Why I Haven’t Learned to Stop Worrying and Love the Bomb

or

Anthropological Observations on the Political Economy of Digital Technology

Bonnie Nardi
University of California, Irvine
AAA Meetings
December 1, 2017
Latour has proposed that we “love” our monsters
The poetry of the tragic figure

Latour begins by invoking the poetry of the tragic figure of Frankenstein’s monster, who, he says, was not sufficiently loved.
God, Himself

Latour suggests that our relation to technologies should be to watch over, as paternalistic gods, the marvels we have created:

“The real goal must be to have the same type of patience and commitment to our creations as God the Creator, Himself.”

(Latour, Love Your Monsters, 2011)
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(Latour, Love Your Monsters, 2011)

It is inviting to be asked to find it in our hearts to love a monster, yet also a deflection from the incredibly serious problems before us.
World Scientists’ Warning to Humanity: A Second Notice

William J. Ripple, Christopher Wolf, Thomas M. Newsome, Mauro Galetti, Mohammed Alamgir, Eileen Crist, Mahmoud I. Mahmoud, William F. Laurance,
15,364 scientist signatories from 184 countries

BioScience, bix125, https://doi.org/10.1093/biosci/bix125
Published: 13 November 2017
Are technologies lovable monsters or part of runaway capitalism?

Sociologist John Foster Bellamy says:

“Latour…does not challenge capital accumulation and unlimited economic growth, or accept the existence of natural limits, but rather places…emphasis on machines/technology, coupled with the market mechanism, as the complete solution.”
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Latour says:

“Today we can fold ourselves into the molecular machinery of soil bacteria through our sciences and technologies. We now run robots on Mars, and we photograph and dream of further galaxies. And yet we fear that the climate could destroy us.”
Digital technology has spurred the economy for decades

These marvels, however, did not arise from the mind of a mad scientist, but as a core part of an organized economy.

Digital technology has been crucial to the economy since the 1950s.
Creations/monsters that cannot be loved; monstrous in themselves

nuclear weapons

instruments of biological warfare

handguns
Creations that become monstrous in use

while no technology is neutral, most have a good side and a bad side, depending on use

problems of use include scale, planned obsolescence, overuse, e-waste
Two case studies and a question and an action item

1. digital civic infrastructure: imposed by industry and government (smart cities)
2. affective technologies: freely chosen but controlled by industry (video gaming)
3. where is the governance?
4. some practical considerations
Digital technology increasingly insinuated into infrastructure

Proposed by companies (ideas from start-ups, government-supported research…)

Companies lobby governments

Companies receive subsidies

New legislation if needed
Digital technology increasingly insinuated into infrastructure

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Companies lobby governments

Companies receive subsidies

New legislation if needed

Technologies selected for profitability

Sold to the public as unproblematic, forward-looking, “the future”
Pushback difficult

Critique derided as luddism.
Pushback difficult

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Outcomes of proposed technologies always cast as positive.
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Proponents say we cannot predict the future and must move boldly forward, but the putative positive outcomes are all themselves predictions.
Pushback difficult

Critique derided as luddism.

Outcomes of proposed technologies always cast as positive.

Proponents say we cannot predict the future and must move boldly forward, but the putative positive outcomes are all themselves predictions.

We get the technologies that make profits rather than those that could heal a planet that is diminished ecologically and socially.

Bonnie Nardi, UC Irvine
Smart Cities

a smart city monitors and integrates its critical infrastructures

ubiquitous sensors, data connections, continual analysis
Smart Cities

a smart city monitors and integrates its critical infrastructures

ubiquitous sensors, data connections, continual analysis

networked technological infrastructures will produce social order and progress

abundant corporate opportunities
Smart Cities

October 2017, Washington DC
Building the Capability of Political Leaders

- Political leaders can really make change, what do they need to know?
- Can there be continuity when there is a constant changes in political leadership?
- What tools do we give political leaders so they can bring the most value?
Smart cities: it’s the data

“The focus is on making [cities] resilient and to use data, innovation and technology to foster cross-agency collaboration and solutions.”

Data reified, becomes a magic object, dematerialized, devoid of economics, conflict, interests.
Smart cities: it’s the data

“The focus is on making [cities] resilient and to use data, innovation and technology to foster cross-agency collaboration and solutions.”

Few mentions of:

- health insurance
- homelessness
- food insecurity
- high rates of incarceration
- public transportation

Data reified, becomes a magic object, dematerialized, devoid of economics, conflict, interests.
Smart cities: the infrastructure has been decided

Readying the Roads, Planning for Autonomous Vehicles Session
Smart cities: the infrastructure has been decided

Readying the Roads, Planning for Autonomous Vehicles Session

A Digital Utility Strategy

voice analytics
digital correspondence
interactive voice response
e-payments
digital dashboards…

Bonnie Nardi, UC Irvine
Smart cities: the infrastructure has been decided

voice analytics
digital correspondence
interactive voice response
e-payments
digital dashboards…

is this what is missing from utilities?
what problems are being addressed?
what are the costs of resource use, e-waste?

Bonnie Nardi, UC Irvine
Smart cities: high touch words

compassionate
engagement
citizen
vulnerable population
collaboration
happiness (as a city indicator)
“Shining Cities Upon a Hill”
connection
community
inclusion
Opioid Addiction: How a New, Data-Driven Social Safety Net Can Save Lives in Your City

Accidental deaths from opioid addiction claim more lives in the U.S. than guns and traffic accidents. And most cities are strapped for the money and other resources they need to combat it. While there are challenges, promising early intervention solutions are coming — solutions that focus on four key elements: engagement, data, technology and funding.
Smart Cities

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What about medical care, health insurance, counseling, jobs?
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Why are cities “strapped for funding” for these appalling problems?
Smart Cities

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Why are cities “strapped for funding” for these appalling problems?

Parallel universe of discourse and intent. Aggressive, take-charge voices speak with certainty about “solutions” to incredibly complex issues.
Smart cities: high tech words

High tech words:
smart and smarter
intelligence
information
instrumented
analytics
metrics
data
digital literacy
cutting edge
networks
Smart cities: a hierarchical process based on imposed data infrastructure

Bill Gates' proposed smart city:
“[will include] a communication and infrastructure spine that embraces cutting-edge technology, designed around high-speed digital networks, data centers, new manufacturing technologies and distribution models, autonomous vehicles and autonomous logistics hubs…” (2017)
Smart cities: a hierarchical process based on imposed data infrastructure

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Global: Sweden, Korea, Taiwan, India, Canada, Dubai, Singapore, US …
Technology in use: scale

The question is not “is this technology in itself good or bad?”
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But “what are the costs--financial, environmental, opportunity-- and benefits of deployment in an infrastructure?”
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The public is on the hook for maintaining the infrastructure; funds are channeled away from other efforts.
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The question is not “is this technology in itself good or bad?”

But “what are the costs--financial, environmental, opportunity-- and benefits of deployment in an infrastructure?”

Infrastructural technologies, unlike assemblages, have “lock-in” effects

The public is on the hook for maintaining the infrastructure; funds are channeled away from other efforts.

Consequences—for privacy, environment, education, etc.—are difficult to mitigate upon lock-in.
Not just smart cities
Not just smart cities

drones (military and non-military uses)
Not just smart cities

drones (military and non-military uses)

wearables (for data collection to health providers, insurance companies, law enforcement…)

Bonnie Nardi, UC Irvine
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wearables (for data collection to health providers, insurance companies, law enforcement…)

social robots
Not just smart cities

drones (military and non-military uses)

wearables (for data collection to health providers, insurance companies, law enforcement…)

social robots

self-driving vehicles
Not just smart cities

drones (military and non-military uses)

wearables (for data collection to health providers, insurance companies, law enforcement…)

social robots

self-driving vehicles

precision agriculture…
Frankenstein’s monster was unloved not just because of the havoc created but because he was ugly:

“Let a man live with me in the interchange of kindness…and I would bestow every benefit upon him…But that cannot be; the human senses are insurmountable barriers to our union.”
Affective technologies

But we are attracted to many digital technologies, and love them.

my World of Warcraft character

Bonnie Nardi, UC Irvine
One result of this attraction: heteromation

A labor relation that extracts value from uncompensated everyday activity with the technologies we love.

Automation: machine gives labor
One result of this attraction: heteromation

A labor relation that extracts value from uncompensated everyday activity with the technologies we love.

Automation: machine gives labor

Heteromation: machine takes labor
Frankenstein’s monster in the end was not loved not because of the havoc it created but because it was ugly.

“Let him live with me in the interchange of kindness…and I would bestow every benefit upon him…But that cannot be; the human senses are insurmountable barriers to our union.”

Facebook, Twitter…
YouTube videos
Reviews (Amazon, Yelp…)
Citizen science
Search (Google)
Twitch.tv…
provide content or data

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<thead>
<tr>
<th>SUBJECT TYPE</th>
<th>remuneration</th>
<th>convenience</th>
<th>totalized stimulation</th>
<th>social connection</th>
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<td>Design Contest Losers</td>
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<td>League of Legends judges</td>
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Heteromation and Other Stories of Computing and Capitalism, MIT Press, 2017

Hamid Ekbia, Indiana University
Technologies we love: video gaming

Makes more money than film or music
Uses many forms of wealth-producing heteromated labor from activities in and around games:

Recruit other players
Train them in a complex game
Provide a critical mass of players
Establish community norms
Guides, forums, videos (how-to and artistic)
Modding
Theorycrafting
Streaming live games
World of Warcraft

13 years old, available in ten languages, millions of players, produced by Blizzard Entertainment

3D “world” in a medieval setting

da set of varied activities from completely non-competitive to very competitive

appeals to many ages, genders, nationalities…
World of Warcraft

13 years old, available in ten languages, millions of players, produced by Blizzard Entertainment

3D “world” in a medieval setting

a set of varied activities from completely non-competitive to very competitive

appeals to many ages, genders, nationalities…

$5 billion in annual revenue with 5,000 employees
World of Warcraft: paraludic play

Generate enthusiasm, affection, love, for the game; keep people playing in a subscription-based business model
World of Warcraft: paraludic play

Generate enthusiasm, affection, love, for the game; keep people playing in a subscription-based business model

Example #4: Manipulating the formula to figure out what crit percentage you would need for the desired chance of getting a Surge of Light proc.

Proc = 0.75 or 75%, meaning you want your CoH to give you a 75% chance to generate a SoL proc.

C = ??? - unknown

n = 6

Proc = 1 - (1 - C/2)^n. (isolate C. gets ugly)

C = -2*[(0.75)^1/n - 1]

C = -2*[(0.7937 - 1]

C = -2 * -0.20629

C = 0.41259 or 41.3% crit needed.

(from ElitistJerks.com)
Software modding: upgrade the product for free

Games typically have interfaces programmers can access to make certain kinds of software modifications to a game.

Modders create and distribute these “add-ons” to improve gameplay.

Players download software for free.
Software modding: upgrade the product for free

Games typically have interfaces programmers can access to make certain kinds of software modifications to a game.

Modders create and distribute these “add-ons” to improve gameplay.

Players download software for free.

Harness a skilled labor force with no cost to the gaming company:

“Without the creativity of modders, developers would be hard-pressed to come up with new ideas, and it would prove hard to implement these ideas in the high-risk gaming market were it not for the huge ‘test-market’ the modding community provides.” (Kücklich 2005)
Software modding: upgrade the product for free

Some mods are incorporated into the actual game or generate new games.

Modders do not regard this as exploitative; it is a badge of honor in a community that runs on strong affective ties to games.
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Other mods are maintained for years by their developers, untouched by the gaming company.

But this is at the discretion of the company; there is no model of shared governance despite the immense economic value of mods to the companies.
Software modding: upgrade the product for free

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But this is at the discretion of the company; there is no model of shared governance despite the immense economic value of mods to the companies.

Acclimates us to providing free labor with no share governance in return.
League of Legends: cultural work of establishing community norms

Generate love for the game; keep people playing in a “free to play/pay to win” model

Based on Yubo Kou’s research

100 million active monthly players

50 minute matches

don’t know all or some on your team
League of Legends: problem of community norms

“Toxic” behaviors

flaming, grieving, raging, sabotage, greed play, hostile language
League of Legends: problem of community norms

“ Toxic” behaviors

flaming, griefing, raging, sabotage, greed play, hostile language

Who decides what is toxic?

This question was put to the players in a system called The Tribunal.
League of Legends: The Tribunal

Multiple players judged a case.

Judgment to “punish” or “pardon”

Once norms established, system automated.
League of Legends: The Tribunal

Multiple players judged a case.

Judgment to “punish” or “pardon”

Once norms established, system automated.

Human judgments collected for three years.

Changed behavior.
League of Legends: The Tribunal

Multiple players judged a case.

Judgment to "punish" or "pardon" once norms established, system automated.

Human judgments collected for three years.

Bonnie Nardi, UC Irvine

League of Legends: The Tribunal

But again – lack of governance.

Tribunal ran from 2013-2015.

Many players would like to bring it back; in forum discussions, they say the automated system does not understand the context of play.
League of Legends: The Tribunal

But again – lack of governance.

Tribunal ran from 2013-2015.

Many players would like to bring it back; in forum discussions, they say the automated system does not understand the context of play.

This might seem trivial but it’s characteristic of the way our contributions do not produce shared governance.

The youth spend their time here; sets up expectations.
Governance

There is a need to shift priorities from profit to planetary well-being but we lack governing structures to do so.

How can we intervene to use computing technology, and studies of technology, for the social good?
Intervening

A recent *New York Times* article said:

“We need academia to step up to fill in the gaps in our collective understanding about the new role of technology in shaping our lives.”
Intervening

A recent *New York Times* article said:

“We need academia to step up to fill in the gaps in our collective understanding about the new role of technology in shaping our lives.”

Academia does study and understand a lot about these issues; we just don’t know how to intervene in the current political economy.
Intervening

We tend to be somewhat invisible ("Anthropology Matters").

Are we circulating in these networks?
Social action in and around computing, social science

SEED: Solutions for Economy, Environment, and Democracy (U of Washington, Siegen U)
Interdisciplinary effort; political science and computer science
Social action in and around computing, social science

Computing within LIMITS Workshop Series
Interdisciplinary research community: computer science, social science, earth science

LIMITS 2018
Fourth Workshop on Computing within Limits
May 12-13, Toronto, Canada
Social action in and around computing, social science

Both efforts begin from the premise that our current form of capitalism is not the right model for well-being.
Social action in and around computing, social science

Both efforts begin from the premise that our current form of capitalism is not the right model for well-being.

Goals:

encourage researchers to orient their research under assumptions of planetary limits

influence policy
Open Think Tanks

idea from recent SEED Workshop

think tanks are listened to

learn to craft messages for policymakers and the public
Open Think Tanks

Idea from recent SEED Workshop

think tanks are listened to

learn to craft messages for policymakers and the public

don’t have to be elitist or closed

use technology to gather, process ideas and inputs
Open Think Tanks

Idea from recent SEED Workshop

think tanks are listened to

learn to craft messages for policymakers and the public

don’t have to be elitist or closed

use technology to gather, process ideas and inputs

visible, ongoing, stable presence
Open Think Tanks

On the right, intellectuals and policy makers don’t wait till an idea becomes politically acceptable; they float “provocative” ideas repeatedly until they sound normal.
Open Think Tanks

On the right, intellectuals and policy makers don't wait till an idea becomes politically acceptable; they float “provocative” ideas repeatedly until they sound normal.

One such ideas is that the economy is for society, not the other way around.
Plenty of good ideas around

Degrowth

Disintermediation
    use computing to remove middle men to break down complexity
    based on archaeologist Joseph Tainter’s idea that increasing societal complexity eventually
    leads to societal collapse
Plenty of good ideas around

Degrowth

Disintermediation
  use computing to remove middle men to break down complexity
  based on archaeologist Joseph Tainter’s idea that increasing societal complexity eventually leads to societal collapse

New forms of democracy
  distributed power
  no elections
  use computing to organize, create a Commons

Guaranteed basic income

Computational agroecology
Adopt an Activist

Pool money with others to support an activist

We do what we are good at and they do what they are good at.
Adopt an Activist

Pool money with others to support an activist

We do what we are good at and they do what they are good at.

Have a contract to specify expectations

Meet quarterly (probably virtually) to discuss results

Manage with a computing platform to match donors and activists, disseminate results
In Conclusion

Anthropologists study important things. But we need more than just “public outreach” to share knowledge.

Work collaboratively, in interdisciplinary settings, long-term, on common problems with high stakes goals.
In Conclusion

Anthropologists study important things. But we need more than just “public outreach” to share knowledge.

Work collaboratively, in interdisciplinary settings, long-term, on common problems with high stakes goals.

Not time to stop worrying yet---time to step up efforts to directly engage the political economy and confront its effects on everything and everyone.

Positive efforts abound, and we are at a moment in time when people may be more willing to listen and act.

Bonnie Nardi, UC Irvine
Optimism as resistance

Our technologies can be used to intervene in runaway capitalism whether we design and implement them or just find them and use them.

Children or loveable monsters? Complicated products of the economy that should appropriated for plans to set things right on the planet.

Those plans must come to be the visible, poetic image that informs and inspires.