Lecture 3:
Social aspects of technical questions
ANNOUNCEMENTS

Readings now on EEE
Less content - more dialogue
Last day to drop - TODAY
Mandatory discussion - GROUP 1
QUESTIONS?

Group Project and Final Paper
READING SUMMARIES

1. What is the author attempting to describe/argue?

2. What do you think the author is most concerned about regarding this issue?

   OR

   What are you most concerned about regarding this issue?

3. What do you think the author is most optimistic about regarding this issue?

   OR

   What are you most optimistic about regarding this issue?
WHAT IS TECHNOLOGY?
WHAT IS TECHNOLOGY?

• Tool
• Technique
• Way of doing
• Way of seeing
• Way of knowing/framing
WHAT IS A TECHNOPHILE?
POSTMAN

Thesis:
Thesis: New technologies change everything

• Ecological change
• Shift in structure - what we think about
• New and modified symbols - what we think with
Thesis: New technologies are both a burden and a blessing

- Not just between haves and have nots
  - Short term / long term
  - Different aspects of life
  - Competing goals
Implicit assumptions:
Implicit assumptions:

- Technology ‘does’ - agentic perspective
  - “Uses made of any technology largely determined by the structure of the tool itself.” pg 7

- Tendency to present things as black/white
  - “Who is the master. Will we control it. Will it control us?” pg. 142

- Assume we have the capacity to delineate and pinpoint value - and that value is static and universal.
  - “Statistics buries in a heap of trivia what is necessary to know.” pg. 138
POSTMAN

Concern:
POSTMAN

Concern: Not asking the “right” questions

• No focus on “training” for new tools.
• Not addressing what tools enable what “value.”
• Not acknowledging shifts in power that accompany new “monopolies of language.”
Concern: Not asking the “right” questions.

- What are the right questions????
Concern: Evolution of how we define concepts becomes invisible, masked, normalized

- Issue - ‘Fair’ mechanism to allocate money to education. High standards and measurable goals - lead to individual outcomes
- Solution - No child left behind act.
- Result - Money to schools. Improved test scores.
- Question - How does this solution affect definitions of education, access, and equity?
- Assumption: Measurable outcomes measure what we feel students should learn.
- Assumption: Tests are testing all students the same - no systematic bias.
- Testing is a ‘technology’
Concern: Evolution of how we define concepts becomes invisible, masked, normalized

- Family Feud exercise - what do you know about how old your classmates were when they got their first computer?
Concern: Evolution of how we define concepts becomes invisible, masked, normalized

• Family Feud exercise - what do you know about how old your classmates were when they got their first computer?
  • Gesses provided in class: 11 and 12
  • Most common answer: 12 (9 of 47 responses). No answers for 11
  • Average: 13.1
  • Range: 6-20
  • How did people interpret the question?
Concern: Evolving technologies ➔ evolving definitions of ‘old’ words
Concern: Evolving technologies → evolving definitions of ‘old’ words

- Examples:
  - “Friend”
  - “Harness”
  - “Connected”
Concern: Evolving technologies ↔ evolving ideologies

• Technologies “change what we mean by ‘knowledge’ and ‘truth; thy alter those deeply embedded habits of thought that give to a culture its sense of what the world is like -- a sense of what is the natural order of things, of what is reasonable, of what is necessary, of what is inevitable, of what is real.” pg. 12

• Technologies (questions, computers, television, stethoscopes, lie detectors) “are mechanisms that give direction to our thoughts, generate new ideas, venerate old ones, expose facts, or hide them.” 127

• Ideology is “a set of assumptions of which we are barely conscious but nonetheless directs our efforts to give shape and coherence to the world.” pg 121
Concern: Evolving technologies ➔ evolving ideologies

• Example: Databases
Thesis:
Thesis: The pivotal ‘technologies’ of today become meaningful for society because they affect how we form groups

- New kinds of groups
- Overhead of forming groups
- Access to each other (innate sociability)
- Access to information
Implicit assumptions:
Implicit assumptions:

- We are innately social creatures
- We gravitate to all forms of sociability
- Groups have similar properties regardless of form
- Groups without centralized coordination still function as groups
- We have enough attention and motivation to “join” emerging groups
What did you think about the story of Ivanna, Evan and Sasha?
What did you think about the story of Ivanna, Evan and Sasha?

• Visibility into each other's lives
  • What are we able to see/not see?

• Power dynamics
  • Between individuals. Between individuals and institutions. “Official” relations. Backchannel relations.

• Ownership
  • Material good, personal information

• ‘Attention economy’
  • What kind of stories get that kind of attention? Why? Possible to anticipate? Possible to harness?
SHIRKEY

What did you think about the story of Ivanna, Evan and Sasha?

• ‘Technologies’ as ways of doing, ways of seeing?
• New ideologies illuminated by this anecdote?
SAREWITZ

Thesis:
SAREWITZ

Thesis:

- Socio-technical systems emerge in relation to ways of thinking (ideologies).
- Socio-technical systems provide new ways of seeing that recursively affect ways of thinking
  - Make some things visible. Some things invisible.
- Socio-technical systems enable coordination around abstract goals.
Implicit assumptions:
Implicit assumptions:

• Socio-Technical systems are not vehicles for addressing deeper human needs.

• What becomes invisible in socio-technical systems is important.

• Operating within a socio-technical system focuses people such that they rarely think about larger questions of human value.

• If people did they might find a way to act, think, see differently.
Are you happy?

• What are the human needs that Sarewitz refers to?
Are you happy?

• What are the human needs that Sarewitz refers to?
• How do the ideologies discussed today relate to these human needs?
• How do you think that the current ecology of technologies and socio-technical systems relate to those needs?
QUESTIONS?
NEXT CLASS

Thursday 4/8:

IT for Development
Guest Lecturer - Nithya Sambsivan
READINGS

**ONLY** week in the quarter with readings assigned for both Tuesday and Thursday
