CS 3001-C: Computing, Society, and Professionalism

Munmun De Choudhury | Associate Professor | School of Interactive Computing

Week 2: Do Artifacts have Politics?
January 19, 2022

Does Society Always Choose the Best Technology

- Apple OS vs. Linux vs. Windows
- Power Generation (coal, nuclear, wind, solar, hydro 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
  - *What is politics?*
  - **Technical things have political qualities (Winner's main argument)**
    - **Manner in which they facilitate or re-establish certain power structures**

What are politics of a technology?

“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

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

But technologies don't exist in a vacuum

- 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 context is important
- The social or economic system in which the technology exists is more important
- Examples: washing machine, missile

Technologies have political properties

Two ways technologies have politics

Technical Arrangement and Social Order

- * 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

- Artifacts that correlate with particular kinds of political relationships

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.

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

NYC Long Island Bridges

LENGTH:
- 25.9 miles

CONSTRUCTED:
- 1925-1949

REFER ROUTE:
- NY 908M

- Current Conditions
- LI Pkwys
- 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 east-bound 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)

- Current Conditions
- Hudson Valley Pkwys
- nycroads.com HOME

- Rate This Road!

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

Reflecting on some technologies that are more compatible with certain kinds of political organization:

Nuclear Power?
Solar Power?

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

Example: Tomato harvesting

Interpretations/Takeaways

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"

Obligation

- 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?

Next Class (Monday)

- Instructor has an all-day workshop
- Recorded lecture on Canvas; no in-person meeting