

Broader Issues on the Impact and Control of Computers

1. Computers and Community
2. Information Haves and Have-Nots
3. Loss of Skills & Judgment
4. Evaluations of the Impact of Computer Technology
5. Prohibiting Bad Technologies

Computers & Community

- Do computers enable or disable social interaction?
- Chats, blogs, & surfing
- fewer opportunities to be “co-present” ⇒ isolation
- “technology emphasizes individual at expense of community and family”
- Is Real Life interaction superior to virtual?
- Participation in clubs is declining. Why?

- Is the Internet a forum for participation?
- Earlier example of telephone
- different modes of communication can be enabling
- AOL used more for “community” than info. retrieval
- online relationships often based on similar interests
- are computers enabling distributed relationships at the expense of local ones?
- many professionals, info. workers, & businesses relocating to small towns – a transition facilitated by computer technology

- many advantages of a big city can now be imported to a smaller venue: education, information, entertainment, shopping, recreation
- The Internet can create or facilitate an addiction

- Walmart, e-commerce & downtown
- Economies of scale & efficient management have helped Walmart & e-commerce
- what do malls have in common with shopping on-line?
- Why have downtown & community retail venues been declining despite a consumer wish for them not to?
- Can this trend be effectively slowed or reversed? How? Would these methods be popular?
- “Change creates new options and causes some old options to disappear.”

- Individualism & community strength are not mutually exclusive (Baase)
- “Think global – act local”?

Information Haves & Have-Nots: Access & the *Digital Divide*

- Many different dividing lines can be drawn:
 - developed vs. undeveloped or developing countries
 - rich vs. poor (economic classes)
 - young vs. old
 - differing ethnicities
- deprivations not restricted to computer access
- 1934: telephone companies required to provide affordable subsidized service to the poor.
⇒ universal service

- should there be a similar universal access to the internet requirement?
- How necessary is access to the internet?
- CPSR: universal internet access is a necessary and basic condition of citizenship. Any notion of equity impossible w.o. it.
 - NII: National Information Infrastructure
 - Everyone in the country must have access to a place from which to connect to the NII
 - Hardware & software must be easy to use for all (including handicapped)
 - training in use must be available
 - pricing must be tiered so that service is affordable by all

- access to all features must be available to all
- access also includes hardware
- Trends in computer access
 - “virtually all tech. innovation is first available to the rich”
 - user interfaces & reliability also improve as the technology matures
 - gaps: income, ethnicity, remoteness, gender – some have closed more than others
 - “haves vs. have-laters”
 - community access: internet cafe’s, public & school libraries, community centers

- FreeNet volunteer movement: networks & education
- 2nd hand equipment
- is the above sufficient?

Loss of Skills & Judgment

- The convenience afforded by a computer system can encourage mental laziness and less attention to details.
 - similar effects with cars & calculators
- historical precedents for skill loss due to adoption of new technologies, e.g., writing
- \exists a tendency now to emphasize data at the expense of analysis
- A vast amount of information is now accessible, but there is relatively little knowledge.
- Is dialog & debate a receding skill?

- Changes in social patterns are often based on the widespread use of new technologies
- Has the Internet enhanced interpersonal communication?
- computer literacy \Rightarrow Information literacy (innumeracy)
- the discrimination of truth from falsehood and degrees of certainty are a necessary skill.
- e.g. “Web of Lies” in *A Fire Upon the Deep* by Vernor Vinge

Abdication of Responsibility

- to exercise judgment & skepticism
- people tend to act on data without ascertaining its veracity.
- spell-checkers
- “just go along with what the computer says”
 - ⇐
 - convenience
 - ignorance
 - institutional pressure
 - expert systems are intended to supplement and assist

– legal liability

- “*droidism*”

Evaluations of the Impact of Computer Technology

- Neo-Luddite views
 - tied to a particular view of how to *properly* live
 - computers:
 - * cause unemployment & deskilling
 - * manufacture needs (we use them 'cause they're there)
 - * cause social inequity
 - * cause social disintegration & dehumanization
 - * weaken communities & cause isolation

- * separate people from nature & destroy environments
 - * benefit big corporations & governments most
 - * in schools reduce development of social skills, human values and intellectual skills, and a uniformity of knowledge, in children
 - * do little if anything to solve real human problems
-
- computers are the latest but worst stage in the decline of the best of human societies
 - computers &, more generally, all computers are malevolent

- Business, consumers, and work
 - Luddites have a negative view of
 - * capitalism
 - * business
 - * markets
 - * consumer products
 - * factories
 - * modern forms of work
 - purpose of technology:
 - * Luddite: eliminate jobs to reduce cost of production
 - * pro tech: reduce effort to produce goods & services

— Luddite:

- * negative attitude towards business & corporate power
- * disadvantages of tech outweigh advantages
- * technology creates want for unneeded products
- * low view of the judgment & autonomy of ordinary people
- * little value on comforts & conveniences
- * often exploit tech to disseminate ideas & opinions

- Accomplishments of Technology
 - ultimate benefits in many different respects
 - other factors: stability, freedom, & flexibility of political & economic systems
- Who benefits most?
 - Luddites: largest corps
 - Naisbitt: telecommunications is driving force creating robust global economy & reduction in size of both political & business units
 - disabled
 - health & life expectancy

Prohibiting Bad Technologies

- Why & How?
 - technology may be used for benefit or ill
 - should the development of a new technology be postponed until, after exhaustive study, all consequences are determined & judged as overall acceptable? Who would judge?
 - Denning: “Although a technology does not drive human beings to adopt new practices, it shapes the space of possibilities in which they can act: people are drawn to technologies that expand the space of their actions and relationships.” I.e., tech. is adopted when it yields more choices for actions & relationships.

- E.g. restrictions on telemedicine – good or bad?

- Difficulty of Prediction
 - experts have consistently failed to anticipate profound new uses of technology
 - for benefit or ill.
 - “prediction is difficult, especially about the future”
- Is it socially or ethically justifiable to prohibit people from developing new tech via their own efforts & investments?
- How certain need we be to prohibit technological development?

- Conclusions:
 1. decisions about developing new tech should be limited in scope
 2. decision-making process should be decentralized & non-coercive
- Fundamental problem: select a decision-making process that:
- produces what people want
- works well despite the difficulty of predicting consequences
- respects diversity of opinions on what constitutes a desirable life style
- relatively free of political manipulation