Fall 2022. Sociology 166: **SOCIETY & TECHNOLOGY**

CLASS HOURS	Mondays, Wednesdays, and Fridays 9am-10am in 106 Stanley
INSTRUCTOR	Joseph Klett
EMAIL	jklett@berkeley.edu (Read this, and include "SOC166" in subject line)
OFFICE HOURS	Tuesdays 10a-12p (by Zoom) Wednesdays 2p-3p (in Social Sciences Building 496)
READERS	Maria Smith, mariasmith@berkeley.edu Aria Yang, aria.yang@berkeley.edu

COURSE DESCRIPTION

What is the relationship between society and the stuff we call technology? Rather than accept that technology develops through some set of natural laws around which society can only react – an idea we call *technological determinism* – a sociological perspective reveals that society and technology are mutually constituted through a history of emerging constructions, conflicts, and coincidences. We will study a variety of cases about the social nature of technology in areas ranging from the factory to the home, the hospital to the ocean, and the desert to the internet. Through these cases we will consider questions of culture, politics, and ethics. Our goal is to discover the dynamic role of technology used in society, and the role of society in making those technologies. Remember the slogan: *it could always be otherwise*.

We begin by exploring the social aspects of the technological world at various scales (Part I). At the human level, there is the work of engineers who must negotiate the wants of machinery to ensure the technology "works." Engineers enjoy a special authority and access – as well as responsibility – to design the gadgets and gizmos that shape the lives of consumers. The products of engineering are always found in large technological systems, where the smallest change in one area will inadvertently change the conditions for all other elements in the system. This interdependence in turn generates unique cultural artifacts, for example, when rail travel and the industrial extraction of gold alter the language of film-making at the turn of the 20th century. The volatility of systems means that technology always entails some degree of risk. Accidents are a regular feature of the technological world, and society must negotiate its desire for technological advancement with its aversion to catastrophic failure – especially when the stakes are nuclear.

Following this overview at scale, we adjust focus to the social roles that technology produces (Part II). We may assume that technology is meant to serve the people who use it. But closer inspection reveals how technology produces its users through equal parts seduction and

entrapment. This fact is vivid in the construction of interfaces, particularly those used in exploring outer and inner spaces otherwise hostile to human bodies. But we needn't look to the vacuum of space to appreciate how technologies enforce certain identities on its users and non-users: as feminist theorists have argued, technologies carry a long history of inclusion and exclusion which provide certain frontiers while blocking many others. Design ideals like modernism have notoriously created a technology indifferent toward the embodiment of its users. Such oversight has created categories of disability by demanding an impossible standard for what a human should be. For instance, we will consider the conflict inherent in hearing technologies which frame deafness as a disability, and counter-narratives from deaf culture which reject those technologies as solutions without a problem.

Once we have accounted for the scope of technologies and the social relationships they create, we turn our attention to the immediate technological situation that we find ourselves in today (Part III). Digital devices shape much of social interaction today. While often empowering, these technologies also require a new kind of presence in society which clashes with historical states of being in the world. That we have fully entered a period of machine learning, where algorithms evolve to guide our thoughts and dreams, is not merely a new mode for delivering old information. Algorithmic behavior now shapes our political and economic horizons. Dreams of rationality built from perfect information have been rekindled by talk of "big data." Yet data collection and processing cannot outrun the limits of the humans who facilitate these processes, and this means digital technologies will continue to reproduce the biases of people. Ironically, pursuing broad sets of data to teach machines has led to an even broader forgetting of so much pre-digital information deemed irrelevant by the narrow purview of engineers.

And who are these engineers? Not to ascribe too much power to individuals, but the industrial leaders and cultural icons of Silicon Valley have done much to authorize our digital age. This includes an emphasis on society as a network made to resemble the technological systems which power and link our many devices. Yet elevating networks creates higher stakes for those who get left out, for example, by a digital divide which empowers a stratum of technological 'haves' over an already impoverished underclass of technological 'have-nots'. This economic inequality is made even more volatile by the precarious role of digital infrastructure, a widely-neglected yet essential aspect of life in today's large technological systems.

In our final week of instruction we consider the future (Part IV). The more we understand about the relationship between society and technology, the better we can appreciate that there is not one future, but many possible *futures*. By reflecting on historical actions and alternative stories of technology, you will leave this course more knowledgeable about the future of our technological world and how life inside survives.

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COURSE REQUIREMENTS (% of final grade; all work submitted after the deadline will receive a 5% deduction per 24 hours unless excused)

A) ***Participation*** (34%): You are expected to attend lectures well-read and prepared to discuss the material assigned for that day. Your undivided attention is expected. *To receive attendance credit, you must submit one question by the end of each day of lecture*.

B) ***Reading responses*** (36%): You will complete three reading responses (2-3 pages each) that illustrate class material with an example of your choosing. These are due at the end of weeks 4, 7, and 13. Complete instructions will be provided in week 2.

C) ***Midterm*** (15%): You will complete a take-home midterm consisting of several short-answer (1-2 page) prompts covering the first half of class. Due Sunday, October 16.

D) ***Final*** (15%): You will complete a take-home final consisting of several short-answer (1-2 page) prompts covering the second half of class. Due Sunday, December 11.

ACADEMIC HONESTY

You are expected to follow the University guidelines for academic honesty. Violations include cheating and plagiarism, as well as self-plagiarism (submitting your own work from a different assignment). Attribution and proper citations are expected for all ideas that are not your own. If you have any doubts, please speak to me or your TA *before* your work is due.

SPECIAL NEEDS AND ACCOMMODATIONS

All students should be able to participate in this course. Please address any special needs you may have with me at the beginning of the semester, or when a challenge arises. If you qualify for accommodations because of a disability, please submit your accommodation plan from the Disabled Students' Program (DSP) to me by email, preferably within the first two weeks of the semester. Contact the DSP by phone (510) 642-0518 or by email to dsp@berkeley.edu.

COURSE OUTLINE
Readings should be completed prior to the class meeting to which they are assigned. All readings can be found on bCourses.

WEEK.DAY **DATE:** Topic

1.1 **Wednesday 8/24:** Introduction

1.2 **Friday 8/26:** The Social Construction of Technology

a. Langdon Winner. 1985. "Do Artifacts Have Politics?"

PART I: The Technological World

2.1-2.2 **Monday 8/29 & Wednesday 8/31:** Engineering

a. Jim Johnson (Bruno Latour). 1988. "Mixing Humans and Non-humans Together."
b. Lucy Suchman et al. 1999. "Reconstructing Technologies as Social Practice."

2.3 **Friday 9/2:** Shaping Things

c. Bruce Sterling. 2005. Excerpts from *Shaping Things*.
d. WATCH: *Objectified* (2009, dir. Gary Hustwit)

Monday 9/5: NO CLASS

3.1 **Wednesday 9/7:** Systems

a. Thomas Hughes. 1986. "The Evolution of Large Technological Systems."

3.2 **Friday 9/9:** Cultural Artifacts

b. John Durham Peters. 2017. "You Mean My Whole Fallacy is Wrong."
c. WATCH: *Dawson City/Frozen Time* (2016, dir. Bill Morrison)

4.1-4.2 **Monday 9/12 & Wednesday 9/14:** Accidents

a. Charles Perrow. 1984. "Introduction" in *Normal Accidents*.
b. Leo Marx. 1997. "Technology: The Emergence of a Hazardous Concept."
c. Jessica Murphy. 2018. "Lac-Megantic: The runaway train that destroyed a town."

4.3 **Friday 9/16:** (Nuclear) Power

d. Gabrielle Hecht. 2014. "Invisible Production and the Production of Invisibility."

Sunday 9/18: Reading response #1 due

PART II: The Sociality of Machines

5.1-5.2 **Monday 9/19 & Wednesday 9/21:** Users

a. Claude Fischer. 1988. "Gender and the Residential Telephone, 1890-1940."
b. Nelly Oudshoorn and Trevor Pinch. 2003. "How Users and Non-Users Matter."

5.3 **Friday 9/23:** Interfaces

c. Stefan Helmreich. 2007. "An Anthropologist Underwater."
d. Janet Vertesi. 2015. "Seeing Mars and Drawing Mars" in *Seeing Like a Rover*.

6.1-6.2 **Monday 9/26 & Wednesday 9/28:** Feminism

a. Susan Leigh Star. 1991. "Power, Technology and the Phenomenology of Conventions."
b. Nelly Oudshoorn et al. 2004. "Configuring the User as Everybody."
c. Sahil Chinoy and Chloee Weiner. 2016. "What Does a Hacker Look Like?"

6.3 **Friday 9/30:** Inconvenient Bodies

d. Frances Dyson. 2009. "Introduction" in *Sounding New Media*.
e. Amanda Morris. 2022. "What Flying Is Like for Passengers Who Use Wheelchairs."

7.1-7.2 **Monday 10/3 & Wednesday 10/5:** Disability

a. Jonathan Sterne. 2015. "Hearing."
b. Mara Mills. 2015. "Deafness."
c. WATCH: *Touch the Sound* (2004, dir. Thomas Riedelsheimer)

7.3 **Friday 10/7:** The Electronic Ear

d. David Polansky. 2019. "Digital Hearing Aids Turn the World into a Giant MP3 File."
e. Christina Jewett. 2022. "FDA Clears Path for Hearing Aids to be Sold Over the Counter."

f. LISTEN: Surprisingly Brilliant, The Electronic Ear
g. WATCH: The Sound of Metal (2019, dir. Darius Marder)

Sunday 10/9: Reading response #2 due

8.1 **Monday 10/10:** Midterm Review I (in class)

8.2 **Wednesday 10/12:** Midterm Review II (online)

8.3 **Friday 10/14:** TAKE-HOME MIDTERM

PART III: The Digital Age

9.1-9.2 **Monday 10/17 & Wednesday 10/19:** Gadgetry

a. Matt Ratto. 2007. "Ethics of Seamless infrastructures."
b. Douglas Rushkoff. 2013. "Preface" and "Narrative Collapse" in *Present Shock*.
c. Sherry Turkle. 2015. "Stop Googling. Let's Talk."
d. Greg Milner. 2016. "Ignore the GPS. That Ocean is not a Road."

9.3 **Friday 10/21:** Attention Deficits

e. Italo Calvino. 1988. "A King Listens."
f. WATCH: *Black Mirror*, "The Entire History of You" (2011, dir. Brian Welsh)

10.1-10.2 **Monday 10/24 & Wednesday 10/26:** Algorithms

a. Eli Pariser. 2011. "The Public Is Irrelevant" in *The Filter Bubble*.
b. Solon Barocas et al. 2013. "Governing Algorithms: A Provocation Piece."
c. Malte Ziewitz. 2017. "A not quite random walk."
d. WATCH: "How Algorithms Shape Our World." (2011, Kevin Slavin, TED Global)

10.2 **Friday 10/28:** Terminal Velocity

e. Alexis Madrigal. 2010. "Market Data Firm Spots the Tracks of Bizarre Robot Traders."
f. WATCH: *Money & Speed* (2011, dir. Marije Meerman)

11.1 **Monday 10/31:** Big Data

a. danah boyd & Kate Crawford. 2012. “Critical Questions for Big Data.”
b. Benedict Carey. 2015. “Learning to See Data.”
c. Kevin Lewis. 2015. “Three Fallacies of Digital Footprints.”

11.2 **Wednesday 11/2:** Digital Amnesia

d. Lisa Gitelman. 2006. “Introduction” in *Always Already New*.
e. WATCH: *Digital Amnesia* (2014, dir. Bregtje van der Haak)

Friday 11/4: NO CLASS

12.1-12.2 **Monday 11/7 & Wednesday 11/9:** Silicon Valley

a. Fred Turner. 2009. “Burning Man at Google.”
b. Lilly Irani. 2015. “Hackathons and the Making of Entrepreneurial Citizenship”
c. Charles Duhigg. 2016. “What Google Learned from Its Quest to Build the Perfect Team.”
d. Ruha Benjamin. 2016. “Innovating Inequity.”

Friday 11/11: NO CLASS

13.1-13.2 **Monday 11/14 & Wednesday 11/16:** Networks

a. Kevin Hampton. 2010. “Internet Use and the Concentration of Disadvantage.”
b. Peter Singer and Emerson Brooking. 2018. “In the Social Media Age, What You Share is Deciding What Happens on the Battlefield.”
c. Forrest Stuart. 2020. “Code of the Tweet.”
d. WATCH: *The Internet’s Own Boy* (2014, dir. Brian Knappenberger)

13.3 **Friday 11/18:** The Digital Divide

e. Andrew Spaulding. 2015. “I used a 56K modem for a week and it was Hell on Earth.”
f. Cecilia Kang. 2016. “Bridging a Digital Divide That Keeps Schoolchildren Behind.”

Sunday 11/20: Reading response #3 due

14.1 **Monday 11/21:** Infrastructure Week!

a. Nicole Starosielski. 2015. “Against Flow” and “Short-circuiting Discursive Infrastructure” in *The Undersea Network.*

Wednesday 11/23 & Friday 11/25: NO CLASS

PART IV: The Future

15.1-15.2 Monday 11/28 & Wednesday 11/30: Futures

a. Warwick Anderson. 2002. “Postcolonial Technoscience.”
b. Kodwo Eshun. 2003. “Further Considerations of Afrofuturism.”
c. Jameson Wetmore. 2007. “Amish Technology.”
d. Vincanne Adams et al. 2009. “Anticipation.”
e. Peter Bright. 2016. “Moore’s law really is dead this time.”
f. Sally Adee. 2019. “The Global Internet is Disintegrating. What Comes Next?”
g. Chan et al. 2019. “Futuring/Connecting 4S Report.”
h. WATCH: *Manufactured Landscapes* (2006, dir. Jennifer Baichwal)

15.3 Friday 12/2: Life in the Future

i. Michelle Bastian. 2012. “Fatally Confused.”
j. Ben Goldfarb. 2015. "Look Down at Your Body. You Have Become a Coral."

16.1 Monday 12/5: Final review I (online)

16.2 Wednesday 12/7: Final review II (in class)

16.3 Friday 12/9: TAKE-HOME FINAL