NOTES TO ONLINE READINGS

Atkinson Technology Making It Worse

"When the life of people is unmoral, and their relations are not based on love, but on egoism, then all technical improvements, the increase of man's power over nature, steam, electricity, the telegraph, every machine, gunpowder, and dynamite, produce the impression of dangerous toys placed in the hands of children. *the diary of* Leo Tolstoy (1828 - 1910)

Improved cleverness and flexibility of our machines have caused social chaos and economic stagnation.
Atkinson for fifteen years (1975 - 1990) wrote computer programs to make people redundant
Each job discarded meant improved productivity, and reduced costs. However we have wasted our time.

> Industry and commerce can't utilise our improvements because there is no demand.
> There is no demand because people have no money.
> Nobody has any money, because so many people are out of work.

Luddites' Fear

> New engines did not destroy employment, but changed and increased it - the Luddites were wrong?
> The explosion in raw products meant huge increase in the work needed The newly harnessed power extended wealth and employment for everyone.

Our society became significantly richer and the Luddite's fear was forgotten.

Luddites Wrong Only In Timing Not Principle

It has become folk-law that though machines appear to create unemployment, this is only temporary.
Regardless of appearances, mass retrenchments will be followed by even greater demands for workers in some new arena but this is a fallacy.
The fact that the engines of the industrial revolution created jobs was a reflection of their shortcomings, they were clumsy and stupid.
The development of artificial intelligence and advances in mechanical miniaturization have overcome these shortcomings, automation has stopped generating jobs since 1980.
Every modern system is designed to minimize or exclude human intervention; so just as horses became obsolete and were phased out of the workplace, so have people.
Industries now share the same uncertainty as workers as they do not know how long they will be required.
Once knowledge existed on the printed page, which was a stable medium, difficult to alter and easy to read, and insensibly supplied certainty.

> Laws, agreements, observations, the transactions of a communal mind, could all be written down to be later produced to allay any doubts or suspicions.

Certainty is now being eroded by *electronic* replacements; fast, convenient and beyond the power of an individual to check.
Technology now tells us what is true, because it is becoming increasingly beyond the power of people to be sure themselves.

A I OPPORTUNITIES:

Tiny Bureaucracy: giving every citizen access to government computer resources
Freedom From Wage Slavery:
Tertiary Education For All:
Extended Research:
Increase Of Wealth And Population: did not see global warming coming so fast

Offering to pay people not to work ?! the hard-working are just as unnecessary as lazy folks: this is a result of technology.

The '*Great Depression*' occurred not because our community had run short of something tangible such as food, or oil, but because the circulation of money failed.

The community was just as rich before the depression as during the depression, but it relied upon mass employment for the circulation of money.

By definition of unemployed the truth is distorted.
NOT unemployed:

Have given up looking for a job
Have found at least one hours paid work a week
Have worked at least one hours unpaid work in the family business
Perform voluntary work
Are on training courses

TRUTH ABOUT OUR ECONOMIC WELFARE:

percentage of adults earning at least the annual average wage
percentage were below annual average wage
percentage significantly below annual average wage

COMMUNITY ENGAGES IN DENIAL.

Reality of machines displacing humans from the work-place. And inevitable effects:

Accelerating Poverty Cycle: money shortage forces firms (including government) to economize by cutting staff, which further reduces the money in circulation, which further reduces the number of customers able to buy services, which forces further staff cut

Exploitation By Essential Services: Posting huge profits as well as shedding thousands of jobs

Increasing Social Confusion:

Erosion Of The Quality Of Goods:
Lack of money encourages short cuts in manufacture

Erosion Of The Quality Of Services: phone queues-- spending an unspecified time (perhaps hours) just sitting holding onto a telephone handset in the hopes of reaching a human operator, before the call is cut off or closing time is reached or patience expires.

Lawler. DEMOCRATIC LIBERATION THEORY

DEMOCRATIC LIBERATION THEORY

- Marxism predicts ever-increasing role of machine

Engels predicts:

- Government eventually will evolve into a worker-owned proletarian state. Advanced government allows for end of private property
- A high tech world Safeway/Target distribution center.
- If those without work do not overthrow State, then distribution Centers run by I.T will evolve.
- Engels predicts machines will do everything for us, we will have food clothing, shelter w/o need to work (except for creative work, academic research? & I.T.)
- Thus machines will bring about a virtual egalitarian state

- This machine-run egalitarian state is a true democracy
- High tech liberates us and gives us a democracy. This is DEMOCRATIC LIBERATION THEORY

In the article for our reading this week Lawler cites and discusses various criticisms of democratic liberation theory. Read the reading carefully. I give an outline here of the discussions Lawler presents. One term is important within this discussion, the term LUDDITE. **LUDDITE has come to mean any anti-technology person.**
DEMOCRATIC LIBERATION means Liberation? Freedom/ rights would be not only recognized but even positive rights are satisfied. Food, clothing shelter would be provided for everyone
Accomplishments of High Tech:

1. keep babies & moms alive
2. free us from diseases
3. painkillers
4. extend life expectancy
5. universal education (even for mentally challenged)
6. more personal choices: sexual, educational, recreational, etc.
7. you are now free to move about the country: global travel is easy

Lawler on Democratic Liberation
LUDDITE CRITIQUES of Democratic Liberation Theory

1. **Ignore the Socrates stuff (p 3) it is just weird**: Plato details a Utopia in The Republic, it is NOT a democracy like the Lawler source implies. Platonic Utopia is an aristocracy: only certain special people run the world. On the other hand, there are parallels between Republic of Plato and techno-liberation (democratic liberation theory), or at least the Platonic Republic parallels one strong interpretation of Engels: only tech overseers would have regular jobs, in this sense I.T. would seem to replace Platonic philosopher kings
2. Humans are technological or tool-making animals p. 1In principle we should be free to accept or reject various tech developments p.2 Humans are the only beings who can create new and harder to satisfy needs via our techs.
3. High tech societies overwhelm other societies.
4. We cannot lose tech developments. We are stuck w/ the knowledge of our techs
    a. Example: nuclear weapons

5. Rapid tech development causes almost as much suffering as it alleviates
6. Remember our discussions of rights? Rights bring duties. BUT, **Democratic liberation includes liberation from duties to others:** High tech frees us from dependence on others. Example: I am falling and I cannot get up! (Life Alert)
7. More choices? More like:more prisons, more pollution, more police.
8. Liberation from neighborhoods p.4. MALLS as in the generic nature of all malls: they have no flavor, no sense of different place or neighborhood or community. This is the price to be paid for universal prosperity (& democracy?) is lack of diversity.
9. Internet opens us to others & cuts us off from the world
10. USA 1ST TECHNOLOGICAL REPUBLIC
    a. vote has become according to interests instead of attachments
    b. distance of the citizens from their representatives
    c. prefer impersonal liberty protected by national government to intrusive local government
11. Today we understand the free pursuit of happiness under the Constitution to include
    a. mindless self-indulgence,
    b. stupefying diversions,
    c. almost unlimited sexual freedom,
    d. and even drug-induced euphoria.
12. TECHNOLOGICAL THINKING: Heideggerian Theory of Technology p.7
    a. Technology is not merely the tools we use but the idea of controlling the world and controlling human behavior, controlling human nature?
    b. p.8 & 9 Thinking about how we can control technology does not free us from technological or control-oriented thinking. So democratic choice is overwhelmed by the impulse of technological thinking to conquer nature, kill God and the gods, discredit tradition, and rationalize or standardize all of human life. Everything noble and beautiful that gives human life its seriousness or dignity is regarded, literally, as nothing.
    c. The unity of the human race at the lowest level, the complete emptiness of life, the self-perpetuation of doctrine without rhyme nor reason, no leisure, no cultivation, no withdrawal; nothing but work and recreation; no individuals and no peoples, but instead lonely crowds.
    d. Technological thinking, by making **leisure** pointless, makes it impossible. There now seems to be a therapy or technique to rationalize every human activity, including relaxing. There is nothing

that the technicians or experts cannot tell us how to do. Leisure depends on a cultivation that has its roots in non-democratic or non-technological education

13. Democracy is bad for genuinely liberated thought because it does not provide for the education or habituation that is at the foundation of every serious human endeavor.
    a. Genuine human liberation depends on the critical examination of serious moral opinions, but in a democracy nobody defends the truth or nobility of his or her opinions.
14. Technology liberates us from meaningless leisure for meaningless work or recreation (which is not good in itself but merely a break from work).
15. Prejudice: against old people, history, parental authority, religious faith, sexual discipline, manual work, rural people and rural life, anything that is local or small or inexpensive.
16. We are prejudiced against <u>settled communities</u>, & anything that has not been uprooted by technological thinking.
17. We have equality and nothing else. Those who are best at manipulating others as objects will rule without restraint: a new sort of tyrannical ruling class, controlled by technological thinking, the only standards being wealth and power.
18. <u>Nomads</u> p.10. We road builders remain <u>placeless people</u>. Berry explains that we characteristically <u>behave violently</u> toward the land and particular places because from the beginning we <u>belonged to no place</u>. As Tocqueville says, what is new about American democracy is that restlessness has become common among ordinary people.
19. <u>Techno Bohemians</u>
    a. The most wealthy, sophisticated, and technologically adept Americans today
    b. Characterizations p. 12 to15
    c. Feeling good is more important than being good
    d. Fanatical about their bodies: about health and safety
    e. Aim to regulate or overorganize every moment of their own and their unfortunate children's lives
    f. Most work-oriented or compulsively death-obsessed or risk-averse people ever.
    g. gadget glutted
    h. Torture their children with all sorts of lessons,
    i. The more perfect or risk-free we become, the more we will become paranoid about the inevitable result of our remaining imperfections.

Alan R. Peslak, Improving Software Quality: An Ethics Based Approach

Peslak discusses problem of the **RUSH TO MARKET OF SOFTWARE PRODUCTS.**

Competition in the software industry now dictates success in large part as being driven by being first to market new software, or by first to market substantial new upgrades of software.

PROBLEMS W/ SOFTWARE QUALITY

BUGS NOT FOUND-not sufficient time in testing phase

only 20% do formal testing

8% ship untested code to beta sites

FOUND BUGS NOT FIXED (no time to rewrite code)

PATCHES as updates after release

PATCHES as updates OFTEN DAMAGE machines

SECURITY HOLES: allow malware/ virus access

COSTS

Only 28% of software projects succeed

Cost overruns are at 45%

Time overruns are 63%

Costs associated with failures/overruns are $10,000,000,000 plus!

$13 billion costs of virus attacks in 2001

<u>iloveyou</u> virus cost $6.7 billion in 2000

Software quality can cost lives- deaths 4 patients from radiation overdoses due to software error

PROPOSED SOLUTIONS

EDUCATION & TRAINING

SQA tweaking -IEEE creating an SQA committee

Metrics

Peslak maintains these solutions assume the problem of poor software quality can be fixed by training or improved SQA alone

Peslak maintains the problem is not procedural or a training issue: the problem is an ethical issue

Companies w/ rush to market ethic will not improve quality

3 possible solutions
market forces w/ monopolistic tactics like Microsoft's market forces cannot fix problem
legal & regulatory, not likely fix because:
    software licensing/responsibility seeks to preserve innovation over quality
    legislation too slow
developer's ethics

DEVELOPER'S ETHICS (VIRTUE ETHICS)
ARISTOTLE: we should develop good moral characters or work to become virtuous people.
In the workplace we should teach and maintain high standards of virtue.
The problem here: speak to coders, they are outraged by lack of long betas and shoddy SQA. The owners of software companies need the virtue fix
Peslak maintains that studies show this just does not work.
    I question Peslak's study. Give the study to those who have taken an ethics course versus those who have not. The study he cites does not do this, so it does not disprove that learning to be more virtuous does not work.

Peslak maintains that since Aristotelean virtues do not work
Individuals have been shown not be to be able to sustain virtuous or ethical behavior in light of external pressures or influences.-we should use Humean virtues

HUME: relationships can foster networks that can build stronger virtues than can be found in individuals

You will note that this is indeed in keeping with the definition of ethics of virtues that we are using in this class. Rarely do we find modern

discussions of virtues that fail to see that environments can build habits of virtue.

FINAL CONCLUSION
The associations which are most appropriate for software quality can be the professional organizations of developers and software engineers. Stronger associations and more specific and detailed codes of conduct coupled with appropriate disciplinary actions can be the social support necessary to maintain and strengthen virtue ethics in software development and produce safer, more effective, and more secure software throughout the world.
Peslak ends with excerpts from various codes of ethics of software development organizations.

NASR ISLAM, MUSLIMS, AND MODERN TECHNOLOGY.

HISTORICAL CONTEXT :ISLAM & TECHNE

SINA'AH
The term for technology in Arabic is ***sina'ah***.
Sina'ah refers to both technology and art. The one word was used to signify both. In Farsi also, only one word is used. So, we should speak of ***art/technology***.

SACRED TECHS
All art/technology was fine arts and fine technology because all art and all technology is sacred **or should be**. In Islam every activity has a symbolic and sacred aspect. The product of art/techne had a spiritual significance making it sacred. Traditional technologies were an extension of hands, senses, and other parts of the body and were subservient to the soul. From the making of a simple comb to the composition of poetry and everything in between; everything was related to God and reflected His quality as the Supreme Artisan on the human plane.

SIMPLE TOOLS & CRAFTS

Traditionally, the know-how and the art resided within the being of the craftsman. Tools were simple. There is something directly human and at the same time spiritual in the production of handiworks
The carpet played (still does) a very important role in traditional Islamic society because we sit on the floor, pray on the floor, eat on the floor, sleep on the floor.
Complicated machines made by Muslim scientists were considered mostly for play and amusement. Machines were not seen as a means of increasing production and serving economic purposes.

WEST INVADES
The West invaded the Muslim world and Muslims tried to understand how it was that they were being dominated. They thought it was modern Western technology, science, and managerial organization which had allowed the West to colonize the Muslim world.

PROBLEMS MODERN TECHNOLOGY POSES FOR MUSLIM

MODERN MACHINE DOMINATES OVER THE HUMAN BEING;

Modern technology changes the relationship between the human being and the means of creating things.

- Takes away creativity from the human being
- Takes away the spiritual content of work
- Transfer of human knowledge and art to the machine
  EXAMPLE: Detroit factory-worker has little know-how, he just presses a few buttons. All of the know-how is in the machine.
- Muslim world machine-made objects are now considered by many to be better than hand-made ones.
  (For western society with its high technology something made by hand is considered to be valuable and not inferior.)
- Computer: knowledge in the mind has been transferred to the machine.
  Gradually the computer empties the mind as the machine emptied the dexterity of the hand, the eye, and other parts of the body of the artisan and craftsman.
  Only creative part is done by engineers who design the machine.

Much of what I have here below are direct quotes from the Nasr text

TECHNOLOGY IS NOT NEUTRAL

Technology itself brings with it a certain technological culture which is against the soul of the human being as an immortal being. If you are good, you make good use of it, if you are bad you make bad use of it.

MODERN TECHNOLOGY IS LITERALLY LEADING US TO OUR DEATH.

- Destruction of the natural environment on a vast scale
- If Asia and Africa had the same toilets as in the West, the water system of the whole world would fail.
- Cell phones have many negative medical effects
- Automobile is a major source of aggression against nature.
- Sudden explosion of the world population is itself a product of modern technology
- If had the same rate of consumption as USA, the ecosystem in the world will probably collapse
- We can no longer wait to address issues of environmental degradation caused by technology
- We have just a few years left to completely change the way we live, or we shall perish.

Most people in the West will say, "Ah! The solution to this crisis is new technologies to replace old technologies. They are completely wrong.
The more technology we have normally, the more negative of an impact we make upon the environment, and also upon minds and psyches.

MUSLIM WORLD CAN PLAY A POSITIVE ROLE

- The Muslim world can still preserve many things. Genetic engineering is a dangerous practice to be avoided if possible**.** <u>Keep small farms</u>
  Some people in England have recently created small villages which are completely pre-industrial, with natural agriculture, natural water, and so on
- Governments should try to expand the production of traditionally produced objects not just as luxury items
  A consumer society consumes a lot more than it needs. It feeds upon the creation of false needs, which is driving the world to its annihilation
- We need to think of poverty and wealth in other terms.
  1. There have always been poor people and rich people. But the human collectivity--six billion people--cannot together have the so-called standard of living (which is a dangerous statement but it is

made all the time) of the highly industrial nations of the world. The earth cannot support that.
2. Despite all of this modern technology, far from destroying poverty, the modern world has made poverty much worse in cutting man away from nature.
3. Most modern technology is associated with greed; it is associated with modern economics, which is based on greed,

- First thing to do is to prevent areas from being further destroyed by having big streets run though them, or building tall structures which would destroy the texture of the area.

  Delhi is a good example of how to build cities, Delhi is really an Islamic city because it was ruled by Muslims for so long.

Mueller, Milton, John Mathiason, and Hans Klein. The Internet and Global Governance: Principles and Norms for a New Regime.

BACKGROUND

One reason for success of the Internet is its unique governance structure, a blend of various groups

Internet governance system groups:

Technical task forces
Website operators
Professional societies
Information technology companies
Individual users

HISTORY of GLOBAL GOVERNANCE MOVEMENT

At the 2003 Geneva Summit, a UN ***Working Group on Internet Governance*** (**WGIG**) was created to examine issues of management of the Internet.

WGIG began working in 2004

Management of the Internet was defined by WGIG as:

> The development and application by governments, the private sector and civil society, in their respective roles, of shared principles, norms, rules, decision-making procedures, and programmes that shape the evolution and use of the Internet.
>
> This definition would include

- The standards process at organizations such as
  The Internet Engineering Task Force (IETF),
  The International Telecommunication Union (ITU),
  The World Wide Web Consortium (W3C), as well as dozens of other groups;
- The work of ICANN International Corporation for Assigned Names and Numbers and the regional Internet registries that allocate Internet protocol addresses
- Trade rules regarding e-commerce set by the World Trade Organization (WTO)
- Procedures of international groups of law enforcement agencies for fighting cybercrime
- Agreements of ISPs regarding how they share Internet traffic
- Efforts by multilateral organizations (World Bank, etc.) to spread the Internet in less developed countries.

Call to improve Internet governance was heard often at the UN-organized November 2005 World Summit on the Information Society (WSIS) in Tunis, follow-up to the December 2003 summit in Geneva

- Many governments were uncomfortable with the status quo, in which the private companies actually building and running the Internet have the lead role.
- One issue was management of domain names, which today is overseen by the International Corporation for Assigned Names and Numbers (ICANN), an international nonprofit corporation
  Countries feel that the U.S. government exerts too much control over ICANN through a memorandum of understanding between ICANN and the U.S. Department of Commerce.

PROBLEMS WITH GLOBAL GOVERNANCE

Main reason why the Internet has grown so rapidly is because the Internet was designed to provide users with as many choices and as much flexibility as possible

Because there are competing groups with competing solutions to user problems; users, vendors, and providers get to determine how the Internet evolves.

The genius of the Internet is that open standards and open processes enable anyone with a good idea to develop, propose, and promote new standards and applications.

20 to 30 years ago, the international telephone system was simple, Governments were in charge, w/ monopoly national telephone companies (AT&T in U.S.) Telephone users subscribed to the service offered at the price offered w/o chance to customize services. ITU set international standards

Internet governance: users, not governments and phone companies, have most influence
Users decide Which ISP to use, which browser to use, which operating systems to use, and which Internet applications and Web pages to use

Governments already have a powerful influence on the market because they are large, important customers and because they define the regulatory environment in which companies operate

Some members of the ITU, as part of its Next Generation Networks initiative, are suggesting that the ITU needs to develop new standards to replace those developed at the IETF and elsewhere.

For more than seven years, an ITU working group has been exploring ways in which the old accounting rates model for telephony might be adapted and applied to the Internet.

ITU pricing mechanism has already had an effect on the Internet. Exorbitant international phone rates, which can be more than a dollar per minute in some countries, have given a big boost to the use of voice over Internet protocol (VoIP) services

Governments are talking about the need for comprehensive, one-size-fits-all solutions to spam, digital rights management, or cyber crime.

- Imposing this kind solution on the Internet might deter innovation for better fixes
- Solutions proposed to limit spam or fraudulent content could also be used by governments to deprive citizens of right to information (censorship might be made legal)

If a large majority of governments decide that ICANN should be replaced by an intergovernmental body or that government should have more say in ICANN decision-making, we can expect to hear more calls for greater

government regulation in a wide range of areas, from Internet pricing to content control to Internet standards.

All who care about the Internet need to work together to find ways to strengthen the free model of the Internet that has been working here in the U.S.

However, we have many issues to address. We need to:

- Reduce the cost of Internet access
- Connect the unconnected
- Improve the security of cyberspace and fight spam
- Make it easier to support non-Latin alphabets
- Promote the adoption of new standards that will enable new, innovative uses of the Internet
- Better ways of fighting cyber crime.

REGIME THEORY

Regime theory maintains that international institutions arise through agreement, and that agreement must follow steps from 1 to 2 to 3, in that order:

1. principles (shared beliefs or scientific theories)
2. norms (ethics)
3. rules and decision-making procedures (laws, limits of law enforcers, etc)

PROBLEM WITH WSIS

WSIS focused on policy-making before deciding on all relevant facts and before reaching agreement on all or most ethical issues involved in discussing a Global and/or a local Internet.

MUELLER SOLUTION

Principles:

- Definition: Internet is a standardized set of software instructions (protocols) for sending data over a network, and a global set of unique addresses so the data can be told where to go. The Internet protocols can operate on any physical technology.
- Definition: Communication networks are owned and operated by individual organizations, public or private, that either operate their own networks for internal users or that sell network access to external users.

- Definition: Internet governance consists of intentional decisions made by the collectivity of the Internet community.
- Definition: Internet community consists of the owners, operators, and users of the networks and interconnection protocols (mostly non-government)

- Fact: Internet standards create a global commons because protocol/code is open source
- Fact: the Internet is largely composed of private networks
- Fact: the Internet provides basic data transport only, leaving the implementation of user-specific applications to devices attached to the ends of the network, and this permits the net to serve as a relatively neutral and transparent platform.
- Fact: the Internet requires exclusive and coordinated resource assignment: addresses, DNS, etc.
- Fact: the Internet is non-territorial (non-geographical)

Norms:

- The Internet technical model should not be changed because it has been very successful at providing public access to information, with great efficiency and adaptability.
- Ownership of infrastructure, software, or services should not become concentrated in the hands of commercial providers to the point that it threatens the open, nonproprietary status of the core Internet standards.
- We should not over-regulate the private market.
- Regulation of the fraudulent and criminal aspects of Internet use must be directed at the responsible end points, not at the internetworking process itself.
- The unilateral control of the DNS root currently held by the US government is undesirable, all should share in this control. One must enact or maintain checks and balances on any possible abuses of shared control.
- Traditional inter-governmental models of governance are not appropriate. Engineers, scientists, educational institutions, businesses and governments should all be major parties in policy-making.