Week 2: Do Artefacts have Politics?
January 13, 2020
Does Society Always Choose the Best Technology

- Apple OS vs. Linux vs. DOS/Windows
- Power Generation (coal fired, nuclear, wind, solar, etc.)
Why do you think society chooses certain technologies over others?
“Do Artifacts Have Politics?”

- How is the “goodness” of a technology measured?
  - Contributions to efficiency and productivity

- And also...
  - Positive and negative environmental side effects
  - Technical things have political qualities (Winner’s main argument)
    - Manner in which they facilitate or re-establish certain power structures
  - *What is politics?
The Context of a Technological System

• Technologies are not isolated, separate devices
• An individual technology becomes workable only when it is one part of a larger system (the whole is greater than the sum of its parts)
• The social or economic system in which the technology exists is more important
• Examples: washing machine, missile
• **Social Determination of Technology (SDT):** What matters is not technology itself, but the social or economic system in which it is embedded.

• SDT is an antidote to those who focus uncritically on such things as “the computer and its social impacts”.

• Criticism: SDT fails to look behind technical things to notice the social circumstances of their development and use.
“It’s not the technology; it’s how it’s used”

- A “thing” can’t have politics
- Technology is neither inherently good nor bad
- People have politics, and people use the technology to achieve certain ends

Examples:
- Stirrups and feudal society
  - Once you can fight well from a horse, then you need a way to support this expensive way of waging battle (so, must realign society to support elite mounted warriors)
- * Invention of guns
Formally known as...

- **Technological Determinism (TD):** The idea that technology develops as the sole result of an internal dynamic, and then, unmediated by any other influence.

- With the technology, people mold their thoughts and actions, and for social change.

- Criticism: Technology never forces itself on members of the society
Technologies have political properties

- Consider the invention, design, or arrangement of a specific technical device or system
- Consider how the technology forms a way of settling an issue in the affairs of a particular community
- Consider how it tends to be strongly compatible with particular kinds of political relationships which called inherently political technologies

Adapted from Gracy Zhang
Technologies have political properties

- Most technologies mention they are large-scale infrastructures
- This makes political arguments much more salient while de-emphasizing any smaller-scale impacts on individual ways of living.
Two ways technologies have politics
• Technologies are ways of building order in our world.

• Technological changes express many human motives, including desire for power over others.

• Many technologies are designed and built to produce consequences logically and temporally prior to professed uses.
Inventions as Extension of Social Order

- Example: Overpasses on the Long Island parkways in early 20th century
  - Over 200 of them
  - As little as nine feet of clearance
  - Built to discourage the presence of buses on the parkways
  - Buses are public transportation: class issues
  - Builder (Robert Moses) also blocked extension of the Long Island Railroad to provide Jones Beach access
NYC Long Island Bridges

LENGTH:
- 25.9 miles

CONSTRUCTED:
- 1925-1949

REFER ROUTE:
- NY 908M

- Current Conditions
- LL Pkwy
- nycroads.com
- HOME
- Rate This Road!

This 2000 photo shows the Southern State Parkway approaching EXIT 15A (Valley Stream State Park). The original bridge crosses the eastbound lanes, while a new bridge constructed during the 1950's was added to cross the westbound lanes. (Photo by Steve Anderson.)
The Hutchinson Parkway

LENGTH:
- 18.8 miles

CONSTRUCTED:
- 1924-1941

REFER ROUTES:
- NY 908A (Bronx)
- NY 907W (Westchester)

This 1998 photo shows the northbound Hutchinson River Parkway at EXIT 9 (Wolffs Lane) in Pelham, just north of the Bronx-Westchester border. (Photo by Steve Anderson.)
Other Extensions of Social Order with Technology

• Concrete buildings and huge plazas constructed on university campuses in the United States during the late 1960s and early 1970 to defuse student demonstrations

• Soviet architecture
  ▪ Large plazas
  ▪ Broad boulevards
  ▪ Huge scale of blocks, government buildings
Other Extensions of Social Order with Technology

• Baron Haussmann's broad Parisian thoroughfares, engineered at Louis Napoleon's direction to prevent any recurrence of street fighting of the kind that took place during the revolution of 1848.

• Cyrus McCormick's introduction of pneumatic molding machines into his Chicago reaper manufacturing plant in the 1880s, in order to "weed out" the skilled workers who had organized a local union.
Technical Arrangements and Social Order

- Technical Arrangements can achieve a social effect (e.g. the height of bridges-to limit buses, in turn, the access of racial minorities and low-income groups to Jones Beach)

- Technologies can be used in ways that enhance the power, authority, and privilege of some over others (e.g. use of TV to sell a candidate)

Adapted from Gracy Zhang
Myth of Efficiency as Motivator

- Technological Application has many justifications
  - McCormick factory example, pneumatic molding machines. Inferior quality at higher cost. Installed to force high skilled, unionized workers out.

- Not all designing for social uses is intentional
Technologies with unintended consequences

• Winner points out, however, that "to recognize the political dimensions in the shapes of technology does not require that we look for conscious conspiracies or malicious intentions."

• There are other interesting cases in which "the technological deck has been stacked in advance in favor of certain social interests," even though this stacking may not have been a conscious choice on anyone's part.
Example: * Tomato harvesting
What are some modern day examples of technologies extend social order intentionally?
What are some modern day examples of technologies extend social order *unintentionally*?
Inherently Political Technologies

- Many technologies → inherently political
- These tech do not allow flexibility and choosing them means choosing a specific form of political life.
- Because their very creation and operation requires specific social arrangements
  - Often a particular sociological system
  - Or strongly compatible with a particular sociological system
- Four “types” of artifacts:
  - those requiring a particular internal sociological system
  - those compatible with a particular internal sociological system
  - those requiring a particular external sociological system
  - those compatible with a particular external sociological system

Adapted from Gracy Zhang
Plato’s Republic

- Ships cannot be run democratically
- Their operation requires the coordination of so many individual workers.
- Large ships require social hierarchies that one-person canoes do not.

Adapted from Gracy Zhang
Friedrich Engels

- Complex technical systems
- Large production factories → reinforcing centralized control
- Knowledgeable → people acting at the top of a rigid social hierarchy would seem increasingly prudent

Adapted from Gracy Zhang
Your thoughts on some technologies that are more compatible with certain kinds of political organization:

Nuclear Power?
Solar Power?
Can you imagine creating a nuclear reactor that works with decentralized democratic control?

Can you imagine a totalitarian use of solar technology?
• Nuclear power plants
• techno-scientific industrial-military elite ➔ nuclear power
The Atom Bomb

• Nuclear weapons
• Internal social system ➔ Authoritarian
• Its lethal properties demand that it be controlled by a centralized, rigidly hierarchical, chain of command closed to all influences that might make its workings unpredictable
• Matter of practical necessity independent of any larger political system in which the bomb is embedded

Adapted from Gracy Zhang
Environmental activists argue for the democratizing qualities of solar energy to work against the concentration of power in the hands of large institutions.
Interpretations

• Two interpretations:
  ▪ design of artifact makes establishing patterns of power convenient;
  ▪ ways artifact properties are strongly linked to particular institutional patterns of power.

• Need to study which technologies and contexts are important – study specific technical systems and their history plus concepts and controversies of political theory.

• Note: people will resist major lifestyle changes due to political imposition, but willingly adopt for technological innovation.
• Is it important to you to make the world a better place through your work?
  ▪ Do you have an obligation to do no harm?
  ▪ What about an affirmative obligation to do good?
How Do We Measure “Good” Or “Better”

• Economic costs and benefits:
  ▪ jobs created, income generated, etc.

• Environmental impacts
  ▪ pollutants distributed, cancers created

• Risks to public health and safety
  ▪ exposure to natural disaster impact, “unsafe at any speed”

• “Consequences for the form and quality of human associations”