

Sex in the Literature: an Interdisciplinary Analysis & Critique of Concepts and Definitions of Sex in Biological Research

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Abstract

This interdisciplinary collaboration between natural scientists, social scientists, and humanities scholars seeks to understand the technical and operational definitions of “sex” employed in biological research, and to critique these often-implicit definitions and metrics of “biological sex”. Because the biological sciences are often invoked in discussions of human sex, gender, and sexuality - and definitions of “biological sex” are more specifically wielded to justify trans-exclusionary policies – it is imperative that biologists are explicit in their language and meaning. Our hope is that our research will stimulate biologists to more carefully consider their conceptualization and definitions of biological sex, reconsider sex as a non-binary and continuously varying set of occasionally correlated traits, and reflect on the utility of traditional constructions of sex in research that aims to understand the awesome variation found among living organisms.

February 2020 Workshop

- 3-day workshop hosted by the Queer Ecologies Working Group @UC Berkeley Social Science Matrix
- 25 participants spanning biological sciences, feminist science and technology studies, history, sociology
- Presentations from participants on topics in their field, close readings, conversations with visiting experts including Dr. Kim TallBear
- Brainstorming a meta-analysis of sex in the scientific literature

Major Themes & Discussion

How is sex doing work in the world and what is it doing?

- What is the role that sex serves in the questions we are asking? And what would it look like to communicate and demonstrate these challenges to scientists?
- What traits are being measured re: sex?
- What is being gained by including those variables in analysis?
- Is sex being explicitly defined, or merely assumed as a common shared concept?

How was sex “made”?

- Historical context for the winding, inconsistent use of sex in biology

Cascading meaning of sex throughout the body

- When we sex an organism based on any one trait, we apply that to every other part of the organism, even if said traits are not always correlated
- When we sex an organism, we bring all human assumptions of sex to the organism

Sex is a cultural category mapped on to distinct, continuously varying biological traits. When we wield it, we cannot be “precise”, because it is not an objective biological truth to be measured. We should be “explicit”, recognizing that sex is a shorthand used for communication & we should be clear about what we are communicating.

Next Steps

- Data collection for literature survey & meta-analysis currently in beta-testing (Google Forms survey will be filled out by collaborators reviewing each paper)
- Determining which journals and years will be included in literature survey (current thinking: society journals, e.g. Animal Behaviour, Ecology, The American Naturalist)
- Dividing up literature survey tasks and beginning data collection for meta-analysis
- Developing ongoing collaborative exchanges to create at least one companion paper led by social scientists using social science qualitative & quantitative methods to understand scientific conceptions and constructions of sex

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