Social Implications of the Internet - 2

"mysteries of the region"

History of Information
April 25, 2017
Harry Huskey, one of the last surviving scientists in the vanguard of the computer revolution, who helped develop what was once billed as the first personal computer because it took only one person to operate, though it was the size of two refrigerators, died on April 9 at his home in Santa Cruz, Calif. He was 101.

Like many inventions, the internet was the work of countless hands. But perhaps no one deserves more credit for that world-changing technological leap than Robert W. Taylor, who died on Thursday at 85 at his home in Woodside, Calif.
Dr. Huskey said that the computer revolution he had helped create posed profound questions for society that it had never had to grapple with before.

“What is the effect of almost instantaneous communication on society — the fact that we can look at what’s going on in Burma today and other places? The Constitution was written when you had to go from New York to Boston by horse, and it took you three days, or something. And if you look at it purely as a dynamic system, the stimuli can arrive much faster than you can respond to it.”

“And what do you do about it?” he continued. “I don’t know.”  NY Times
quick look back

in the news

How Google Book Search Got Lost

Google Books was the company’s first moonshot. But 15 years later, the project is stuck in low-Earth orbit.
Social Implications 2


today's route

- revolution at last!
- a different distance
- a little learning
- information issues
- local problems

[Image of technological revolution]

25-Hof17-Soclmp2-4.25 6
"The demise of distance as the key to the cost of communication may well prove the most significant economic force shaping the next half century ...

— Economist
new tech(ies) and ? old ideas

loopy

Hyperloop Alpha — Elon Musk
“transcending space and time” — New Yorker

loony

Google Loon
“The emotional distance of the world is shrinking, thanks to the communications we enjoy today.” — Sergey Brin
"the revolution begins at last"

"The demise of distance ... has been predicted before ..."?
"the revolution begins at last"

"The demise of distance ... has been predicted before ..."?

"Ye Gods, annihilate but space and time, And make two lovers happy." — 1728
"Parvenu à la suite de travaux longs et pénibles à trouver, enfin, un art nouveau regardé comme impossible par beaucoup des Savans, une route nouvelle va fournir devant les efforts de l'homme, les distances vont disparaître et les extrémités du Monde se rapprocher."
"Parvenu à la suite de travaux longs et pénibles à trouver, enfin, un art nouveau regardé comme impossible par beaucoup des Savans, une route nouvelle va fournir devant les efforts de l'homme, les distances vont disparaître et les extrémités du Monde se rapprocher."
"It is not visionary to suppose that it would not be long ere the whole surface of this country would be channelled for those nerves which are to diffuse, with the speed of thought, a knowledge of all that is occurring throughout the land; making one neighborhood of the whole country."

— Morse to Congress, 1838
revolutionary ideas

"The establishment of the telegraph is ... the best response to the publicists who think that France is too large to form a Republic. The telegraph shortens distances and, in a way, brings an immense population together at a single point."

— Claude Chappe, 1793
"A line of telegraph ... from London to Kurrachee, and from thence to every part of India, ... intelligence and commands be daily and hourly communicated with the speed of lightening ... in this virtual annihilation of time and space in the communications between England and her distant possessions will be more than realised"

--Blackwood's Edinburgh Magazine, 1857
still going

sea to shining sea
"the almost complete annihilation of time and space between the distant antipodal points of the American continent ... produced by the construction of the Pacific Railroad"

-- John Wesley Clampitt,

Echoes from the Rocky Mountains, 1888
still going

sea to shining sea
"the almost complete annihilation of time and space between the distant antipodal points of the American continent ... produced by the construction of the Pacific Railroad"

-- John Wesley Clampitt,

*Echoes from the Rocky Mountains*, 1888
once again, one voice

"Someday we will build up a world telephone system, making necessary to all peoples the use of a common language or common understanding of languages, which will join all the people of the earth into one brotherhood. There will be heard throughout the earth a great voice coming out of the ether which will proclaim, 'Peace on earth, good will towards men.'"

--John J. Carty, AT&T, 1891

"limits imposed by geography ... will eventually vanish"

— Economist 1995

North Korea warns of nuclear strike if provoked; Trump 'armada' steams on
"Electric circuitry has overthrown the regime of 'time' and 'space' and pours upon us instantly and continuously concerns of all other men. It has reconstituted dialogue on a global scale. Its message is Total Change, ending psychic, social, economic, and political parochialism... Ours is a brand-new world of allatonceness. 'Time' has ceased, 'space' has vanished. We now live in a global village ... a simultaneous happening."

--Mcluhan et al., Medium is the Massage, 1967
“starting to happen”

this time it's different

"This has been predicted before; the difference now is that it is actually starting to happen"
this time ...
Social Implications 2

today's route

a little learning

a different distance

information issues

local problems

revolution at last!
1. **The Death of Distance.** Distance will no longer decide the cost of communicating electronically. Indeed, once investment has been made in a communications network, in buying a computer or telephone, or in setting up a Web site, the additional cost of sending or receiving an extra piece of information will be virtually zero.

2. **The Fate of Location.** Companies will be free to locate many screen-based activities wherever they can find the best bargain of skills and productivity. Developing countries will increasingly perform on-line services – including monitoring security screens, inputting data from forms, running help-lines, and writing software code – and sell them to the rich industrial countries that generally produce such services domestically.

3. **Improved Connections.** Most people on earth will eventually have access to networks that are all interactive and broadband. The Internet will continue to exist in its present form, but will also carry many other services, including telephone and television.

4. **Increased Mobility.** Every form of communication will be available for mobile or remote use.

5. **More Customized Networks.** The huge capacity of networks will enable individuals to order “content for one”: that is, individual consumers will receive (or send) exactly what they want to receive (or send), when and where they want it.

6. **A Deluge of Information.** Because people’s capacity to absorb new information will not increase, they will need filters to sift, process, and edit it.

7. **Increased Value of Brand.** Companies will want ways to push their information ahead of their competitors’. One of the most effective will be branding. What’s hot – whether a product, a personality, a sporting event, or the latest financial data – will attract the greatest rewards.

8. **More Minnows, More Giants.** Many of the costs of starting a new business will fall and companies will more easily buy in services. So small companies will start up more readily, offering services that, in the past, only giants had the scale and scope to provide. If they can back creativity with competence and speed, they will compete effectively with larger firms. At the same time, communication amplifies the strength of brands and the power of networks. In industries where networks matter, concentration will increase.

9. **More Competition.** More companies and customers will have access to accurate price information. In addition, some entry barriers will fall. The result will be greater competition in many markets, resulting in “profitless prosperity”: it will be easier to find buyers, but harder to make fat margins.
75 years apart

"Every cheapening of the means of communication, every new facility for the free interchange of ideas ... alters the action of the forces which tend to localize industries."

--Alfred Marshall,

*Principles of Economics*, 1890
but …

if distance is dead …

… why are they here?
"Many various causes have led to the localization of industries; but the chief causes have been physical conditions; such as the character of the climate and the soil.

"Another chief cause has been the patronage of a court.

"... the character of the people, and by their social and political institutions."

— Marshall
at the center ...

... of cheapening communication

"Every cheapening of the means of communication, every new facility for the free interchange of ideas ... alters the action of the forces which tend to localize industries."

--Alfred Marshall,

Principles of Economics, 1920
cheapening of the means of communication?
20. Rebirth of Cities. As individuals spend less time in the office and more time working from home or on the road, cities will change from concentrations of office employment to centers of entertainment and culture. They will become places where people congregate to visit museums and galleries, attend live performances of all kinds, participate in civic events, and dine in good restaurants. Some poor countries will use low-cost communications to stem the flight from the countryside by providing rural areas with better medical services, jobs, education, and entertainment.
"But on the other hand the value which the central sites of a large town have for trading purposes, enables them to command much higher ground-rents than the situations are worth."

— Marshall
rebirth?

"But on the other hand the value which the central sites of a large town have for trading purposes, enables them to command much higher ground-rents than the situations are worth."

— Marshall
"cities, which have been so dominant ... no longer the case ... that their productivity ... is vastly greater than the surrounding countryside"

—Economist
goods or people?

Every cheapening of the means of communication ... alters the action of the forces which tend to localize industries. Speaking generally we must say that a lowering of tariffs, or of freights for the transport of goods, tends to make each locality buy more largely from a distance what it requires; and thus tends to concentrate particular industries in special localities: but on the other hand everything that increases people's readiness to migrate from one place to another tends to bring skilled artisans to ply their crafts near to the consumers who will purchase their wares. These two opposing tendencies are well illustrated by the recent history ...
opposing tendencies?

**economic explanations**
make or buy
hierarchy or market
employee or independent worker

decided by
transaction costs vs management costs

Coase’s Penguin, or, Linux and the Nature of the Firm
Yochai Benkler
Gig economy: A third of U.S. workers say they're free agents

The Gig Economy’s False Promise

How Uber Uses Psychological Tricks to Push Its Drivers’ Buttons

all a giggle
Work at Home Jobs Becoming More Common

"[In 3 years Yahoo has spent] estimated $450 million on free food for the staff.”
—N.Y. Times 2016
many handed economists

"Changes like the telephone and the telegraph which tend to reduce the cost of organising spatially will tend to increase the size of the firm. All changes which improve managerial technique will tend to increase the size of the firm."

--Ronald Coase,

"The Nature of the Firm," 1937
Social Implications 2

*today's route*

- revolution at last!
- local problems
- information issues
- a different distance
- a little learning
today's route

- local problems
- a different distance
- information issues
- a little learning

revolution at last!
"The accumulation of many large manufacturing establishments in the same district has a tendency to bring together purchasers or their agents from great distances, and thus to cause the institution of a public mart or exchange. This contributes to diffuse information relative to the supply of raw materials, and the state of demand for their produce, with which it is necessary manufacturers should be well acquainted. The very circumstance of collecting periodically, at one place, a large number both of those who supply the market and of those who require its produce, tends strongly to check the accidental fluctuations to which a small market is always subject, as well as to render the average of the prices much more uniform."

--Charles Babbage
"When an industry has thus chosen a locality for itself, it is likely to stay there long: so great are the advantages which people following the same skilled trade get from near neighbourhood to one another. The mysteries of the trade become no mysteries; but are as it were in the air, and children learn many of them unconsciously. Good work is rightly appreciated, inventions and improvements in machinery, in processes and the general organization of the business have their merits promptly discussed: if one man starts a new idea, it is taken up by others and combined with suggestions of their own; and thus it becomes the source of further new ideas. And presently subsidiary trades grow up in the neighbourhood, supplying it with implements and materials, organizing its traffic, and in many ways conducing to the economy of its material."
... moves in mysterious ways
the "sticky" or "leaky" problem

"If only HP Knew what HP knows ..."

— Lew Platt, CEO Hewlett-Packard

trade secrets and enticement
du Pont's battles

— Catherine Fisk, Working Knowledge, 2009
FLOSSing

from sticky to leaky IP

BSD
Berkeley Software Distribution
informational issues

Sergey Brin: Don't come to Silicon Valley to start a business

local "mysteries"

east vs west
distant mysteries

north v south
informational issues

spreading the word

... and going global

The New Argonauts
Regional Advantage in a Global Economy

Annalee Saxenian
today's route

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a little learning

a different distance
brave new world?

Fowler’s story, which gets even more convoluted, is an alarming reminder that there are many overlapping reasons why tech companies often have a meager population of women on staff. Uber CEO Travis Kalanick revealed in a memo to employees on Monday that the company employs just 15 percent women in its technical roles. (For comparison, Google reports that 19 percent of its tech workforce is female, Airbnb reports 26 percent, and Twitter is even with Uber at 15 percent.) The gender gap in tech starts with teachers and toymakers discouraging girls from pursuing STEM interests. It’s cemented by structural biases that find female MIT graduates earning far less than their male peers in a larger wage gap than alumni of any other elite university. And it’s justified by the president of the United States’ closest advisor, who advanced the misogynist fairytale of women having an innate intellectual deficiency in math.
For Google shuttle drivers, it’s a grueling ride
By Kristen V. Brown  Updated 6:54 am, Sunday, September 28, 2014

Google giving bus drivers a raise, but not everyone is happy
By Kristen V. Brown  Updated 12:37 pm, Thursday, March 12, 2015

more distance
increasing distance?
The High Public Cost of Low Wages

Poverty-Level Wages Cost U.S. Taxpayers $152.8 Billion Each Year in Public Support for Working Families

by Ken Jacobs, Ian Perry, and Jenifer MacGillvray

Dear Dean Cassard,

As graduate students in the Arts and Humanities, and members of a union that protects our rights as workers (IAW 2965), we write this letter to express our collective concerns about any budget cuts that would undermine our departments' commitments to undergraduate education and harm our labor as GSIs and Residents.

Over the last year, graduate students in multiple departments have heard rumors about budget proposals to replace 50% GSIs positions with 25% fewer appointments, put a cap on the size of lectures that are assigned GSIs, slash Temporary Academic Salaries budgets, and dissolve smaller programs (including less-taught languages) within our departments. The extent of these cuts remains unclear, but we are disturbed that such drastic proposals might go into effect as soon as Fall 2017 without any opportunity for input from graduate students.

Funding has profound and broad implications for all of us—it helps to determine our ability to diagnose, where we live, what and how much we eat, what relationships we maintain, what research we can undertake, whether and when we can start families, our career prospects, our ability to care for ourselves and our loved ones, and our ability to keep faith in an academic system that is grueling and competitive. Given these conditions, we request public discussion and transparency around decisions, guidelines, or proposals that have profound implications for us. We expect that you, as our Dean, will provide avenues for us to obtain this transparency.

We are distressed not only for our particular positions, but for the future of the Arts and Humanities and UC Berkeley itself. We understand that you may have limited control over the budget cuts mandated by the university. However, we believe that there is little point in defending public education if it comes at the expense of the accessibility and quality of this education, as well as the basic financial needs and dignity of its students.
"unacknowledged legislators"
today's route

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that's why they are there

a little learning
that's why they are there

... but why are we here?
Alternatives

EXPLORE FREE COURSES FROM edX UNIVERSITIES

MITx  |  Harvard University  |  Berkeley  |  The University of Texas System  |  McGill  |  Australian National University

Wellesley  |  Georgetown University  |  University of Toronto  |  EPFL  |  TU Delft  |  Rice University

Khan Academy  |  Udacity  |  University of Phoenix

iTunes U
"a budding revolution in global online higher education"


**sound familiar?**

“The story of higher education’s future is a tale of ancient institutions in their last days of decadence, creating the seeds of a new world to come,” he writes. If he is right, higher education will be transformed into a different kind of learning experience that is cheaper, better, more personalized and more useful."

— Joe Nocera (reviewing *The End of College*), *New York Times* 2015
"The time will come, and in less than ten years, when children in the public schools will be taught practically everything by moving pictures. Certainly they will never be obliged to read history again ... everything except the three Rs, the arts, and probably the mental sciences can be taught this way--physiology, chemistry, biology, botany, physics, and history in all its branches."


"The people's University of the Air will have a greater student body than all of our universities put together."

--Alfred N Goldsmith, RCA, Radio Broadcast 1922
"At a time when books were scarce, and men who knew how to make a proper use of them still more uncommon, it became expedient … [to] assemble in one place, where celebrated books and tutors were collected, whence advantage might be derived to a greater number of students from fewer instructors … Time … relaxed the rigid scruples … the world began to lose its reverence …"

"… as books are now multiplied, and men able to afford instruction dispersed all over the kingdom, it is evident that the principal cause of establishing universities in an age when both books and instructors were scarce, no longer subsists. Let them therefore be reformed, and rendered really useful to the community or let them be deserted."
Why is the University of Phoenix being sold?

The University of Phoenix sale is yet another stark sign for for-profit colleges accused of using money over students. But for-profit ed's problems point to deeper challenges in higher ed.

By Marly Jackson, Staff   FEBRUARY 3, 2016

The Arizona Republic

April 17, 2015

BUSINESS

University of Phoenix enrollment drops 42%

For-profit school’s parent company expects new student registration will continue to fall

by Jahna Berry  - Jan 15, 2015 12:30 AM
The Arizona Republic

Student enrollment at University of Phoenix parent Apollo Group nose-dived 42 percent in the three months that ended Dec. 30, and on Monday investors learned that company executives believe it is only the beginning.

The Phoenix-based company expects those figures to fall as much as another 40 percent next quarter, and Apollo could continue to see steep declines for the rest of the year, executives said.
other alternatives

- a little learning
a little learning

more alternatives
recurring factors?

institutions vs technologies

libraries vs ebooks

disciplines or discipline?

kinds of distance

geographical

social

signalling
Let us consider the matter in this way: If the wise man or any other man wants to distinguish the true physician from the false, how will he proceed?

.... He will consider whether what [the physician] says is true, and whether what he does is right, in relation to health and disease?

... But can any one attain the knowledge of either unless he have a knowledge of medicine?

... No one at all, it would seem, except the physician can have this knowledge; and therefore not the wise man; he would have to be a physician as well as a wise man.

--Plato, Charmides
"New products are associated with old brand names. This ensures the prospective consumer of the quality of the product.

"Doctors, lawyers, and barbers, the high school diploma, the baccalaureate degree, the Ph.D., even the Nobel Prize, ... education and labor markets themselves have their own 'brand names'."

"New products are associated with old brand names. This ensures the prospective consumer of the quality of the product.

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before you graduate

27 April: Politics and Pollution
Twenty-five years ago, the prospects for the digital future were largely hopeful. Now the digital world often seems to be pervaded by various forms of informational pollution, such as misinformation, hate groups, pornography, and “fake news.” On the basis of what we have learned about the development of earlier technologies, what forms might (partial) solutions take?

Required Reading
Weidling, Mike. 2017. “Solutions that can stop fake news spreading.” bbc.com, Jan. 30. [link]


Other sources that may be helpful:

“Fake News, Misinformation, and Propaganda.” Web page at Harvard Library with useful information and links. [link]

Glaser, April. 2017. “Google is rolling out a fact-check feature in its search and news results.” recode.net, April 8. [link]

Describing the vision of the publisher Jason Epstein, Evan Hughes writes in *Wired*: "In the long term, what publishers have to fear the most may not be Amazon but an idea it has helped engender—that the only truly necessary players in the game are the author and the reader…. At a time when a writer can post a novel online and watch the revenue pour in by direct deposit, the publishing industry’s skill at making books, selling them by hand to bookstores, and managing the distribution of the product threatens to become irrelevant. In Epstein’s vision, the writer may need a freelance editor, a publicist, and an agent who functions as a kind of business manager, but authors will keep a bigger share of the proceeds with no lumbering media corporation standing in the way."

In a digital world, is it necessary to have a separate firm or organization to perform the functions of traditional book publishers? If so, do you see a continuing role for publishers in some of these functions, or can they be undertaken by someone else —such as Amazon—or the authors themselves? Be sure to make specific reference to the discussion in Auletta’s article and the points made by Hughes, Connolly and Horowitz. The George Packer article will be helpful for background on Amazon; the Gessen will be useful for social media such as Goodreads.