

Technology Advancement and Lifestyles

CSCI3250+3251

Computers and Society + Engineering Practicum

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This lecture is loosely adapted from Chapter 6 of “A Gift of Fire”



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Computers vs Human

- Will the advancement of technology put a large number of people out of work?

Impacts of Technology

- *The Neo-Luddite View*

Neo-luddism is perceived as a modern movement of categorical opposition to technology, both in particular and in general. Since there is no self-described group of "neo-luddites," it is not a political movement.

- Criticisms of Computer Technology

- Causes massive unemployment and deskilling of jobs
- We use them because they are there
- Causes social inequality
- Source of social disintegration; they are dehumanizing
- Separates humans from nature and destroys the environment
- Benefits big business and big government
- Thwarts (Prevention) development of social skills in children
- Solves no real human problems

Impacts of Technology

- Accomplishments of Technology
 - Food prices have dropped worldwide
 - Raw materials are more abundant and prices of natural resources have declined
 - Wages and salaries have risen in both rich and poor countries
 - New substitutes for natural resources have been created
 - New forms of crop management
 - Improved transportation of food from field to table
 - More diseases now treatable or eradicated
 - Improved, safety-minded products for home, school, and work

Technology VS Employment

- Job destruction and creation
 - Automation leads to loss of jobs
 - Computerization eliminates some jobs
 - Computer efficiency means fewer jobs
- The **popularization** of technology
 - Less expertise is required!
- Yet another “job” replaced by AI:
<https://www.theverge.com/2017/8/31/16232180/ai-fake-reviews-yelp-amazon>
- Or even teachers...
<https://www.flippedclasshk.net/flipped-classroom-workshop-series5>

Technology VS Employment

- **Flexibility** of the economies (and other political, social, and economic factors)
 - Changing skills and skill levels
 - Antagonism between the generations
- In US, in 1900 only 0.5 out 1000 people were engineers. In 2000, **7.6 out of 1000** people are engineers.
 - Change in education systems

Working and living styles

- Technologies eliminated *tedious* work
 - Do we work more or work less?
 - Do we earn more or earn less?
- Changes of living costs
 - Availability of leisure and *entertainment*

Working and living styles

- Employee vs **contractor**
 - Telecommuting – working at home
 - Sharing economy
 - Service on demand
 - Offshoring and globalization
- *There are always two sides of every story!*

Work and personal space

- Work vs personal devices
 - Work vs personal profiles
 - Work vs personal time
 - etc.
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- The need for *clear policies*

Consequences of Technology

- How will people use the new technology?
- How will people benefit from the new technology?
- Will people like the new technology?
- How much will people pay for the new technology?
- What problems will the technology cause?

➔ **The awareness of *humanity***

Checkpoint Question

Suppose you run a small company and plan to replace a few dozen employees, who have worked for you for more than two years, with robotic equipment that will do the same job at lower cost. What are your ethical responsibilities to your employees?