Agenda

Science & identity

1. Administrative
2. Genetic ancestry testing & indigeneity
3. Expertise
4. Citizen science

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ADMINISTRATIVE

Strike

- Tuesday's stike was a pain, but went smoothly
- Thank you for your patience and understanding!

Plan

- ***Today***: cover main content related to this past Tuesday (*Science and identity* ; TallBear 2013) and today's scheduled topic (*Local knowledge* ; Allen 2018)
- ***Tuesday***: back to regular schedule (*Science denial* ; Harambam and Aupers 2015)
- Tuesday's missed discussion score will be dropped
- Discussion prompts for last class and this class may get "automatic 10/10" even if not included

Midterm grades

- Grading finished – just need to upload
- You'll get a message with your score shortly after class today
- I'll schedule two times next week to view your exam and discuss scores

Genetic ancestry testing & indigeneity



"Indigenous" as a category

- "Indigenous" is a term and identity related to the global indigenous movement
- Refers broadly to peoples / nations that were already present when a colonizing or settling population arrived

Unifying term

- Identifies diverse, global peoples through shared struggle
- Can also be used to "flatten" those peoples into a homogenous kind, defined by colonial history

Articulations of indigeneity (TallBear 2013)

Dominant "genomic" articulations

- Indigenous populations are defined by specific characteristics of populations' genomes.
- Co-exists with a view of ***static "cultural" distinction***.

Contrasted with various indigenous articulations

- **Place-based**:
  "They were not simply first but they arose as peoples, as humans in relationships with particular places." (514)
- **Oppositional**:
  Indigenous identity defined in terms of resistance against colonial forces.
- **Generative**:
  "… enabling mutual recognition and collaboration by indigenous peoples across disparate histories and geographies." (514)

Narratives underlying genomic articulation (TallBear 2013)

TallBear discusses **two cultural narratives** that support and are supported by the genomic articulation of indigeneity:

1. "Indigenous peoples are vanishing"

- Indigenous peoples represent *"pure" populations* that developed in relative isolation.
- Due to colonialism, genetic *admixture* is making "pure" indigeneity rarer.
- Provides ***scientific backing for indigenous erasure***.

2. "We are all related/all African"

- All humans can be traced to a single "mitochondrial Eve" who is supposed to have lived in North Africa.
- Implicitly (and often explicitly) conceives of non-Europeans as an *earlier stage of human development*.
- Provides ***scientific backing for indigenous erasure***.

Co-opting indigeneity

- Many genetic ancestry tests will report a 'percentage' of indigenous ancestry
- Non-indigenous settlers may use these results to claim indigeneity for cultural cachet, tax benefits, etc.

Gaming the system

- In 2018, CBC reported on a scam linked to "Confederation of Aboriginal People of Canada" (CAPC)
- Genetic tests of journalist's dogs were reported as having significant indigenous DNA



Heredity or hoax?

How dog DNA helped uncover a suspected Indian status scam

By Jorge Barrera and Tiffany Foxcroft

June 13, 2018

When Louis Côté became suspicious of a Toronto-based laboratory that tests people's DNA to determine their ancestry, he decided to try an experiment by submitting a sample from his girlfriend's dog for analysis.

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After dog DNA debacle, Indigenous researcher says ancestry testing is 'stupid science'

Tribal culture can't be bottled in a test tube, says Kim TallBear

CBC News · Posted: Jun 14, 2018 11:49 AM EDT | Last Updated: June 14, 2018



Even in a credible DNA lab, there are problems using tests to determine Indigenous affiliation, Kim TallBear says. (Submitted by Kim TallBear)

Expertise

Scientific knowledge is political

- State actors (policymakers, regulatory agencies, local governments) frequently ***consult*** with scientific experts.
- Governments ***utilize*** scientific language and findings to ***justify*** policies.

Legitimate expertise

- What makes someone an 'expert'?
  Who has the 'correct' expertise on a subject?
- The ideas from this class should make it clear that there are ***no straightforward answers*** to these kinds of questions.

  e.g. Haraway (1988), Callon (1984), Adams (2002), TallBear (2013), ...



Traditional (representative) democracy

- ***People*** (individuals & communities) are represented by elected officials.
- ***Nature*** (the non-human) is represented by scientists.

Deliberative (participatory) democracy

- Citizens (non-scientists and non-politicians) are directly involved in political decision-making.
- Laypeople assess the legitimacy and consequences scientific and technological options discursively.

> "I am not arguing that an average citizen is able to design a nuclear reactor or a river dike, but I am arguing that more is involved in designing large projects such as nuclear power stations and water management systems than is described in the engineers' handbooks" (Bijker 2001, pp 31-32)

Bijker, Wiebe E. 2001. "Understanding Technological Culture through a Constructivist View of Science, Technology, and Society." In Visions of STS: Counterpoints in Science, Technology, and Society Studies, edited by Stephen H. Cutliffe and Carl Mitcham. State University of New York Press. muse.jhu.edu/book/9022.

Citizen science

CITIZEN SCIENCE

Citizen science is the "doing" of science by non-scientists (laypeople)

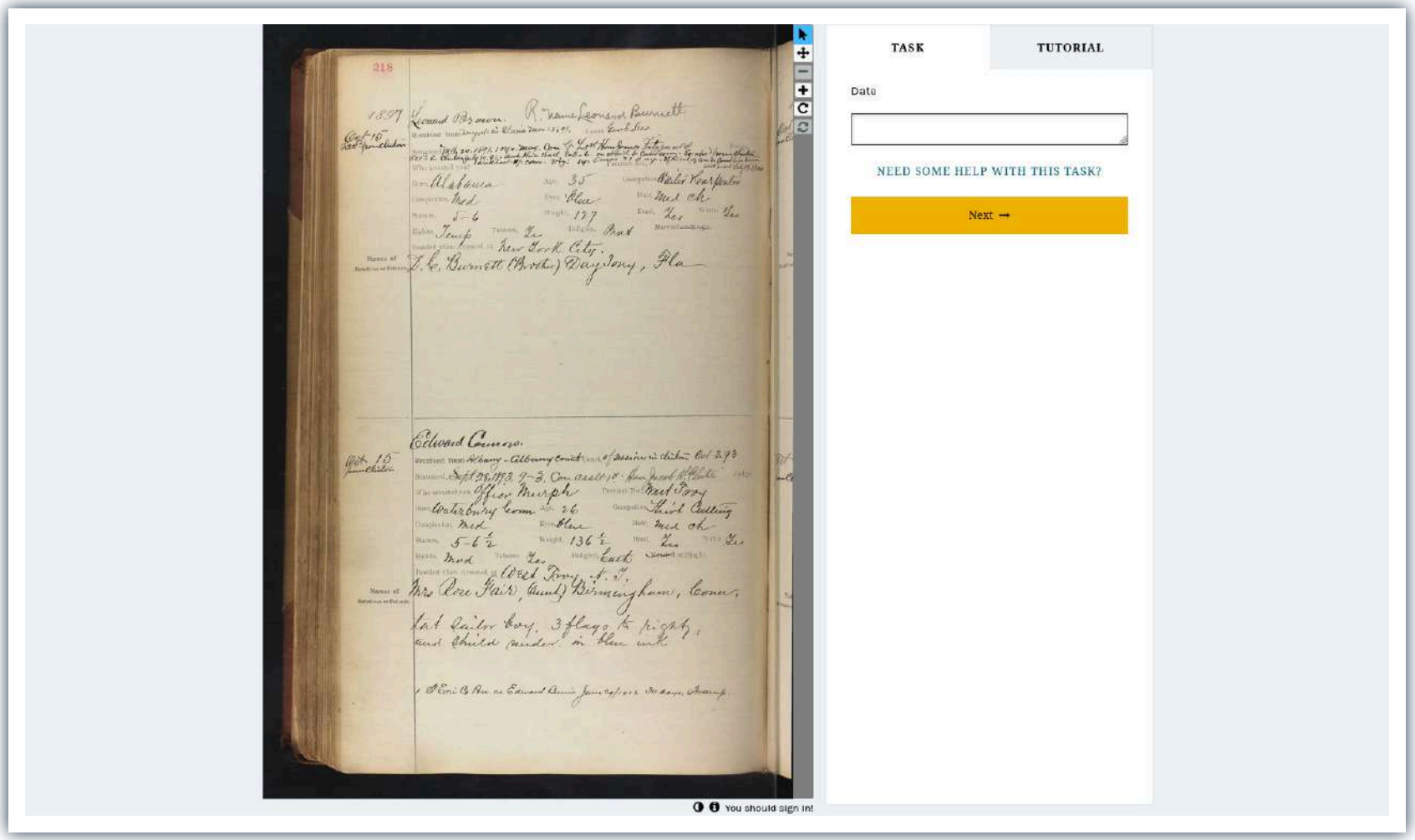
- *Citizen science is a very broad concept.*
- Public science, participatory science, civic epistemologies, crowdsourcing, …

Classifying citizen science

- Technoscience is multifaceted, and laypeople can be involved in any aspect of it.
- Allen describes **4 "levels" of public participation in science**. (from Irwin 2015 and Haklay 2013)



Level 1 Crowdsourcing and public data collection



Shadows on Stone: Identifying Sing Sing's Incarcerated

Level 2 Public arbitration of scientists' research

Danish 'consensus conferences'

- Model originally conceived by the Danish Board of Technology
- Panel of non-scientists arbitrates between diverse scientific research on a topic
- "Public trial" of scientific findings



Levitt Center's 2019 consensus conference: "Inventing Social Emergency Medicine".

Level 3 Participatory science

Public involvement in both the definition of the scientific ***question*** and the collection of ***data and evidence***



Tracie Johnson demonstrating the drinking water from Potlotek First Nation in 2020



The #FilmYourHospital hashtag aimed to collect evidence that the COVID-19 pandemic is a hoax

Level 4 Strongly participatory science (SPS)

Incorporates lay expertise in ***all aspects of research***.

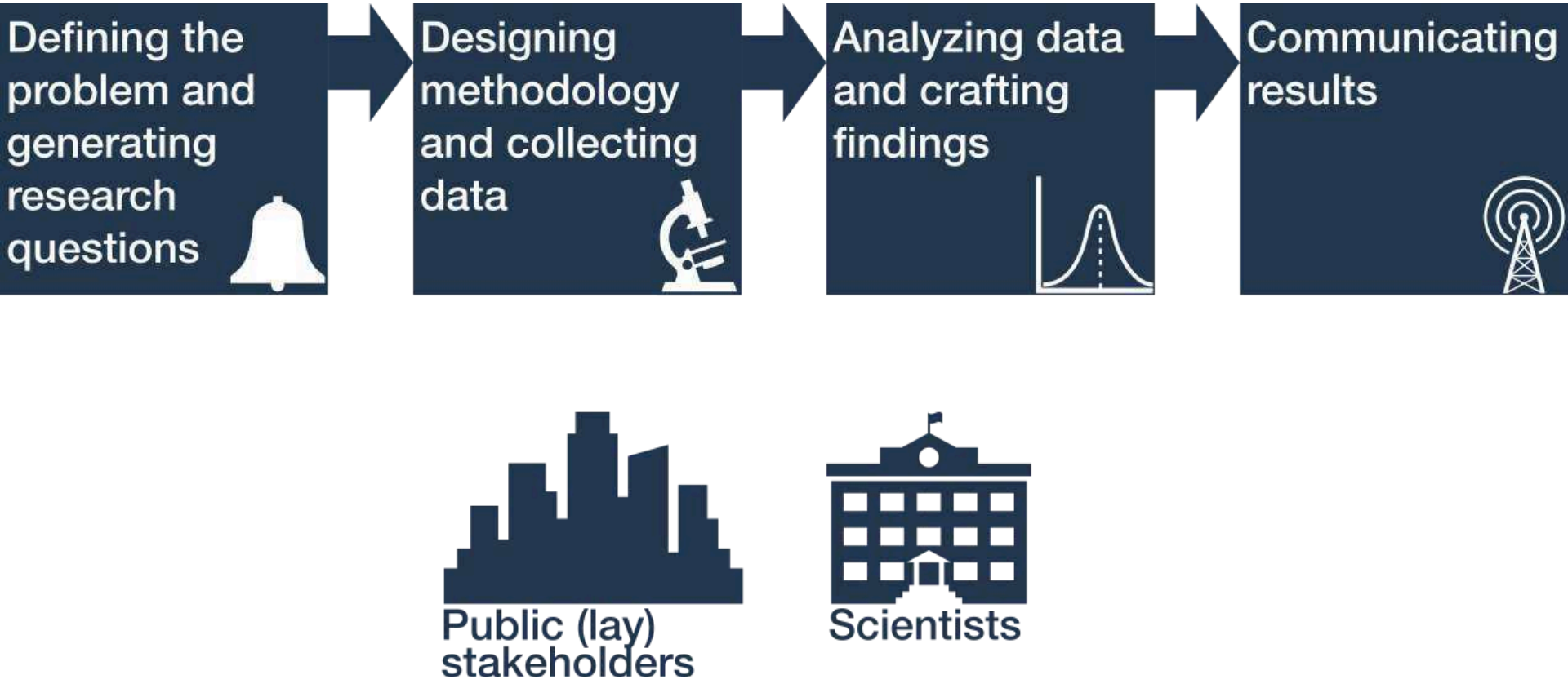


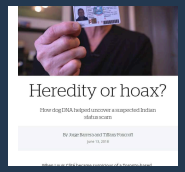
Image credit



Still from Futurama (1999)



The Subjugation of Truth (2016) by Kent Monkman via Huffpost



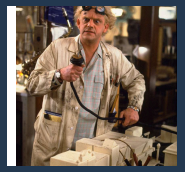
Screenshot from CBC



Screenshot from CBC



Elon Musk on YouTube via Esquire



Still of Doc Brown from Back to the Future (1985) via The Cincinnati Enquirer



Screenshot via Zooniverse



Levitt Center



Photo of Tracie Johnson by Anya Zoledziowski via Vice