Twitter Thread by Mrkhtake2

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Today we're going to talk statistics and semantics. I'm going to do so via the medium of one of Twitter's favourite stats 1.7% (aka "intersex is as common as red heads."). The statistic comes from Fausto-Sterling's work, which you can see a review of

To understand the statistic, we have to drill down into what the meaning of the word intersex is. Most people think of hermaphrodites. Let's stress at the beginning there has been no example ever of a human being with both sets of working reproductive organs.

There is a very tiny percentage of people who are born with both testicular and ovarian tissue (what Fausto-Sterling calls "true hermaphrodites"). And when I say tiny, we're talking intersex tiny, as in 0.0117/1,000 live births, or one in 1,000,000. These are very complex cases.

So, how do we arrive at 1.7%? What Fausto-Sterling does is apply a wider scope. Instead, she argues that intersex is anything that doesn't fit into a platonic ideal. The platonic ideal, in this case, being a phenotypically perfect XX female and a phenotypically perfect XY male.

This means that intersex, used in the context of the 1.7% statistic, includes people for whom there is no sexual ambiguity. Take for example Klinefelter syndrome (XXY males). As Fausto-Sterling acknowledges, many males can go their whole life and not realise they are XXY.

In fact, the section on chromosomal conditions (anything outside of XX or XY) specifically sets out how they can be categorised, into male or female, according to gonadal (sperm/egg production) sex and phenotype (secondary sex characteristics e.g. genitals).

Other cases that are easily categorised into male or female include conditions like mine, and males with penile agenesis. We have XX or XY chromosomes but absent or incomplete penis or vagina. In males this only occurs in around 1/1,000,000 births but it is more common in women.

Nonetheless, we are still genotypically (chromosomally), phenotypically and usually gonadally typical males or females. See how robust this sexual dimorphism is? Nature is amazing.

Fausto-Sterling also includes variations such as CAH. This is more complex. Classic CAH can lead to ambiguous genitalia. This probably isn't what people think it is though. In the case of CAH it would be virilised female genitalia. Males with CAH will not have ambiguous genitalia

Typically, virilised female genitalia means an enlarged clitoris and sometimes a fused labia. These might appear masculine but they are female. An enlarged clitoris is not a penis. I've written more about this before.
https://t.co/fze95pGwN2

> Do intersex women have penises? I\u2019m seeing this thrown around a lot, so let\u2019s address it. Firstly, as ever, let\u2019s all remember that intersex =/= trans, and he conflation is harmful and ignorant. Now let\u2019s get on with some science\u2026
>
> — Mrkhtake2 (@mrkhtake2) August 25, 2018

However, Sterling also includes any ambiguity caused during someone's entire lifetime, known as late onset, which extends the definition beyond congenital cases not of "the platonic ideal" to cases where no difference or ambiguity would be present at birth at all.

This is important as late onset adrenal hyperplasia, people who are unambiguously genotypically, phenotypically and gonadally either male or female at birth, account for 1.5% of that 1.7% statistic.

So far, what we have seen is that, apart from those rare 1/1,000,000 cases, "intersex" now includes a lot of people who are actually still unambiguously male or female. I know this is really boring and nowhere near as exciting as "intersex people are clown fish actually", sorry.

This thread is quite long, and I 'm going to wrap it up soon but there is one condition that needs discussing as it's probably one of the most frequently cited…AIS. AIS (Androgen Insensitivity syndrome) is complicated as there are different forms.

A quick overview; it affects genetic males, as in XY individuals. The individuals are unable, to varying degrees, to process androgens. In other words, they cannot respond to testosterone in the way other XY males can.

Phenotypical features range from a fully female external phenotype, with a blind-ending vagina and little axillary hair development, to someone with infertile male syndrome. AIS is one of the rare occasions where sex may be assigned rather than observed.

As women with CAIS have bodies that are unable to respond to the hormones that produce a male appearance, they are assigned female. I always find it ironic when people roll out "some CAIS women have given birth" as a gotcha.

Yes, they have, with the help of fertility treatments, and it kinda underlines why assigning female makes sense here and isn't an imposition or a mistake or proof that other XY individuals need the same inclusion. I recommend following @ClareCAIS to learn more about CAIS.

The thing that annnoys me most about Fausto-Sterling, and the copycats who followed, is their need to make it all visually tidy. Sterling does it with this graph, which represents precisely nothing that's said. You'll see similar being used in lost of the

“sex spectrum” writing.

In what way are many of these conditions a coexistence of male and female? It’s conceptually pretty but scientifically drivel. I want to make one thing clear here, I’m not against the 1.7% being acknowledged as a group. It’s sensible for us to work together. Just not this.

What I am trying to point out is that there is an incongruence between the statistics use for intersex conditions and what people think intersex conditions mean. The vast majority of the 1.7% are unambiguously male or female. These conditions prove how robust dimorphism is.

To get an idea of what I mean, read this thread again, and then try explaining it to someone else without using the words male or female. Biology, and sex, matters.