CS 3001-C: Computing, Society, and Professionalism

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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 oneperson canoes do not.

Friedrich Engels

- Complex technical systems
- large production factories -> reinforcing centralized control

NYC Long Island Bridges



LENGTH:

25.9 miles

CONSTRUCTED:

1925-1949

REFER ROUTE:

- NY 908M
- <u>Current</u>
 <u>Conditions</u>
- 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:

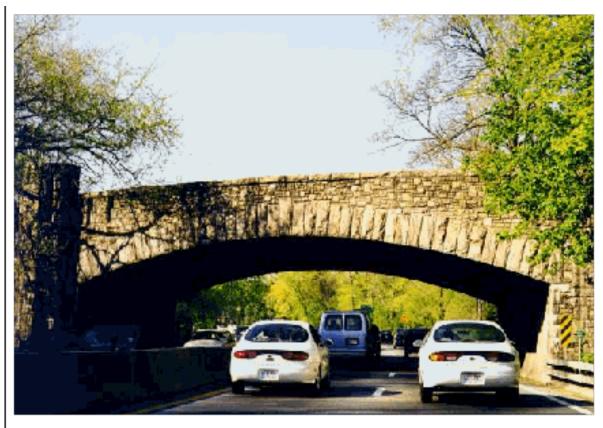
18.8 miles

CONSTRUCTED:

1924-1941

REFER ROUTES:

- NY 908A (Bronx)
- NY 907VV (Westchester)
- <u>Current</u>
 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