

- Agenda** | Social construction & the real
1. Administrative
  2. Social construction
  3. Epistemology in STS
  4. Next three readings

## Discussion question assignments

- ⋮ *Everyone should have received an email that looks like this:*

Your assignments for discussion question submission are as follows:

- Class of **2023-10-17** (question due on Teams by 11:59pm **Monday, October 16**)
- Class of **2023-11-09** (question due on Teams by 11:59pm **Monday, November 6**)
- Class of **2023-11-23** (question due on Teams by 11:59pm **Monday, November 20**)

- ⋮ These list the date of the class period that your question should relate to and the due date for submitting the question.
- ⋮ E.g. the question for the class of November 9 (Poudrier 2007) is due on November 6.
- ⋮ Turn these in on the “Assignments” tab on Teams

### Discussion prompt for Thursday, November 9

Due 6 November 2023 23:59

Points

10 points possible

#### Instructions

Please submit one discussion prompt total for the reading(s) for Thursday, November 9. See the course schedule (<https://soci325.netlify.app/#schedule>) for details.

## Two-part submissions: *Example:*

### 1. Prompt

- ⋮ One (broad) idea, described in a few sentences
- ⋮ Can contain multiple, related “questions”
- ⋮ Can contain quotes from text
- ⋮ Should use in-text (parenthetical) citations

### 2. Motivation

- ⋮ A few sentences describing where the question is coming from and where I hope it may lead
- ⋮ Counts toward score, but will not be published if your question is chosen for inclusion

#### **Prompt:**

Merton wrote *The normative structure of science* early in his career in 1942 (during World War II) and included it in a collection of his work on the sociology of science in 1973 (during the Cold War). How might the political climate of this time span in America have influenced his work? Do his theories cast science in a particular light? How does this work look through the lens of Wolfe’s (2018) depiction of science during the Cold War?

#### **Motivation:**

I was thinking about the age of Merton’s piece, (published more than 80 years ago!) in the context of the course theme “history of science is a social history.” Rather than just understanding the reading as an example of the sociology of science, I thought it would be interesting to treat it as the object of our inquiry. In addition to helping us understand Merton’s arguments in context, I hope this will raise the larger issue of whether we can apply the tools of the sociology of science to the sociology of science itself.

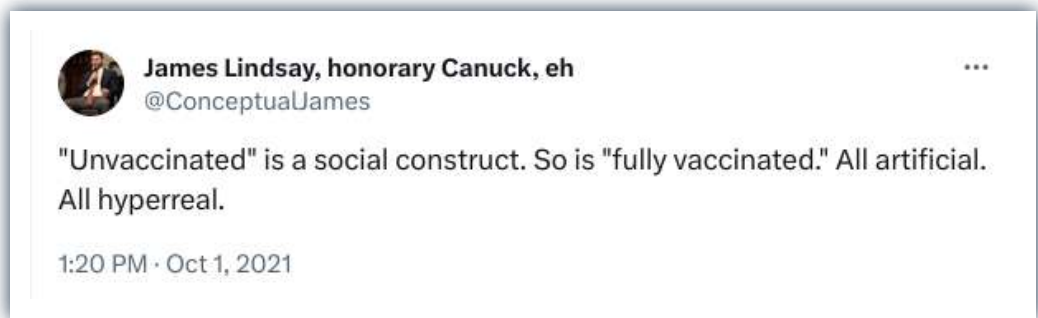
# Social Construction

## *Social construction in popular discourse*

- ⋮ “If something is a ‘socially construct’, that means it can be whatever you want it to be.”
- ⋮ “Socially constructed = fake”
- ⋮ ***These interpretations are usually based on a serious misunderstanding (or deliberate misrepresentation) of social construction.***



A screenshot of a tweet from an anonymous user, indicated by an orange redaction box. The user's profile picture is a cartoon character. The text of the tweet reads: "Gender's a social construct, remember. Just have half the scientists 'identify' as female. #problemsolved". The timestamp is "2:10 AM · May 5, 2017".



A screenshot of a tweet by James Lindsay, an honorary Canuck. His profile picture shows him in a suit. The text of the tweet reads: "Unvaccinated" is a social construct. So is "fully vaccinated." All artificial. All hyperreal. The timestamp is "1:20 PM · Oct 1, 2021".



A screenshot of a tweet by Dr. Jordan B. Peterson, a verified user. The text of the tweet reads: "Science is a social construct, remember? That's why planes fly...". Below the tweet is a reply from an anonymous user (orange redaction box) dated "Feb 16, 2018". The reply text reads: "Replying to @jordanbpeterson Both of the statements singled out as discriminatory & harassing are scientifically established. I guess they didn't bother to consult the literature." The timestamp for the tweet is "11:54 PM · Feb 16, 2018".

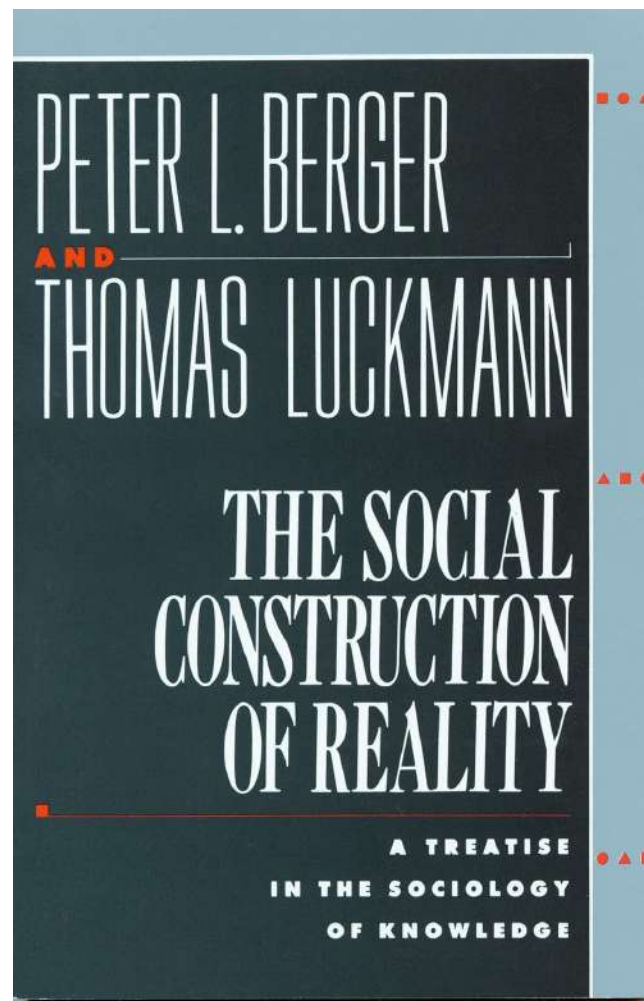
# SOCIAL CONSTRUCTION

## Sociology of knowledge

- ‡ The Social Construction of Reality (1966)  
Peter Berger & Thomas Luckman

## Basic argument:

- ‡ Humans learn about the world through social interaction.
- ‡ Interactions reinforce the things we agree on, and push us to come to agreement on everything else.
- ‡ This process reinforces *norms* — how the world *ought* to be.
- ‡ Over time, shared expectations become so regular that we do not think of them as something we came to agree on. They become something we *know*.



## Symbolic interactionism

- ‡ The *meaning* of things is not essential to those things. It is *negotiated* through social interactions.



A popular critique of social construction is that it denies the reality of the world.



**Katherine Cross**

@Quinnae\_Moon

Follow



This is false. Religion is socially constructed, but I can't declare that a table is now a cathedral and have it mean anything. That last bit, meaning, is the key. We can play however we like. But most social constructs are like their physical counterparts: durable.

11:38 PM · Jul 27, 2018

## The social is real

- ⋮ We often think of the social as somehow less real than the physical or biological.
- ⋮ A social construct is real because it has real consequences. It 'pushes back' on our attempts to alter it.
- ⋮ Sociologists study how social systems are consequential and durable.

## In short: social constructs ...

- ⋮ ... have socially-negotiated definition and meaning
- ⋮ ... have real consequences in the world to
- ⋮ ... require widespread, collective action to subvert or change



## Three terms (loosely)

### Social construct

- ∴ A '*social fact*' that is actively maintained, widely held to be true, and consequential.
- ∴ E.g.: race, gender, customs, scientific method, ...

### Social constructionism

- ∴ A *sociological stance* that focuses on social constructs, their maintenance, and their meanings.

### Social constructivism

- ∴ An epistemological stance that focuses on the ways that social constructs inform what people know

# Epistemology in STS

## Epistemology

- ⋮ Branch of philosophy concerned with understanding human knowledge
- ⋮ What does it mean for knowledge to be correct?
- ⋮ What makes knowledge different from belief?
- ⋮ How can one justify knowledge?

### Knowledge

Truth/reality

Belief

Justification

## Two prominent epistemological stances in STS:

### Scientific realism

- ∴ The real world is *independent of human experience*
- ∴ Science *describes* the real world
- ∴ Scientific knowledge is either: **True** (describes accurately) or **False** (describes inaccurately)

### Scientific constructivism

- ∴ The real world is, at best, accessible only through *human experience*
- ∴ The processes that justify belief as knowledge are *social*
- ∴ Scientific knowledge is *contingent*



## Describing reality

- ∴ Scientists' job is to objectively describe the real world (*nature*).
- ∴ Descriptions may be flawed due to measurement error, undetected phenomena, bias, etc.
- ∴ But the **object** of description—the thing described—is consistent.

## Ian Hacking

- ∴ Prominent Canadian scientific realist.
- ∴ "So far as I'm concerned, if you can spray them then they are real."

Hacking (1983) on the reality of positrons





Le Chameau.



L'Oie.



Le Lièvre.



Le Loup.



Le Lapin.



La Chèvre.

## Describing phenomena

- ∴ Focus on scientific knowledge as it exist for humans.
- ∴ The truth of a scientific claim is based in its accepted meaning and social consequences.
- ∴ True scientific claims can change.

## Umbrella term

- ∴ Constructivism means a lot of different things.
- ∴ Sometimes compatible with realism, sometimes not.

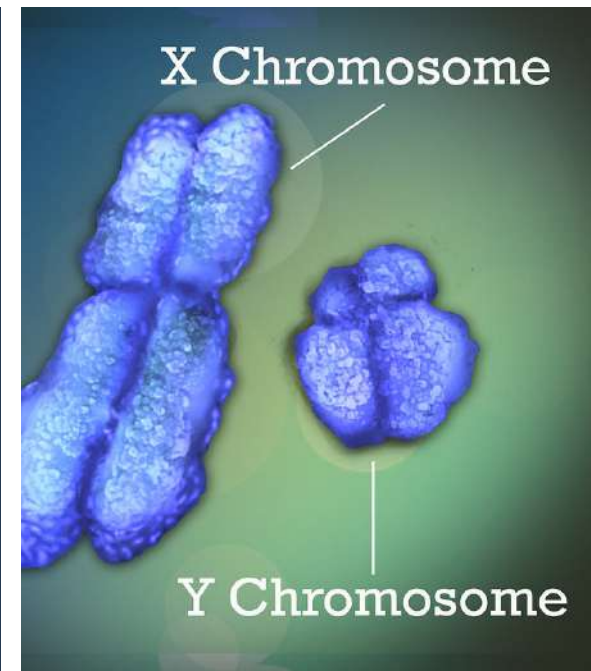


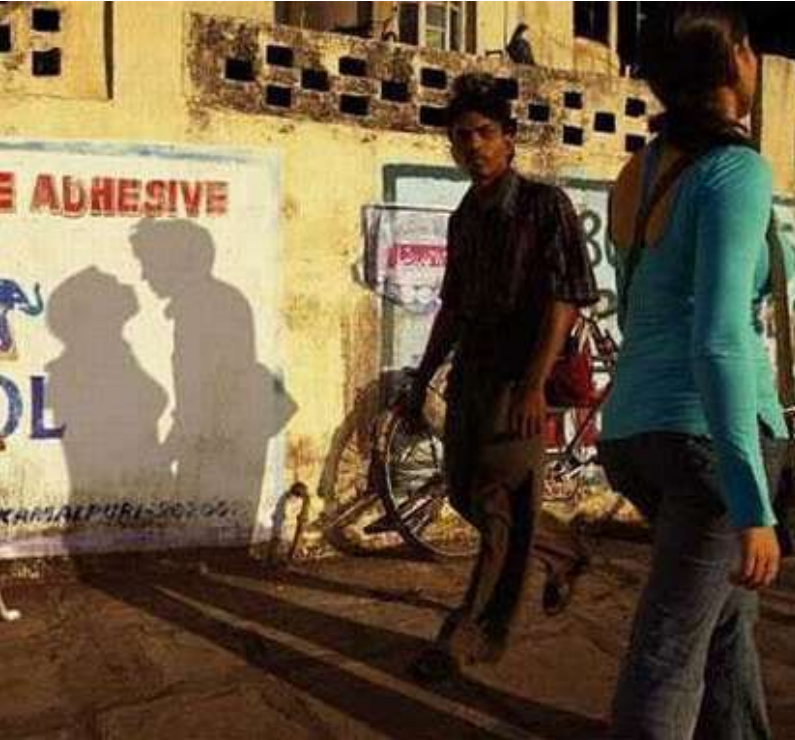
## Science constructs the objects it studies

- ∴ The substances and phenomena in a lab are not *natural*.
- ∴ Scientific practice creates contexts to make sense of phenomena.

## Science and tech shape the social

- ∴ Scientific articulations of gender, disability, etc.
- ∴ Technology changes the social environment.

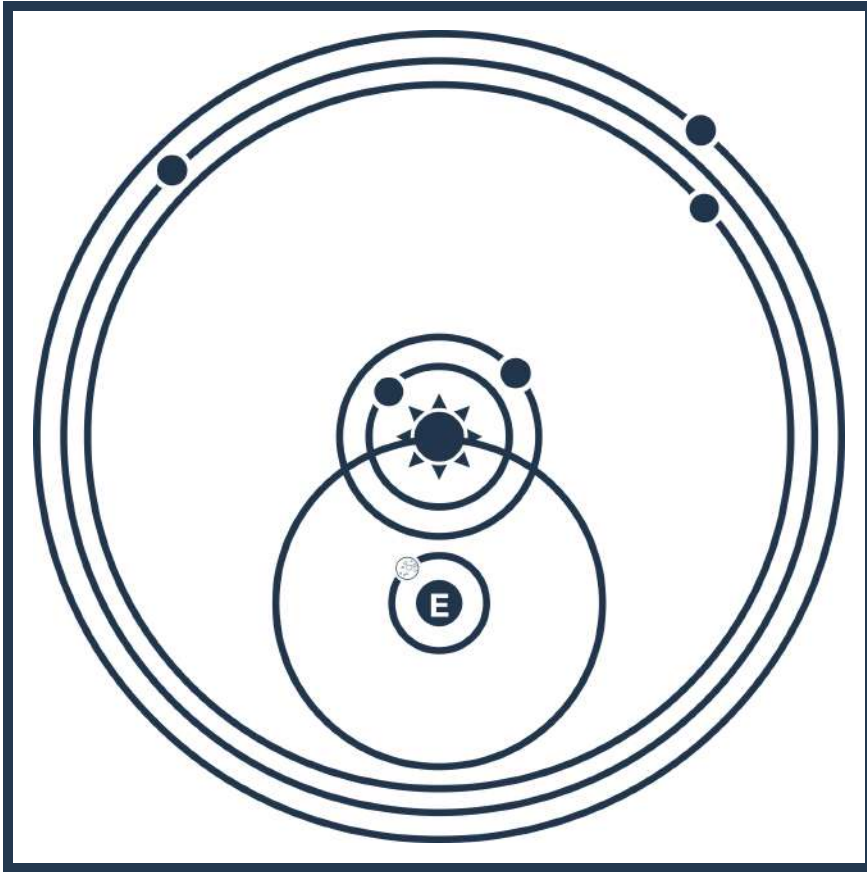




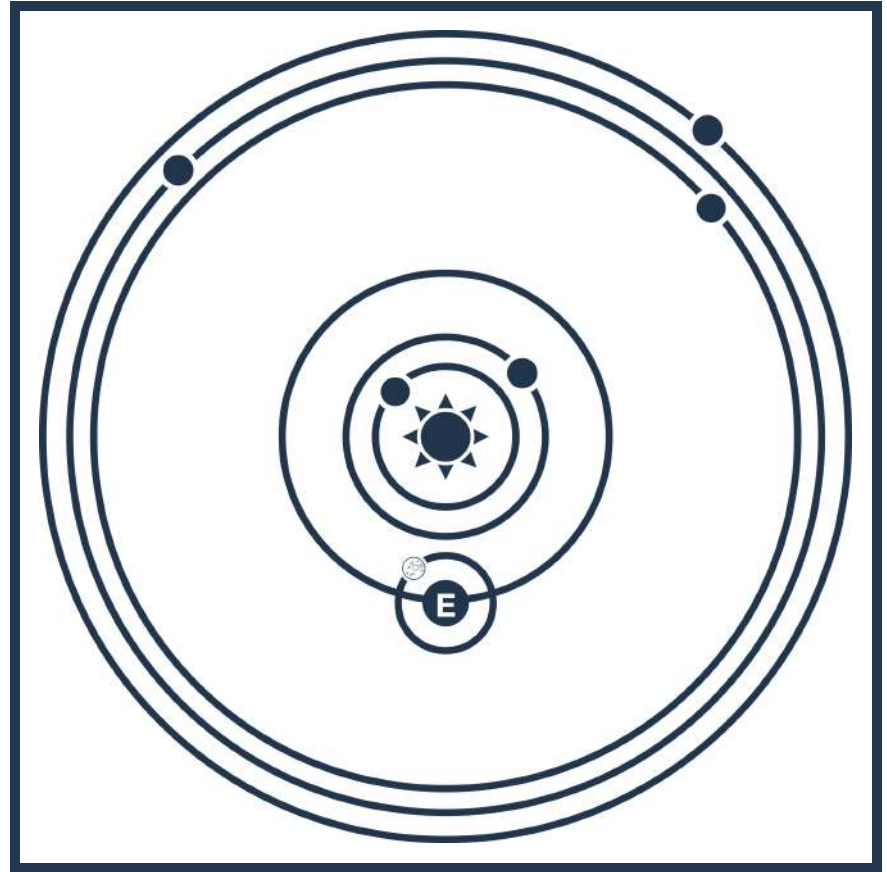
- ⋮ If phenomena are all we have to work with, then everything we know is filtered through our experience of it.
- ⋮ There is no objective way to select among competing theories if they do not contradict empirical evidence.
- ⋮ Trying to decide whether a theory is true in some fundamental sense is meaningless.
- ⋮ Explicitly anti-realist.
- ⋮ **“We have to remember that what we observe is not nature in itself, but nature exposed to our method of questioning.”**

Werner Heisenberg  
Physics and Philosophy (1958)





Tycho Brahe's geocentric model



Nicolaus Copernicus' heliocentric model



## Construction of categories

- ∴ **Nominalism**: the distinction between kinds of objects in the world is a human creation
- ∴ Categories are therefore socially constructed
- ∴ Science is formalized categorization

## Construction of nature itself

- ∴ Truth is fundamentally defined by human experience
- ∴ **Critiques**:  
Is there a basis to question established truth?  
Difficult causal link from consensus to reality
- ∴ As a perspective, can be useful



## The 'strong programme' and scientific anti-realism

∴ Bloor ([1974] 1991)

*The strong programme in the sociology of knowledge*

## Feminist epistemologies

∴ Haraway (1988)

*Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective*

∴ Martin (1991)

*The Egg and the Sperm*

## Scientific realism

∴ Hacking (1983)

*What is scientific realism?*

# Image credit



Photo of Hore Abbey by [Christian Bowen](#) on [Unsplash](#)



Illustration from *Children's Classics in Dramatic Form* (1909), via [Wikimedia](#)



Image via [Wikimedia](#)



Photo by Janet Stephens via [Wikimedia](#)

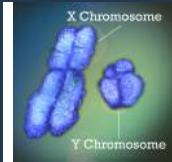


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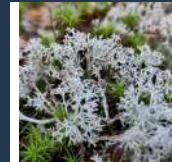


Photo by Peter McMahan