

The Washington Post

'Delusions of Gender' argues that faulty science is furthering sexism

By Wray Herbert
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DELUSIONS OF GENDER

How Our Minds, Society, and Neurosexism Create Difference

By Cordelia Fine

Norton. 338 pp. \$25.95

About halfway through this irreverent and important book, cognitive psychologist Cordelia Fine offers a fairly technical explanation of the fMRI, a common kind of brain scan. By now, everyone is familiar with these head-shaped images, with their splashes of red and orange and green and blue. But far fewer know what those colors really mean or where they come from.

It's not as if these machines are taking color videos of the human brain in action -- not even close. In fact, these high-tech scanners are gathering data several steps removed from brain activity and even further from behavior. They are measuring the magnetic quality of hemoglobin, as a proxy for the blood oxygen being consumed in particular regions of the brain. If the measurement is different from what one would expect, scientists slap some color on that region of the map: hot, vibrant shades such as red if it's more than expected; cool, subdued tones if it's less.

Fine calls this "blobology": the science -- or art -- of creating images and then interpreting them as if they have something to do with human behavior. Her detailed explanation of brain-scanning technology is essential to her argument, as it conveys a sense of just how difficult it is to interpret such raw data. She isn't opposed to neuroscience or brain imaging; quite the opposite. But she is ardently against making authoritative interpretations of ambiguous data. And she's especially intolerant of any intellectual leap from analyzing iffy brain data to justifying a society stratified by gender. Hence her title, "Delusions of Gender," which can be read as an intentional slur on the scientific minds perpetrating this deceit.

Fine gives these scientists no quarter, and her beef isn't just with brain scanners. Consider her critique of a widely cited study of babies'

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gazes, conducted when the infants were just a day and a half old. The study found that baby girls were much more likely to gaze at the experimenter's face, while baby boys preferred to look at a mobile. The scientists took these results as evidence that girls are more empathic than boys, who are more analytic than girls -- even without socialization. The problem, not to put too fine a point on it, is that it's a lousy experiment. Fine spends several pages systematically discrediting the study, detailing flaw after flaw in its design. Again, it's a somewhat technical, methodological discussion, but an important one, especially since this study has become a cornerstone of the argument that boys and girls have a fundamental difference in brain wiring.

By now, you should be getting a feeling for the tone and texture of this book. Fine offers no original research on the brain or gender; instead, her mission is to demolish the sloppy science being used today to justify gender stereotypes -- which she labels "neurosexism." She is no less merciless in attacking "brain scams," her derisive term for the many popular versions of the idea that sex hormones shape the brain, which then shapes behavior and intellectual ability, from mathematics to nurturance.

Two of her favorite targets are John Gray, author of the "Men Are From Mars, Women Are From Venus" books, and Louann Brizendine, author of "The Female Brain" and "The Male Brain." Fine's preferred illustration

of Gray's "neurononsense" is his discussion of the brain's inferior parietal lobe, or IPL. The left IPL is more developed in men, the right IPL in women, which for Gray illuminates a lot: He says this anatomical difference explains why men become impatient when women talk too long and why women are better able to respond to a baby crying at night. Fine dismisses such conclusions as nothing more than "sexism disguised in neuroscientific finery."

Gray lacks scientific credentials. Brizendine has no such excuse, having been trained in science and medicine at Harvard, Berkeley and Yale. And Fine saves her big guns -- and her deepest contempt -- for her. For the purposes of this critique, Fine fact-checked every single citation in "The Female Brain," examining every study that Brizendine used to document her argument that male and female brains are fundamentally different. Brizendine cited hundreds of academic articles, making the text appear authoritative

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to the unwary reader. Yet on closer inspection, according to Fine, the articles are either deliberately misrepresented or simply irrelevant.

"Neurosexism" is hardly new. Fine traces its roots to the mid-19th century, when the "evidence" for inequality included everything from snout elongation to "cephalic index" (ratio of head length to head breadth) to brain weight and neuron delicacy. Back then, the motives for this pseudoscience were transparently political: restricting access to higher education and, especially, the right to vote. In a 1915 New York Times commentary on women's suffrage, neurologist Charles Dana, perhaps the most illustrious brain scientist of his time, catalogued several differences between men's and women's brains and nervous systems, including the upper half of the spinal cord. These differences, he claimed, proved that women lack the intellect for politics and governance.

None of this was true, of course. Not one of Dana's brain differences withstood the rigors of scientific investigation over time. And that is really the main point that Fine wants to leave the reader pondering: The crude technologies of Victorian brain scientists may have been replaced by powerful brain scanners such as the fMRI, but time and future science may judge imaging data just as harshly. Don't forget, she warns us, that wrapping a tape measure around the head was once considered modern and scientifically sophisticated. Those seductive

blobs of color could end up on the same intellectual scrap heap.

Wray Herbert's book "On Second Thought: Outsmarting Your Mind's Hard-Wired Habits" has just been published.

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