

# CS 4873-A: Computing and Society

Munmun De Choudhury | Associate Professor | School of Interactive Computing



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**

# “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

# 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

# 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



# 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



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?

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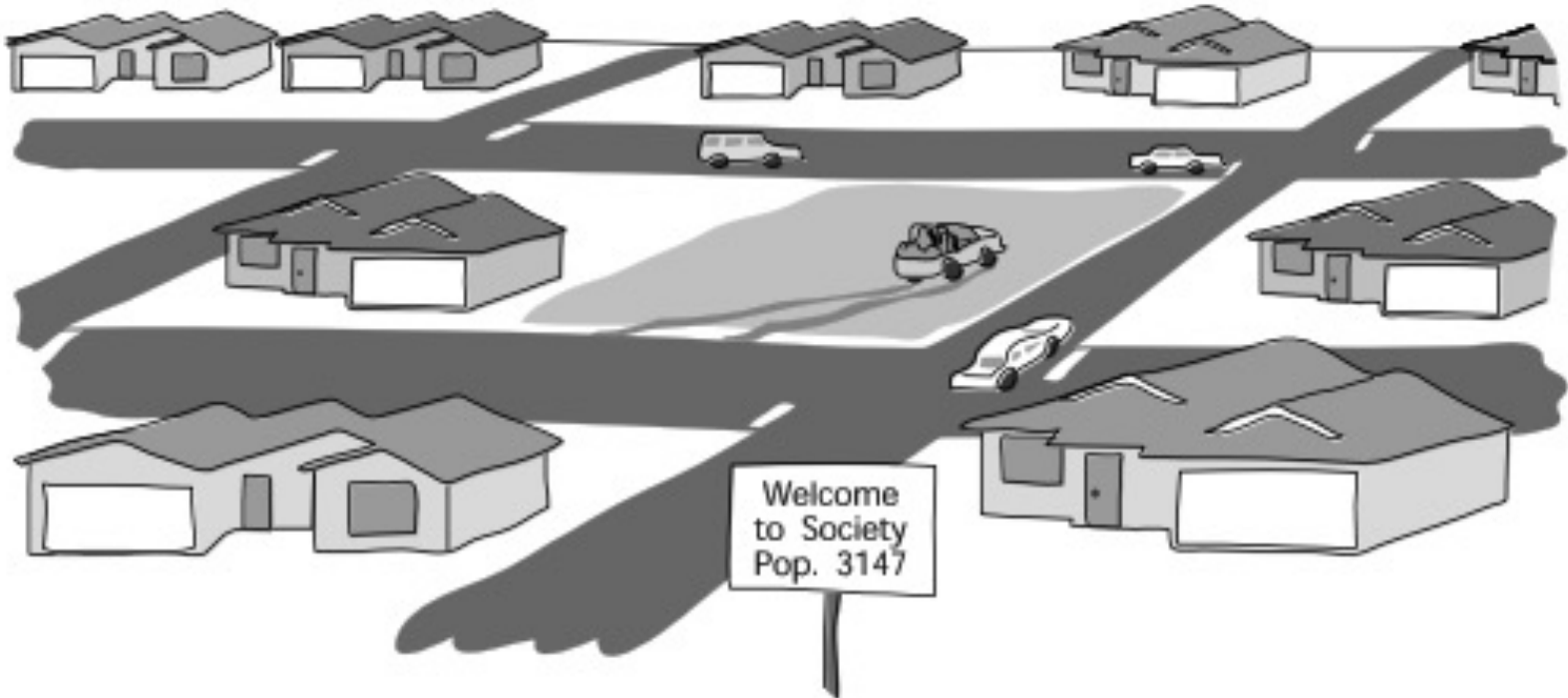


## Week 2: Utilitarianism

## January 24, 2021









# Tests of an ethical theory

# The STOP Sign



# Detering speeders

- \*\* Scenario 3, p. 53 Quinn
  - East Dakota State Police (EDSP) installs cameras to detect speeders on the highway.
  - It takes picture of the driver and matches with the photo on the car's registration/license plate information.
  - Speeding reduces by 90%
  - FBI asks for these data.
  - Three months later five people are arrested under suspicion of belonging to a terrorist organization.
- Did EDSP do anything wrong?
- Who benefited? Who was harmed?

# Ethical Relativism

- It is the theory that there are no universal moral norms of right and wrong.
- That is, different individuals or groups of people can have completely opposite views of a moral problem, and both can be right
- Two kinds of ethical relativism: *subjective relativism* and *cultural relativism*

# Scenario Question

- Both Adolf Hitler and Mother Teresa spent their lives working towards what they believed was right
- Can you explain the morality of their actions with subjective relativism? Why or why not?

# Cultural Relativism

- It is the ethical theory that the meaning of right and wrong rests with a society's actual moral guidelines.
  - These guidelines vary from place to place and from time to time
- \*\* William Graham Sumner's position (p. 58)
  - Moral guidelines of a community, known as "folkways"

# Cultural Relativism Examples

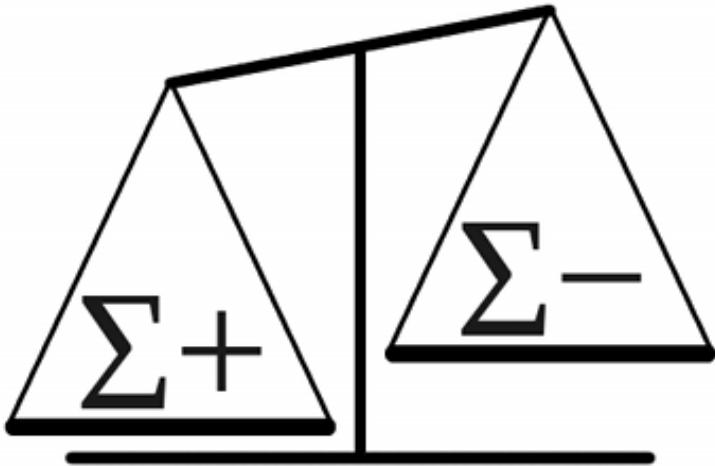
- Polygamy
- Women not driving cars
- Hazing (fraternities)
- Residents working 36 hour shifts





# Utilitarianism

# Act Utilitarianism



- An action is good if its benefits exceeds its harms
- An action is bad if its harms exceed its benefits
- This theory is called utilitarianism, based upon the principle of utility\*, or the **Greatest Happiness Principle**
- \* Utility is the tendency of an object to produce happiness or prevent unhappiness for an individual or a community

# Act Utilitarianism

- The case for
- The case against

# Rule Utilitarianism

- Rule utilitarianism is a form of utilitarianism that says an action is right as it conforms to a rule that leads to the greatest good, or that "the rightness or wrongness" of a particular action is a function of the correctness of the rule of which it is an instance

# Rule Utilitarianism

- The case for
- The case against

# Discussion Point A

- Kao lives in Laos and really enjoys watching movies. The only way to watch movies (that he can afford) is to buy the illegally pirated versions sold on the streets of Vientiane, which he does when he has the money
- **Is what he does unethical?**
- **Examine with ethical relativism and utilitarianism**

# Discussion Point B

- John also really enjoy watching movies and is a tourist in Laos. John buys the pirated ones on the streets to take back to Canada; he also know this helps the local economy.
- **Is what John did unethical?**
- **Examine with ethical relativism and utilitarianism**

# Analysis

- Who benefits?
- Who gets harmed?
- What other ways can Kao or John achieve their objectives?
- What additional information would you need to evaluate whether this was an ethical decision?



# Limitations of Utilitarianism

- Not all benefits are the same or can be equally weighted
- Not all harms can be quantified