practice of science and continues to contribute to underrepresentation of women in scientific fields.

SUMMARY OF SECTIONS

Saini begins with an engaging introduction to the topic, offering as an example of sexism a letter from Charles Darwin himself endorsing the idea that women are not only intellectually inferior to men but also that the laws of inheritance suggest that they will *never* be equal to men. After taking the reader through other events and statements of historical significance within the scientific community, the author provides unambiguous working definitions of sex and gender, indicating that the topic of this book is the scientific inquiry into differences between the male and female sexes. Offering the scientific study of hormones as an example, the author points out how studies of sex differences continue to fascinate and shape popular perceptions, touching on controversial questions. Despite the ample evidence of bias in research already provided, the author launches into the book on a hopeful note that facts, as well as the rigors of scientific inquiry, will dispel misperceptions and help to end sexism, inequality, and sex-based violence.

The remainder of the book is structured thematically around topics associated with studies of sex differences. The author begins with a look into the notion that males are physically superior, becoming sick less often than females. Saini presents findings that while women do get sick more frequently, they also live longer than males, a statistical phenomenon that is explained by one scientist as a survivor issue – there remain more sick women than men in part because women survive illnesses that otherwise kill men. This section also includes a review of the history of sex bias in science research wherein health researchers have typically only studied male subjects on the simple basis that it is cheaper to only study one sex.

Saini transitions from examining the scientific evidence around physical differences and bias in health research to investigations of just how fundamental biological differences are, or how far they reach. The author moves next into a review of the evidence around sex differences at birth, reviewing research that both supports and refutes sex differences between babies and very young children. The idea of examining differences in the very young is meant to get around the issue of gender socialization by researching children before they have been socialized into gendered

stereotypes. Saini's treatment of the topic provides a balanced view while also highlighting the ways in which the researchers' own biases impact the research, and the fuzzy distinction of when exactly a child is affected by gender socialization.

Next the author takes up the topic of brain differences between males and females, beginning with the empirical finding that, on average, the female brain weighs less than the male brain, and how that fact has implicitly and explicitly affected cultural perceptions and scientific study of sex differences in cognitive functioning. Scientists have interpreted the lighter weight of the brain through a theory of complementarity in which, biologically, female and male brains are thought to be complementary to one another, including brain differences. Saini returns to her structural argument that if intellectual ability sex differences were biologically rooted, then we would not see variances over time or space, providing examples of mathematical ability changing for females over time and unevenly among different cultures and nations.

From brain differences, the author takes up a related topic – work and how it is gendered. Cultural beliefs about women's work are often grounded in the belief that women are biologically different from men in terms of brain functioning and personality. Saini highlights the work of Sarah Hrdy and others to take the reader through a review of the literature pulling together findings from disparate scientists and fields to examine this from the perspective of evolutionary biology.

Drawing from the evolutionary findings on the development of work roles based on biological sex, the author moves on to an even more controversial and deeply embedded stereotype – that of sex differences in promiscuity. In what is perhaps one of the most interesting sections of the book, Saini provides an overview of research from diverse fields, citing anthropological research on the practice of partible paternity (the belief that more than one man can be the father of a baby) in some societies in South America as well as research on the movements of bluebirds that found females routinely flying away to mate with males that were not their partners. Moving seamlessly from the study of sex differences in sexual behavior, the author extends her overview of the research on sexual politics and aggression, asking unapologetically of the empirical evidence, "Is patriarchy hardwired into our biology?"⁴

The last topic addressed is menopause, which represents a unique experience when viewed through the lens of biological sex differences. Unlike most other biological phenomenon that occur in humans and can be found in other species, menopause is only shared with a handful of other species, including killer whales which share a similar lifespan and reproduction age span with humans⁵. Saini reviews the lack of scientific research into menopause as well as poor quality research and scientific beliefs about menopause, concluding that, "The story of the menopause is the story of how science has sometimes failed women"⁶.

CONCLUSION

Overall this book proves interesting reading for both trained scientists and those who simply wish to know more about the state of scientific knowledge around sex differences. The author provides a wealth of information on research into sex differences yet manages to synthesize the information without overwhelming the reader with statistical findings or jargon. For readers so inclined, ample citations are provided to the original research discussed, and enough details are given that the trained scientist can assess the overall validity of the studies described.

As both a feminist scholar and a research scientist, I found this book to be highly engaging and thorough. Saini effectively maintains her focus on the scientific evidence around sex differences without trivializing gender differences or gender theory. Her writing is sufficiently academic to quench the academic reader's thirst for precision and cited research, but not overly filled with technical language such that the non-academic reader is overwhelmed by it. One of the greatest strengths of this book is Saini's ability to draw the reader in through the use of narrative and to connect the technical and specifics of the research she describes to one continuous theme throughout the book. The individual researchers and studies do not become fragmented and akin to a giant literature review. Instead, Saini's writing effectively conveys the evidence and discussion of its meaning with an eye for resolving persistent gender inequities in STEM fields.

ENDNOTES

- ¹ Tasker, Y., & Negra, D., (2007) *Interrogating Postfeminism: Gender and the Politics of Popular Culture* Durham, NC: Duke University Press;
McRobbie, A., (2004) "Notes on Postfeminism and Popular Culture: Bridget Jones and the New Gender Regime," in *All About the Girl: Culture, Power and Identity*, ed. Harris, A. New York: Routledge, p 3-14 ;
Ringrose, J., (2012) *Postfeminist Education?: Girls and the Sexual Politics of Schooling* New York, NY: Routledge.
Pomerantz, S., Raby, R., & Stefanik, A., (2013): "Girls Run the World? Caught between Sexism and Postfeminism in School," *Gender & Society* 27,(2) 185-207.
- ² John Gray (2012) *Men Are from Mars, Women Are from Venus: The Classic Guide to Understanding the Opposite Sex*. London: HarperCollins
- ³ Saini, A., (2017) *Inferior: The True Power of Women and the Science That Shows It*, 4th Estate p. 5.
- ⁴ Saini, A., (2017) *Inferior: The True Power of Women and the Science That Shows It*, 4th Estate p. 195.
- ⁵ Saini, A., (2017) *Inferior: The True Power of Women and the Science That Shows It*, 4th Estate p. 213.
- ⁶ Saini, A., (2017) *Inferior: The True Power of Women and the Science That Shows It*, 4th Estate p. 230.