Privacy and Surveillance

ENCS 393 – Social and Ethical Dimensions of ICTs

Day 7 – May 27, 2020

Today

- Details re: June 3rd Quiz
- (Computer) Ethics recap
- Big Data Ethics
- The Cambridge Analytica/Facebook case

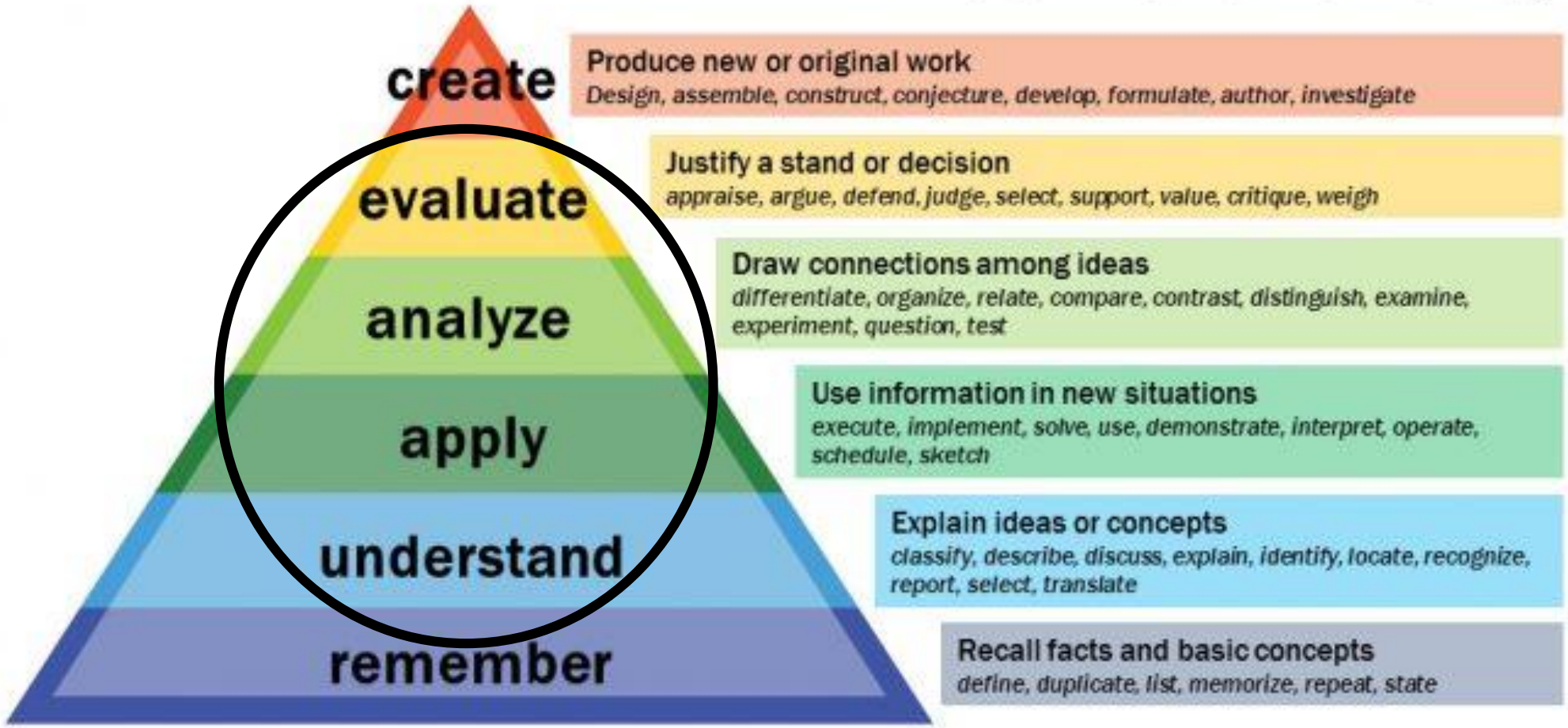
Quiz: Logistics

- Quiz questions will be posted on Moodle at noon on Wednesday, June 3rd.
- You must submit your answers on Moodle (same submission format as for the Reflection Essays) by noon on Thursday, June 4th.
- The quiz should take you roughly 1.5 hours. Some of you may wish to take a bit more time than this, but please do not spend more than about 2.5 hours working on it.
- You will have the entire 24-hour time period to complete the quiz (i.e. there will not be any kind of countdown timer on Moodle once you view the questions). Feel free to split your quiz writing time into multiple chunks if that's what works best for you.

Quiz: What does “open book” mean?

- **You may refer to:** lecture slides, lecture recordings, course readings, your own notes, dictionaries or other language aids
- **You may NOT refer to:** your classmates (or any other people), online resources aside from what is available on Moodle, articles other than the ones assigned for class

Bloom's Taxonomy



Quiz: What to expect

- Several short answer questions and two essay questions. For the essay questions, you will have some choice in which prompts you select.

- Sample short answer question:
  - Briefly explain the theory of social construction of technology.

- Sample essay question:
  - Should computer scientists and software engineers aim to create value-neutral technologies? Why or why not?

- The quiz will cover all of the course material (lectures and readings) from the beginning of the course up to and including our June 1st class.

Quiz: How to prepare

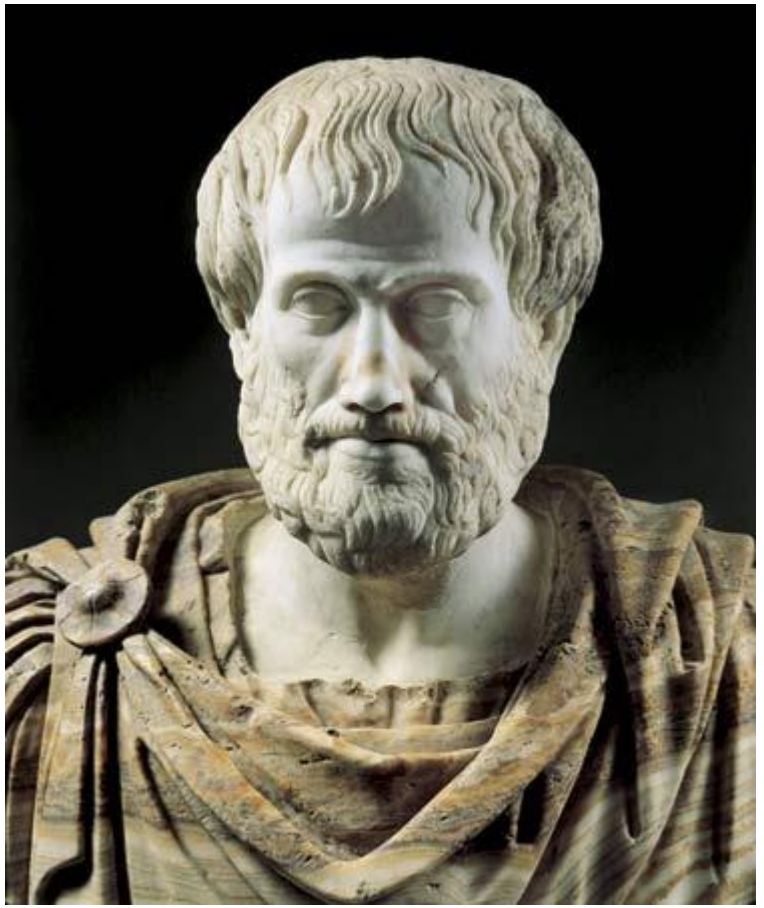
- Studying is still important for open book tests!

- Different preparation techniques will work better for different people – you will be the best judge of this for yourself. I recommend some or all of the following:

    - Go through the lecture slides and come up with a list of important terms (e.g. “technological determinism”). Write down their definitions.
    - For each text, write down the author’s main argument in 2-3 sentences.
    - Note any important concepts or ideas that come up in multiple readings or discussions.
    - If there are definitions or arguments that you are unsure about, review the recorded lecture for that class to see my explanation.
    - Keep these notes handy while you write the quiz.

Virtue Ethics

- One strategy for defining normative ethics.
- Virtue ethics holds that developing good *character* is an important part of achieving good *conduct*. In other words, if we develop the right character traits, we will automatically act ethically.
- What are "good" character traits? It depends! For Plato, wisdom, courage, temperance, justice (among others). For Aristotle, *eudaimonia* (happiness, prosperity, flourishing), also among others. For medieval Christian philosophers, faith, hope, and charity.

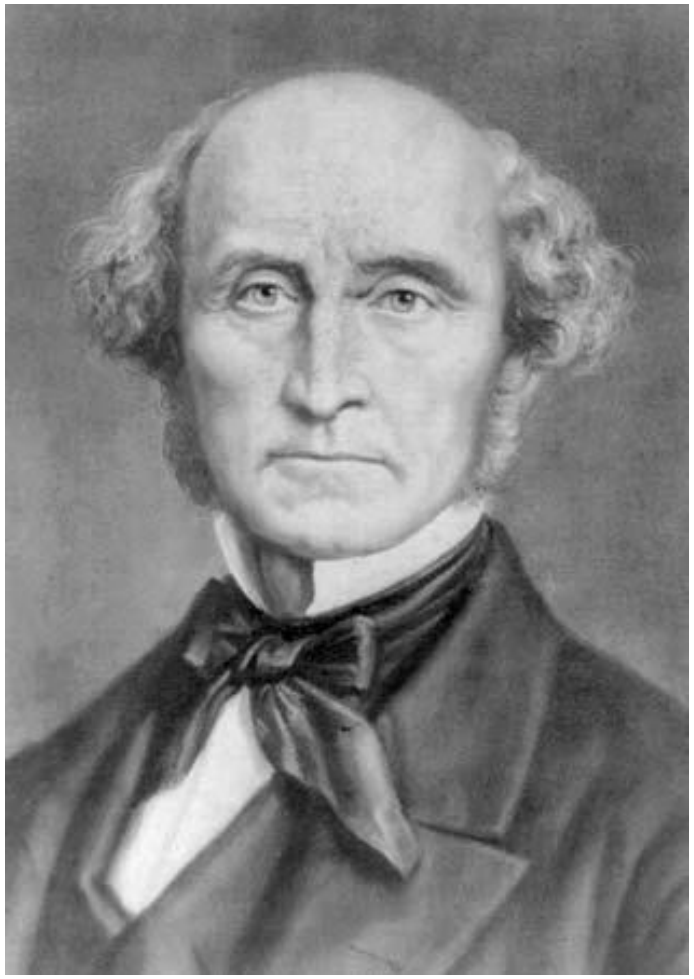


Duty Ethics (Deontology)

- Another way to define normative ethics.
- Right and wrong do not necessarily come from pursuing good character, but rather from acting in conjunction with moral laws/duties.
- Often associated with German philosopher Immanuel Kant (1724-1804).
- Focus on *actions* themselves, rather than the consequences of actions.

Consequentialist Ethics

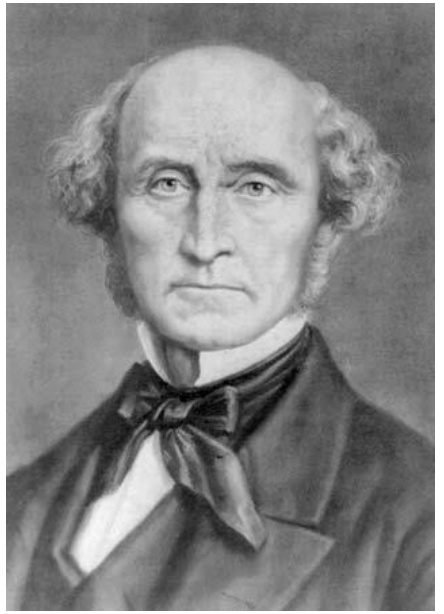
- A third way to arrive at proper normative ethics!
- Focus on the *consequences* of our actions, as opposed to our character or the actions themselves.
- Famous example: utilitarianism. An action is right if the consequences of that action are more favourable than unfavourable, for *everyone*.

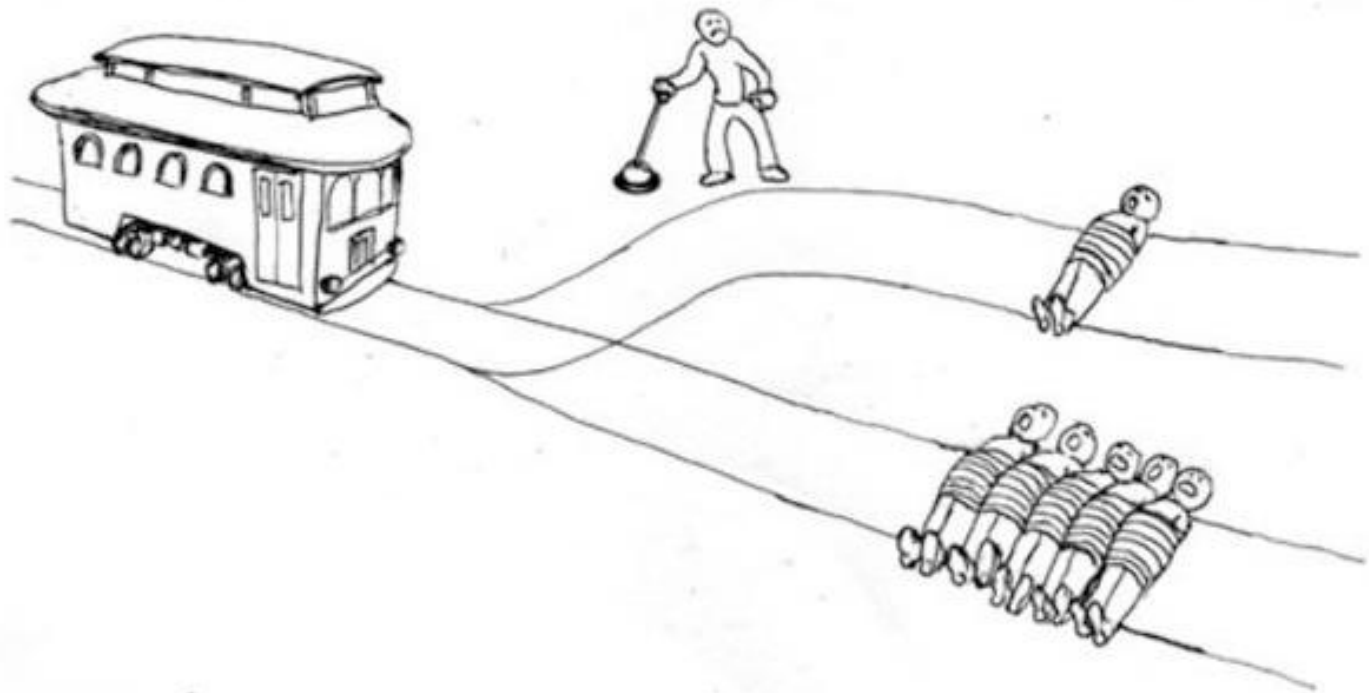


Ethics and Individual Moral Agency

“Traditional deontological and utilitarian ethics place a strong emphasis on moral responsibility of the individual, often also called individual agency.”

Individual moral agency relies on **causality**, **knowledge**, and **choice**.





Computer Ethics

Why do we need “computer ethics”? Can’t we just apply the ethical theories that already exist?

- Moor: Computers are revolutionary, because of their *logical malleability.*
- Moor: Computer operations are *invisible*.
- Johnson: ICTs create *new possibilities* for human action, and these possibilities sometimes *change the moral character* of actions/situations.
- Johnson: Technologies are *value-laden*. To understand values embedded in technology, we need to know how the technology works *and* how values work.

A View from **Emerging Technology from the arXiv**

Why Self-Driving Cars Must Be Programmed to Kill

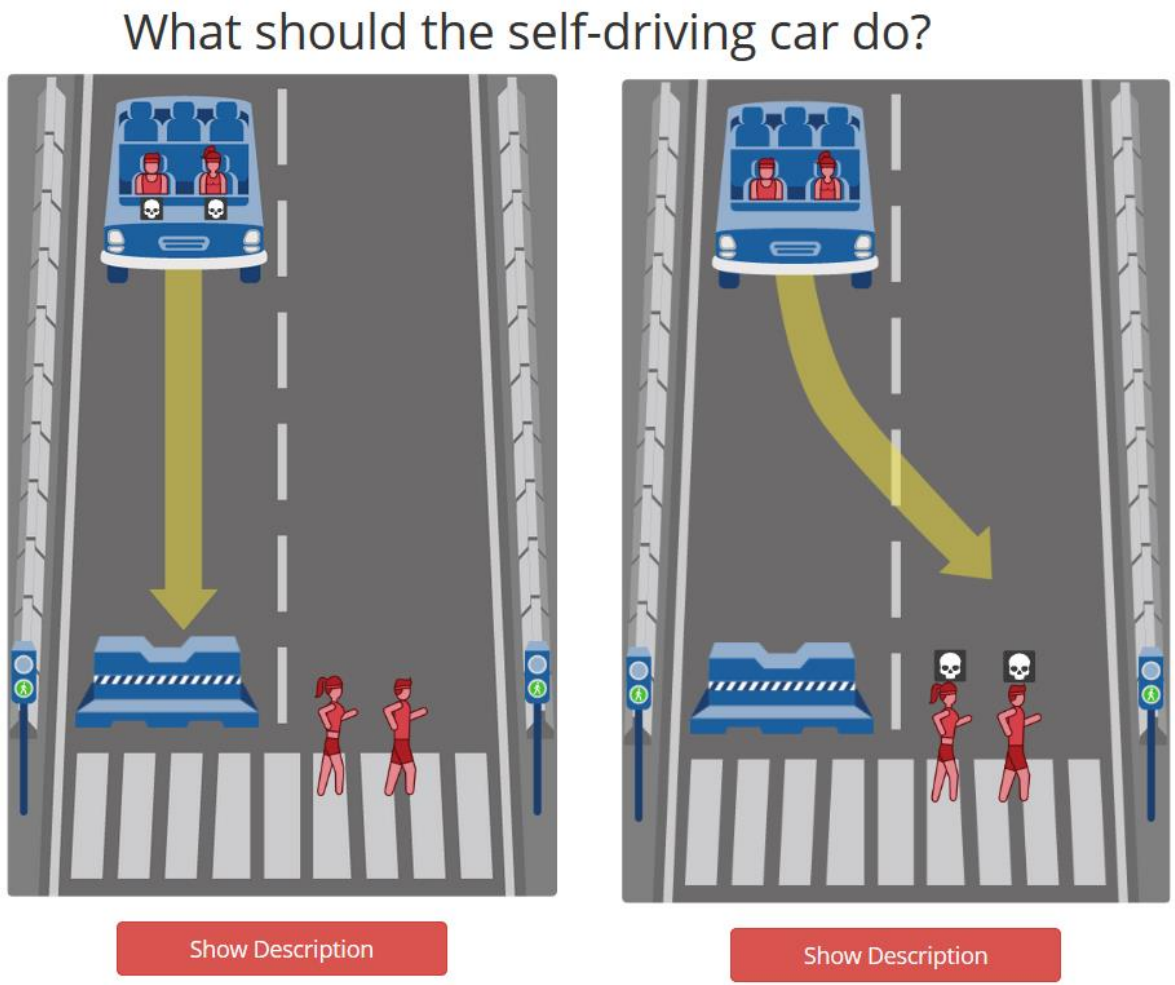
Self-driving cars are already cruising the streets. But before they can become widespread, carmakers must solve an impossible ethical dilemma of algorithmic morality.

October 22, 2015

371

When it comes to automotive technology, self-driving cars are all the rage. Standard features on many ordinary cars include intelligent cruise control, parallel parking programs, and even automatic overtaking —features that allow you to sit back, albeit a little uneasily, and let a computer do the driving.

So it'll come as no surprise that many car manufacturers are beginning to think about cars that take the driving out of your hands altogether (see "Drivers Push Tesla's Autopilot Beyond Its Abilities"). These cars will be safer, cleaner, and more fuel-efficient than their manual counterparts. And yet they can never be perfectly safe.



Self-Driving Technology Threatens Nearly 300,000 Trucking Jobs, Report Says

Impact would come over 25 years, with projections for lighter job loss seen than other forecasts, but higher-paying trucking work could take a hit

Shortcuts
Motoring

The racism of technology - and why driverless cars could be the most dangerous example yet

'Machine vision' is struggling to recognise darker-skinned pedestrians, and cost pressures could make things worse

▲ Crash course ... an autonomous self-driving vehicle spots some pedestrians in Milton Keynes – hopefully
Photograph: Justin Tallis/AFP/Getty Images

Alex Hern
@alexhern
Wed 13 Mar 2019 16.31 GMT

1,367

There is a rule for dealing with computers: garbage in, garbage out. Put the wrong number of zeroes in your Excel spreadsheet and it will unthinkingly pay your staff pennies on the pound; train a self-driving car to recognise human figures by showing it millions of pictures of white people, and it might struggle to identify pedestrians of other races

Self-driving cars: bigger road safety, less privacy

They are supposed to reduce road casualties, but what else do they entail?

Ane Berasategi Follow
Apr 28 · 6 min read

Big Data Ethics

What makes big data unique (and ethically interesting)?

Big Data Ethics

What makes big data unique (and ethically interesting)?

LOTS of data

- 5 billion gigabytes every 10s, as opposed to the same amount generated from the beginning of recorded time until 2003

Data is organic

- Big data represents reality more naturally than statistical data

Data is global

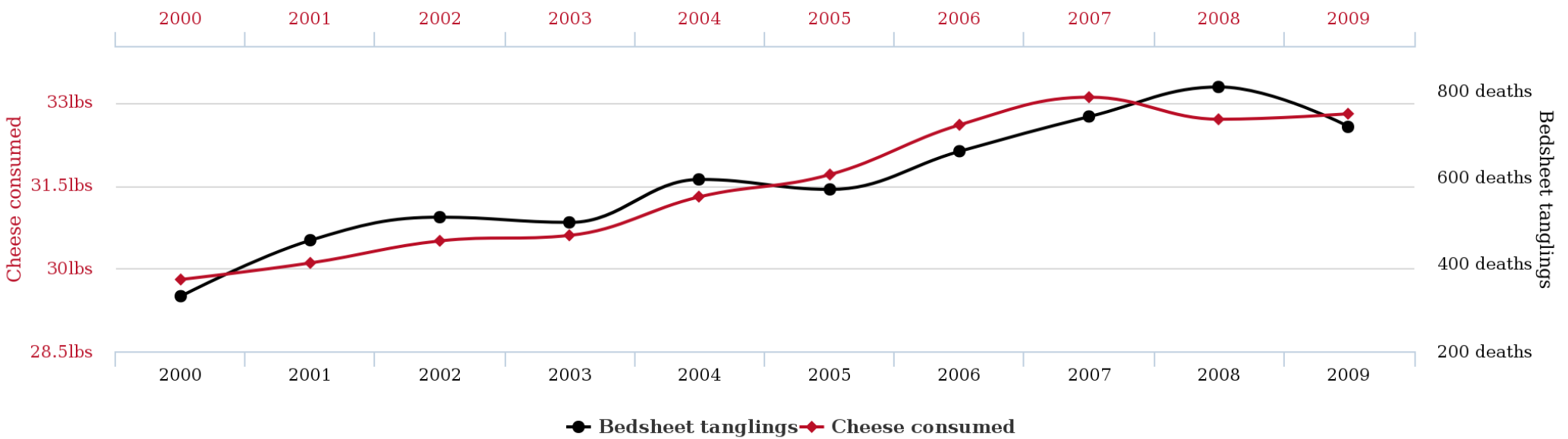
- Potentially huge representation

Data analysis emphasizes correlation over causation

Per capita cheese consumption

correlates with

Number of people who died by becoming tangled in their bedsheets



tylervigen.com

Big Data Ethics: Lack of Individual Moral Agency

“Since the onset of modern ethics…we took premises such as individual moral responsibility for granted.”

Dependent Agency

Big Data “generators”

- They provide the data (voluntarily or not; knowingly or not; artificially or not)

Big Data “collectors”

- They determine which data is collected, which is stored, and for how long

Big Data “utilizers”

- They might use data to determine behaviour, create knowledge, etc.

Big Data’s Ethical Challenges

Big Data's Ethical Challenges

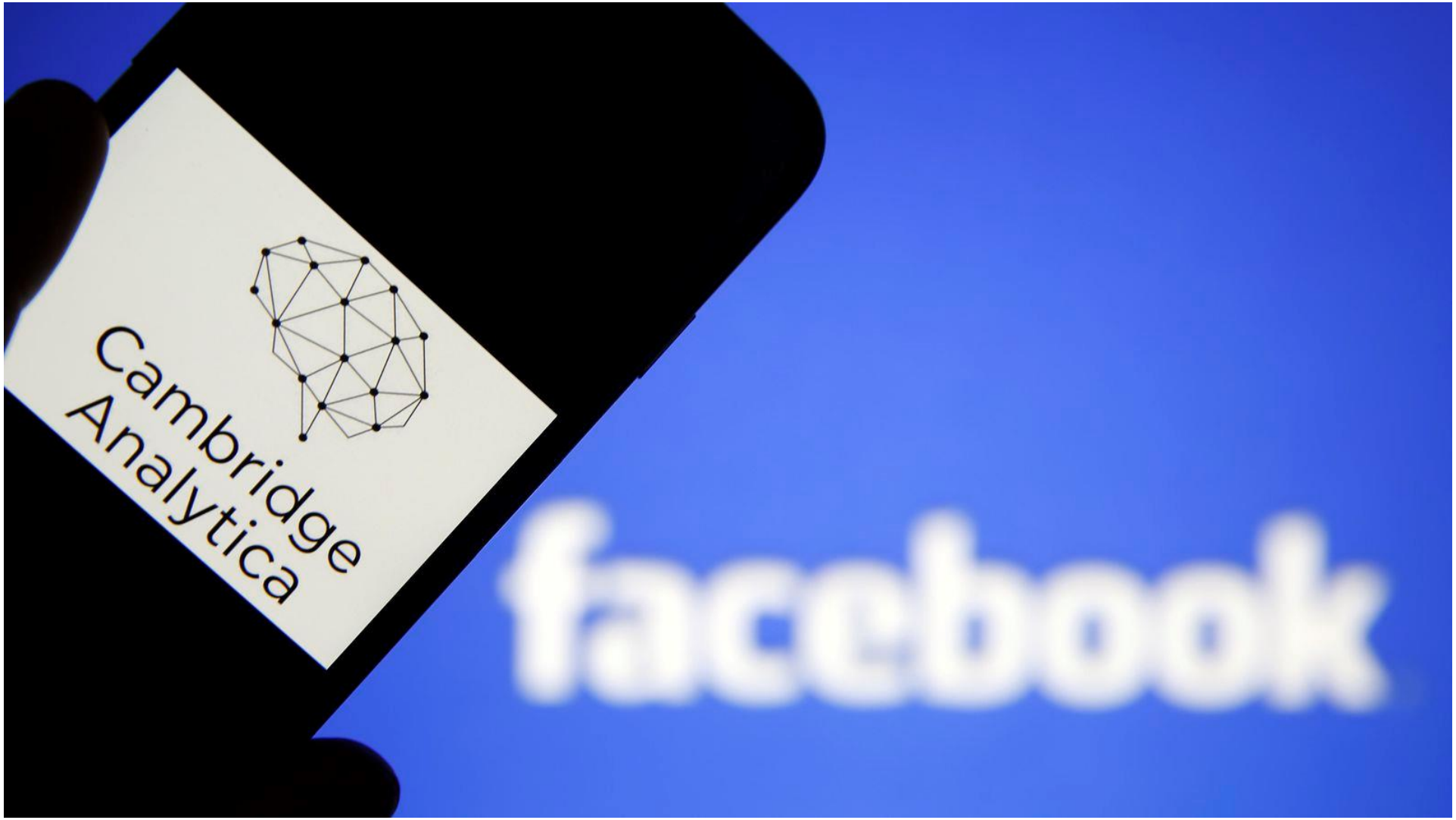
Privacy
- Information about specific people becoming accessible

Group Privacy
- De-individualized information becoming accessible. Ability to discover hidden correlations, make assumptions based on available information, or target specific groups.

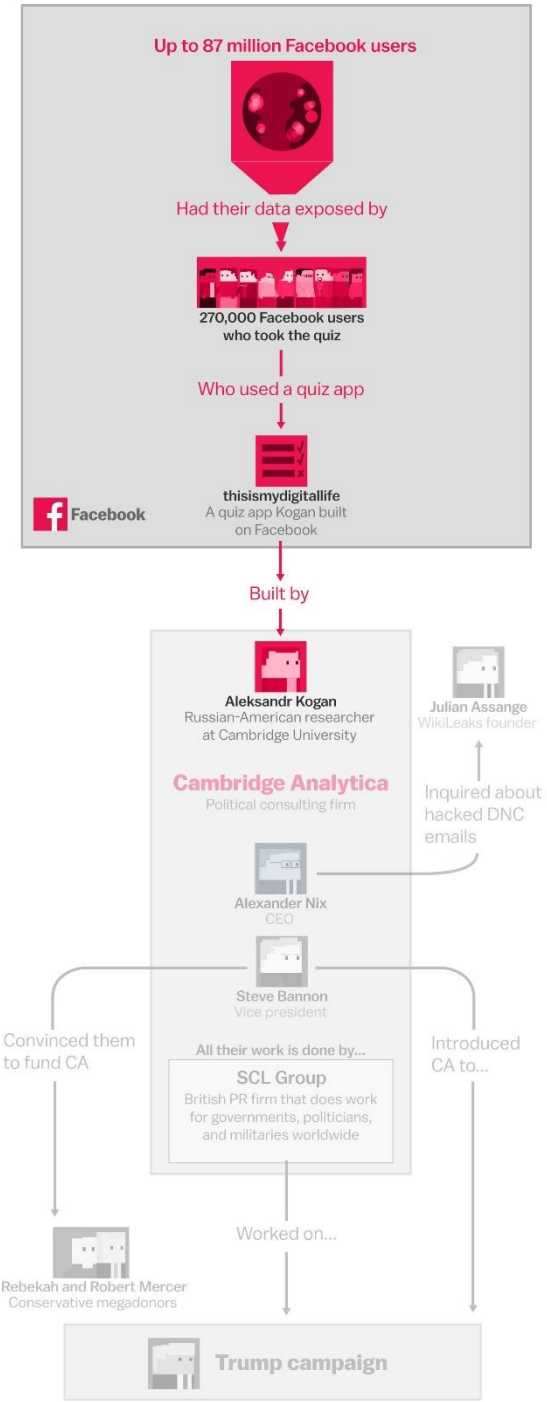
Propensity
- Predicting future behaviour based on correlation

Research ethics
- Ethical codes and standards for researchers becoming outdated

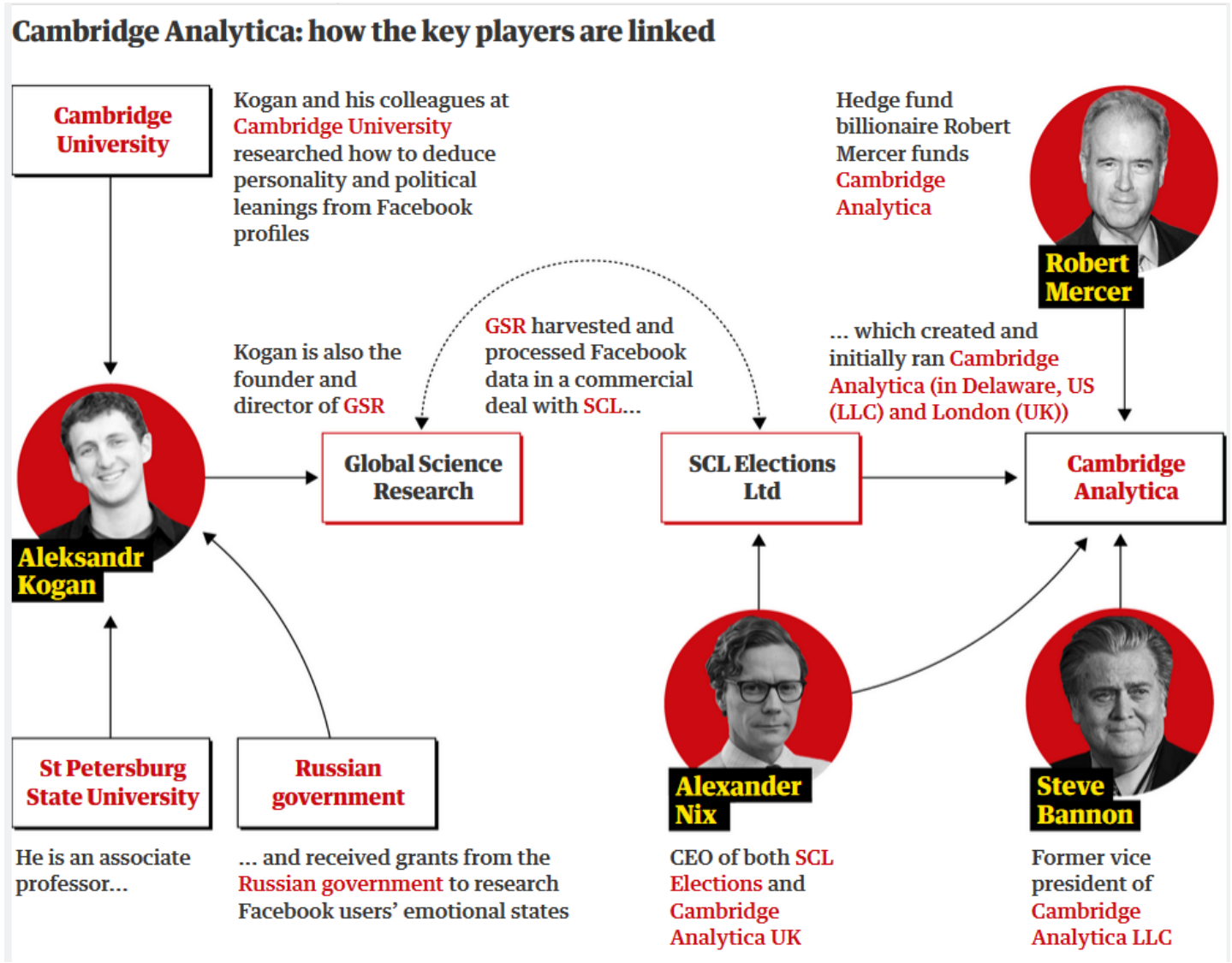
Big Data and Privacy

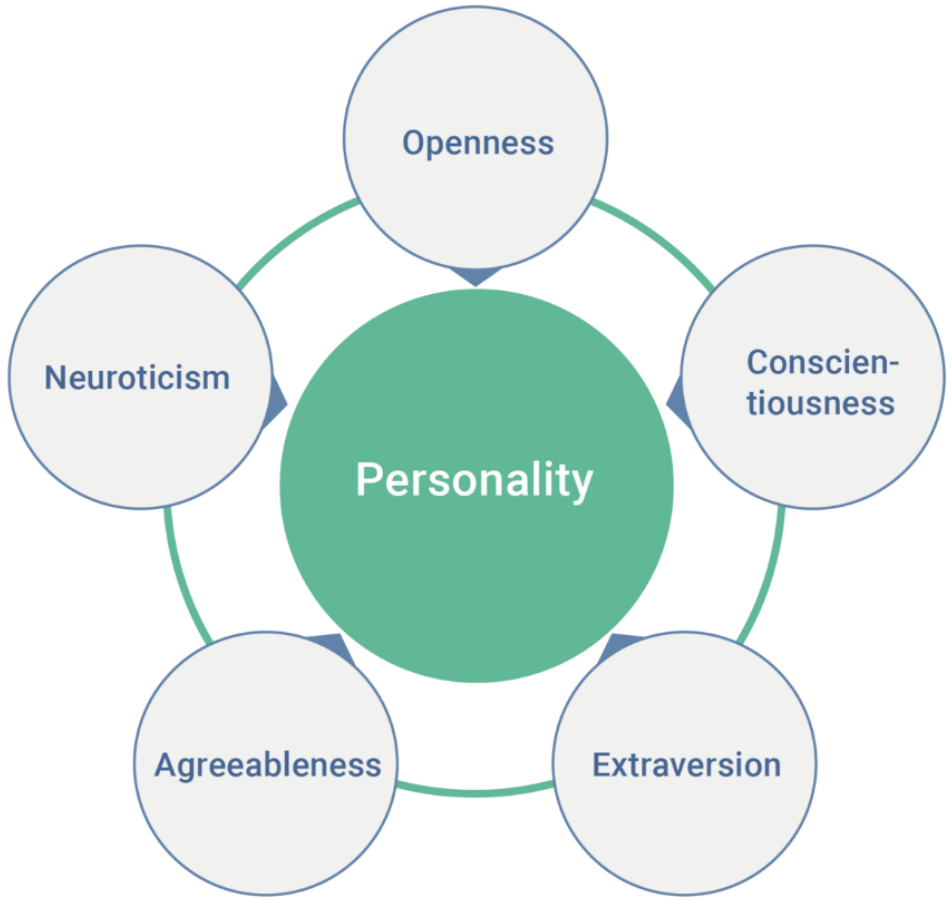


“Much less commonly discussed are the ethical implications of impersonal data. Examples include, among others, the “likes” on Facebook sold to marketing companies in order to more specifically target certain micro-markets.”



Cambridge Analytica: how the key players are linked




Openness
Conscien-
tiousness
Extraversion
Agreeableness
Neuroticism
Personality

The Data That Turned the World Upside Down

How Cambridge Analytica used your Facebook data to help the Donald Trump campaign in the 2016 election.

By **Hannes Grassegger & Mikael Krogerus**

Jan 28 2017, 9:15am Share Tweet Snap

DONALD TRUMP DURING THE PRESIDENTIAL CAMPAIGN. IMAGE: GAGE SKIDMORE

March 16, 2018

Suspending Cambridge Analytica and SCL Group From Facebook

> "Protecting people's information is at the heart of everything we do, and we require the same from people who operate apps on Facebook."

By Paul Grewal, VP & Deputy General Counsel

Update on March 17, 2018, 9:50 AM PT: The claim that this is a data breach is completely false. Aleksandr Kogan requested and gained access to information from users who chose to sign up to his app, and everyone involved gave their consent. People knowingly provided their information, no systems were infiltrated, and no passwords or sensitive pieces of information were stolen or hacked.


The Cambridge Analytica Files
Cambridge Analytica a year on: 'a lesson in institutional failure'
▲ Christopher Wylie, the Canadian data consultant who worked for strategy firm Cambridge Analytica. In March 2018, Wylie showed the Guardian/Observer a

“This is not my fault. I did not build the bomb. I only showed that it exists.”

Big Data's Ethical Challenges: The Cambridge Analytica Case

- Individual end users of Facebook as data generators
- Facebook and the creators of the personality quiz app as data collectors
- App creators and Cambridge Analytica as data utilizers

The Cambridge Analytica/Facebook case is a story of:

- Sacrifice (often unknowing) of group privacy
- Use of correlated data to predict and influence future behaviours (propensity)
- Breach or absence of sufficient ethical codes and standards (research ethics)
- Unequal distribution of knowledge and power between data generators, collectors, and utilizers

Mini-Assignment #6: Ethics and Privacy Discussion

Time to talk to each other! For this mini-assignment, your job is to respond to a specific prompt within the usual Moodle discussion forum. I have created three sub-topics within the forum. If you're one of the first people to respond to a topic, then you should be responding to the prompt that I have written. If you post later, then your response should be directed towards a comment made by one of your classmates instead. Please post a thoughtful response of approximately one paragraph. Due by Friday evening, May 27th.

- To what extent is privacy possible in a world of big data?
- How meaningful is Zwitter's distinction between privacy and group privacy?
- Assuming that we have a right to some degree of privacy, who is responsible for protecting that right? (Governments, private technology companies, individual end users, individual researchers, individual employees of technology companies?)

Reading Hints for Next Class

Artificial Intelligence and Identity

- *Nassim JafariNaimi, "Our Bodies in the Trolley's Path, or Why Self-Driving Cars Must *Not* Be Programmed to Kill"*
  - This text is a response to the "moral machine" project from MIT that I showed on a slide during today's class. It builds directly on the computer ethics discussion that we have been having.
- *Nick Bostrom and Eliezer Yudkowsky, "The Ethics of Artificial Intelligence"*
  - This piece from the Cambridge Handbook of Artificial Intelligence ties our discussion of computer ethics to our content on identities and social/emotional interactions.

- Reflection Essay #2 due on Friday!