

Feminist Technoscience

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Theories and Methodologies Lecture

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Prehistory of Science Studies

- Historical studies of science, medicine, and technology before 20th C. were typically “whiggish” accounts – treating each new idea as necessarily better/truer than the last.
 - On this view, history is just a chronology documenting inventions and discoveries as the linear progress of Western civilization.
- Marx is closest to offering a critical history of technology in the 19th C.
- Closest thing to sociology of science appears in the Methodenstreit, an internal debate among German social scientists about whether their fields could/should try to mirror the natural sciences in their methods and explanations.

Turn to the Social: Fleck and Kuhn

Ludwik Fleck — *Genesis and Development of a Scientific Fact* (1935)

- Arguably the first to study the social construction of scientific knowledge.
- Described science as shaped by *thought collectives* practicing specific *thought styles*.
 - Scientific findings are only comprehensible within their own thought collective.

Thomas Kuhn — *Structure of Scientific Revolutions* (1962)

- Introduced *paradigm change* as means of explaining historical shifts in science.
 - The paradigm of any given age is the scientific work that stands as an exemplar for the problems to work on, which kinds of evidence count, and how progress is understood and communicated.
 - *Normal science* follows the paradigm until too many erratic findings accumulate and the models become excessively complicated; *revolutionary science* establishes a new paradigm.

The 'Strong Programme', SCOT, and ANT

The 'Strong Programme' (Bloor, Collins, Mackenzie, etc.)

- Advanced Fleck and Kuhn's work by studying paradigms of current science, not just failed theories of the past.
- Radical relativism: you cannot properly study 'truth' if you already think you know what truth is.

Social Construction of Technology (Pinch, Bijker, Wajcman, etc.)

- Not just knowledge, but also artifacts are open to sociological analysis.
- Key concepts: *symmetry of explanation* and *interpretive flexibility*.

Actor-Network Theory (Latour, Woolgar, Callon, etc.)

- Technology and society are not separate spheres, but mutually constitutive.
- Actors and networks are observable dimensions of power. Structural dimensions are often not apparent on the surface. Every whole is a part; every part is a whole.

Recognizing Sex and Gender in Technology Studies

Cynthia Cockburn — *Brothers: Male Dominance and Technical Change* (1983)

- Began studying technology, class, and labor in British printing industry, but found that sex and gender were entangled with these phenomena.
- Marxist historical materialism examines modes of production.
Feminist historical materialism examines how sex/gender also determine social categories that determine roles and inequalities.

Also: **Judy Wajcman** — *Women in Control: Dilemmas of a Worker's Cooperative* (1983)

More recent: **Mar Hicks** — *Programmed Inequality: How Britain Discarded Women Technologists and Lost Its Edge in Computing* (2018)

Cyberfeminism and Situated Knowledge

Haraway — *A Cyborg Manifesto* (1985)

- Against critics arguing that technology is harmful to humanity or society, Haraway says technology *is* culture.
- Articulates the positive potential of technoscience. Cannot reject technology as ‘unnatural’ when there is no such thing as the natural body.
- We are all hybrids and cyborgs. Bodies are made and remade through technology.

Haraway — *Situated Knowledges* (1988)

- Epistemic pluralism: every form of knowledge is partial and shaped by the conditions in which it was produced.
- No knowledge is passive, innocent, inert, worthy of privilege over another.

Agential Realism

Barad — *Meeting the Universe Halfway* (2007)

- Agential realism elaborates a theory of science and knowledge implicit in the quantum physics of Niels Bohr: no reality independent of observation.
- Humans and objects do not interact (dualist), but rather *intra-act*: performative, dynamic, open-ended process of co-constitution.
- Apparatuses produce (and are part of) phenomena.
- Phenomena are constitutive of reality.

Queer Technoscience and Design Justice

Gaboury — *Becoming Null: Queer Relations in the Excluded Middle* (2018)

- Identity once served as a basis for progressive politics of visibility, but is now in the service of algorithmic value extraction of user data.
- Politics of refusal: strategic withdrawal of legibility by becoming 'null' within digital systems that require discrete input values.

Constanza-Chock — *Design Justice: Community-Led Practices to Build the Worlds We Need* (2020)

- People with non-standard bodies often misidentified by technical systems in which "neither" is not an accepted response.
- *Paradox of exposure*: visibility that enables a person's recognition may also expose them to harm or prejudice.

Break ➤ **Seminar**