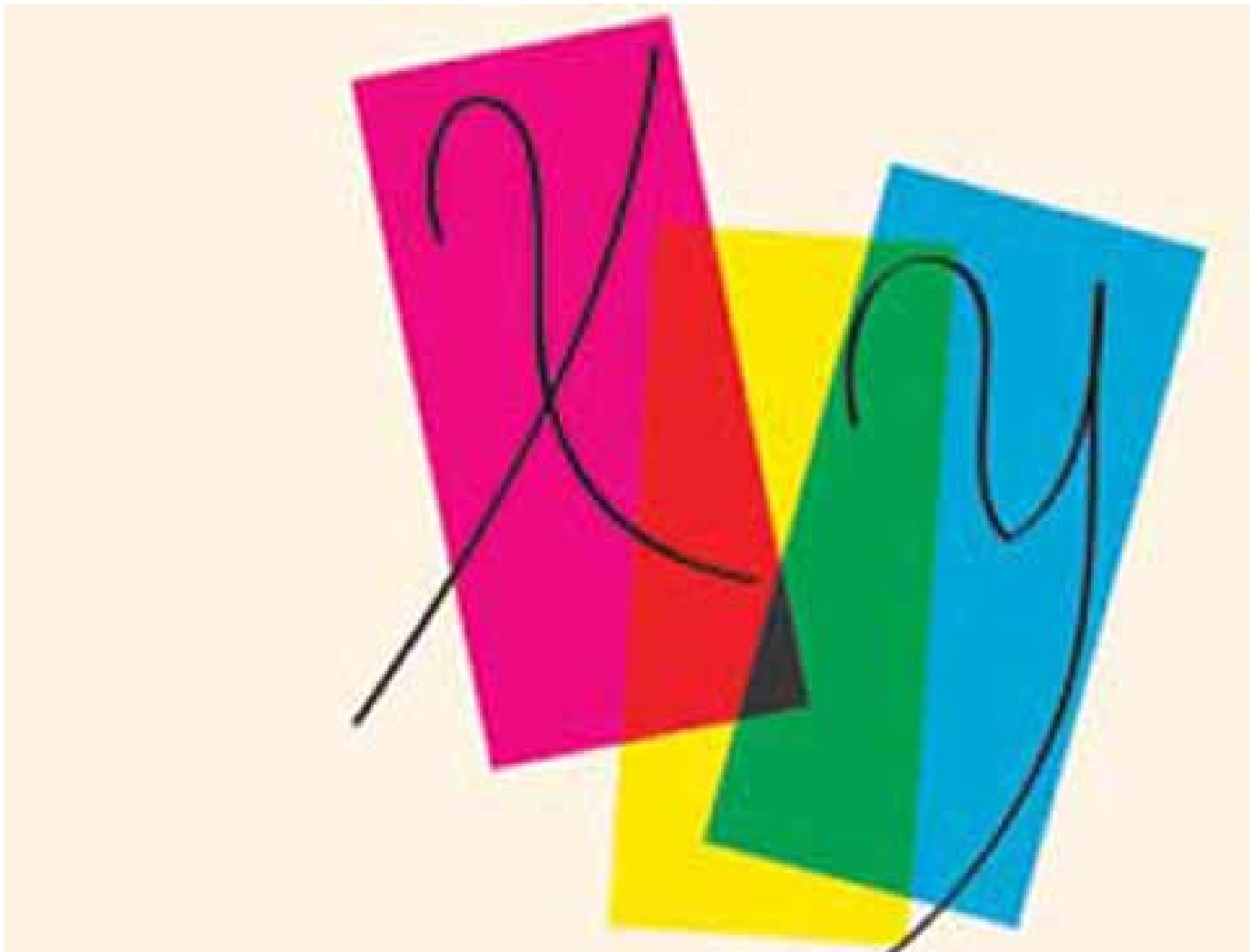


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Delusions of Gender: The Real Science Behind Sex Differences

What is important about gender differences is not whether they arise from social structure or from brain structure, a misleading distinction, but that they are not inevitable, and they can be changed.



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Cordelia Fine, *Delusions of Gender: The Real Science Behind Sex Differences* (Icon Books 2010), xxix, 338pp.

Men can't iron and women can't read maps. Men are taciturn and rational; women are emotional and never shut up. Girls like pink because Paleolithic women spent their days gathering red berries. Whatever the supposedly 'typical' male or female behaviour, there seems no shortage of writers to tell us it is evidence of fundamental differences between men and women hard-wired into our brains. In this incisive, accessible and often laugh-out-loud witty book, Cordelia Fine shows these arguments for what they are: not biological truths, but modern versions of the tired old sexist ideas about a woman's proper place.

Fine presents a clear critique of writers like Simon Baron Cohen or Louann Brizendine, who argue that there is such a thing as a 'male' or 'female' brain. Not only are supposed differences in male and female language use, empathy or maths skills, often non-existent, they are influenced themselves by our ideas about what women and men innately are like. One study Fine recounts showed that while women do not appear to have any more empathetic ability than men, if you set up the testing situation to remind women that they are supposed to be the empathetic gender, they will then outperform the men in the test.

The same factors operate in the real world. Fine has a particularly good account of how the idea that women are not supposed to be good at maths and science, works to hold women back in those fields. The small numbers of women in positions of authority is not a result of differences in brain structure, but of a system which applies to women 'a higher, harder, shifting standard' (p. 66), even while proclaiming its objectivity. Fine cites a study on hiring bias found that, while admitted sexist attitudes did not predict which employers would discriminate against female job applicants, the employers who described themselves as objective and unbiased discriminated the most.

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In much of this, Fine is covering material already addressed by recent works like Deborah Cameron's *The Myth of Mars and Venus* (OUP 2007). This is not a bad thing: while books on 'The Female Brain' or 'Why Men Don't Listen' keep rolling off the presses, the arguments against them have to keep being restated. Fine also sets herself apart with her section on the specific arguments about brain structure, which she dubs 'Neurosexism'. Here, she not only demolishes the 'neurononsense', but in the process demonstrates a distinctly Marxist way of viewing the brain and the mind.

According to the neurosexist view of gender, male and female brains have important differences in structure. Male brains, because of higher levels of testosterone, have undeveloped left hemispheres compared to the right. Male brains use the left hemisphere for language, and the right for processing visual-spatial stimuli, while female brains use both hemispheres for both types of inputs. This is supposed to make men more systematising and task-orientated, compared to women's feelings-based approach which enables them to multi-task. Men are also supposed to use a specific area of the left hemisphere for emotion-processing, compared to various different areas used by women, which apparently makes men more logical and less prone to emotional decisions than their female counterparts.

Much of this is based on MRI scanning, and Fine is particularly incisive on the difficulties of using the results of neuroimaging studies to draw conclusions about innate gender differences. Neuroimaging is often described as 'watching the brain work' but the areas that light up in a neuroimaging test are not areas of activity *per se*, but areas of more activity than in a supposedly 'resting' state. This is an important difference, and indeed some researchers have questioned the validity of many of these types of study because the thresholds used to identify significant differences between the studied and the resting state are too low. 'To illustrate this point', Fine says, 'some researchers recently scanned an Atlantic salmon while showing it emotionally charged photographs. The salmon - which, by the way, "was not alive at the time of scanning" - was "asked to determine what emotion the individual in the photo must have been experiencing." Using standard

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statistical procedures, they found significant brain activity in one small region of the dead fish's brain while it performed the empathising task, compared with brain activity during "rest".' (p. 180). The problems are not restricted to MRI scans. Fine discusses other studies aimed at getting at 'hard-wired' brain workings as similarly questionable. One well-known study of newborn babies purported to show that girls were born more interested in looking at faces than at a mobile and that boys were the opposite, but got its results while omitting several fairly basic controls, like concealing the babies' gender from the researchers administering the tests.

Going beyond these flaws, Fine examines the assumptions behind the continued attempts to attribute gendered behaviour to brain structure. These are first that the structure of the brain is the default explanation for differences between men and women. If you can't immediately find a social explanation for a difference, then it must be biological, with all the implications of biology-as-destiny that 'hard-wiring' carries with it. This is why so many studies concentrate on young children: regarded as too young to be susceptible to environmental influences, if babies are found behaving in a gendered way, this must, the thinking goes, prove that their brains are themselves gendered. In looking for these gender differences in the brain, it is also widely assumed that behaviour reflects brain structure: i.e. that if you have a defined area in your brain for emotion processing, you will compartmentalise your emotions more than someone whose brain uses various different areas for the same task.

Both of these assumptions arise from thinking in dichotomies: physical/environmental; brain/mind, while Fine is clearly coming from a more dialectical position on development and brain function. Although she does not make it explicit, her arguments on 'neurononsense' in particular seem to reflect arguments of Marxist scientists like Stephen Jay Gould, Richard Lewontin and in particular Steven Rose. These present a view of human development which rejects the idea that the individual is passively subject to genetic or environmental influences, from conception onwards. Rather there is a dialectical process in which we ourselves play an active part. A baby's

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thoughts and behaviour are not determined by the pre-set structure of its brain; that structure is actually shaped as it develops by the baby's thought processes as it learns. It therefore makes no sense to view social influences on gender as ephemeral compared to the influence of brain structure: as Fine says, the brain is what environmental influences act on. We are not ghosts in the machine; what we do affects our brains as much as the other way around.

Ultimately, what is important about gender differences is not whether they arise from social structure or from brain structure, a misleading distinction, but that they are not inevitable, and they can be changed. Fine ends with the thought that 'if we only believe this, it will continue to unravel' (p. 239). There is a great deal of campaigning to come elided in that one sentence, but it's difficult to disagree with the conclusion. Scientific debates about the origins of gendered behaviour may seem academic when we're fighting sexism now, but if nothing else, the sheer effort that is put in to convince us that we are biologically destined to be exploited because of our sex (or race, or class) shows how important these issues really are.

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