

CS 3001-C: Computing, Society, and Professionalism

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Week 2: Do Artifacts have Politics?
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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



Technologies with unintended consequences



Example: Tomato harvesting

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

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 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)

- [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?



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?