**The Science Of Gender: No, Men Aren't From Mars And Women From Venus**

January 26, 20173:42 AM ET

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<http://www.npr.org/sections/13.7/2017/01/26/511734926/the-science-of-gender-no-men-arent-from-mars-and-women-from-venus>

Testosterone Rex is extinct.

That's the central conclusion of a fascinating new book by University of Melbourne psychologist [Cordelia Fine](http://www.cordeliafine.com/). [Testosterone Rex: Myths of Sex, Science, and Society](http://books.wwnorton.com/books/Testosterone-Rex/) hit the bookstores Tuesday.

"Testosterone Rex" is a nickname for the view that women and men are essentially different, owing very largely to biology. The hormone testosterone is, in this view, a biological agent that makes men more liable to seek a variety of sexual partners, more prone to risk-taking, and so on.

Pretty much everyone agrees these days that nature and nurture both play a role in how humans develop. Nonetheless, Fine writes, Testosterone Rex is still a powerful perspective that gives much greater weight to nature when it comes to gender. She describes it like this:

"Of course there is variability — not all men are identical, nor are all women. But amid all the 'noise' of individual differences, a male or female 'essence' can be extracted: characteristics of maleness and femaleness that are natural, immutable, discrete, historically and cross-culturally invariant, and grounded in deep-seated, biological factors."

I've frequently taken up against this overly simple view, here at 13.7, for example with regard to anthropologist [Melvin Konner's claim](http://www.npr.org/sections/13.7/2015/04/16/400075715/is-it-sexist-to-say-that-women-are-superior-to-men) that women are biologically superior to men. It's [way too simple](http://www.npr.org/sections/13.7/2013/12/12/250012887/why-we-need-more-than-three-genders) to think there's any straightforward male-female binary in the first place.

So Fine's bold writing — "Testosterone Rex misrepresents our past, present, and future; it misdirects scientific research; and it reinforces an unequal status quo*"*—naturally appeals to me. Fine has written a book that's not only well-researched and convincing but also, at times, delightfully humorous.

Where else, after all, would we find the startling phrase "cichlid testes are a social construction"?

[Cichlids](https://en.wikipedia.org/wiki/Cichlid) are fish. According to Fine, only some male cichlids manage to set up a territory to which they may lure females for breeding. Unlike others who lack such a territory, these successful males "sport bold splashes of red and orange, and intimidating black eye stripes." They also have significantly larger testes (the site where testosterone is produced) and more circulating testosterone than the non-territorial males.

Here's the relevant news though: Put a territorial male in a tank with a larger territorial male, and within days his bold colors vanish and his testes shrink. When a non-territorial male is put into a tank with only females and smaller males, his testes enlarge.

It's the social circumstances that the fish find themselves in that sculpt their anatomies and their behaviors. Or, to put it Fine's way, cichlid testes are a social construction!

More than cichlids, humans interest Fine. As she did in her prior book [Delusions of Gender](http://www.npr.org/sections/13.7/2011/06/28/137398402/gender-is-dead-long-live-gender)*,*Fine crams *Testosterone Rex*full of scientific studies about human gendered behavior and interprets them skillfully.

Readers familiar with the history of science will appreciate Fine's takedown right at the outset of the supposedly universal principle (stemming from British biologist Angus Bateson's [famous fruit fly experiments](https://en.wikipedia.org/wiki/Bateman's_principle)) that males across numerous species are evolutionary selected to be philanderers and females to be coy. We now know that in many species, males can be choosy and females quite capable of sexual activity way in excess of what's required for reproduction.

When it comes to humans, yes, Fine says, on average men report a greater interest in casual sex than do women. But according to a large-scale British study of more than 12,000 people ages 16-44, the most common number of sexual partners for both men and women was ... one. That answer held whether the respondents were asked to report for the previous three months, the previous year, or the previous five years. Both men (80 percent) and women (89 percent) also said they preferred to be in a sexually exclusive relationship.

What about the now-famous studies done on college campuses that show men are far more likely than women to accept the request of an opposite-sex unfamiliar peer (actually a research confederate) to come over to their apartment or even to go to bed together?

Here Fine is at her best, registering this objection (among others):

"What this study is actually primarily showing is women's lack of interest in being murdered, raped, robbed, or inflaming the interests of a potential stalker.... Social realities mean that women and men in these studies are simply not participating in the same experiment."

Over and over, Fine takes us through studies to show how gendered behavior is immensely influenced by our social circumstances. Risk-taking is often presented as an inherently male trait, to take another example. Yet it's much more complicated than that. In one study, more than 1,500 U.S. households were surveyed, with the finding that women, on average, perceived higher risks in society across the board. When the researchers looked beyond gender to ethnicity, however, they discovered that one group saw society as safer than any other: white males.

"What on first inspection seemed like a sex difference," Fine writes, "was actually a difference between white males and everyone else."

One of Fine's most striking overall conclusions is worded this way: "Every newborn human inherits gender constructions as an obligatory part of their developmental system."

I asked Fine via email to elaborate on this point. She said:

"Animals don't just inherit genes, but an entire 'developmental system': depending on the species, this might include a particular habitat, a mother, playmates and, in the case of humans, a rich cultural legacy. Developmental biologists have recognized for a long time that the non-genetic developmental system can provide reliable, stable and critical inputs for the development of adaptive traits — meaning that 'adaptive' doesn't necessarily imply genetically determined."

This breaking of the link between what is adaptive and what is genetically determined — realizing that a whole development system is inherited by humans as well as by other animals — is highly significant for our understanding of human gender behavior.

Why is this more nuanced picture comparatively slow to catch on? Fine said:

"In psychology we still tend to focus on statistical significance rather than functional difference: what does this result mean in practice, in real life, or for our theory?

Meanwhile, sex differences research usually (as the term suggests) focuses on difference rather than similarity, size, or shape, and this influences the kinds of explanations that come to mind.

For example, when we make a generic statement like 'men are more financially risk-taking than women,' then men's greater average testosterone exposure seems like an obvious explanation. But when we, more accurately, say, 'On some financial tasks, but not others, some men, from some cultures, in some contexts, with some pay-offs, are more financially risk-taking than some women,' we no longer think, 'It must be the testosterone!'

Reading *Testosterone Rex,*it becomes disturbingly clear the degree to which gender researchers do their work via a bedrock assumption that everyone is eithermale or female, and heterosexual. Fine mentions [intersex](http://www.npr.org/sections/13.7/2015/11/19/456458790/what-does-it-mean-to-be-intersex) individuals and gay individuals — and briefly asks us to think twice about the "too-neat male versus female binary." But, still, I thought she might have pushed harder on this point. Doesn't such a limited view as taken up by gender researchers make for poor gender science?

To this point, Fine emailed me:

"I agree that it's critical that scientific models of sexual differentiation take account of the true array of developmental outcomes, and gender scholarship has and should play a vital role in this."

Meanwhile, Fine says that we need to push back against simplistic Testosterone Rex thinking about gender because it too often translates into sexism that holds women back from being seen as three-dimensional people with all sorts of desires and aptitudes and skills.

This intertwining of good science and gender activism makes *Testosterone Rex*a timely book.

*Barbara J. King is an anthropology professor emerita at the College of William and Mary. She often writes about the cognition, emotion and welfare of animals, and about biological anthropology, human evolution and gender issues. Barbara's most recent book on animals is titled*[How Animals Grieve](http://www.npr.org/books/titles/176686699/how-animals-grieve), *and her forthcoming book,*[Personalities on the Plate: The Lives and Minds of Animals We Eat](https://www.amazon.com/Personalities-Plate-Lives-Minds-Animals/dp/022619518X/ref=sr_1_1?ie=UTF8&qid=1481142594&sr=8-1&keywords=personalities+on+the+plate), will be published in March.*You can keep up with what she is thinking on Twitter:*[@bjkingape](https://twitter.com/bjkingape)