



**acarvin**

↻ [LeilZahra](#) I think the number tonight is the smallest so far, and tonite is the calmest. The square is very quiet. [#tahrir](#)

1 minute ago via HootSuite

Retweeted by [acarvin](#)

[@princeofthenile](#) Uh, Bahrain has been the focus of my entire day of tweeting. And we did a story on the radio tonight. Not getting ignored.

2 minutes ago via TweetDeck in reply to [princeofthenile](#)

[@epollaert](#) Yes, I do. And she said she understands why I need to do it. Sorry you don't.

3 minutes ago via TweetDeck in reply to [epollaert](#)

[@AlBinali17](#) seven police killed or seven protesters? Saw the dead protesters, not the police.

4 minutes ago via TweetDeck in reply to [AlBinali17](#)

[@alphaleah](#) Yes.

6 minutes ago via TweetDeck in reply to [alphaleah](#)

[@alphaleah](#) but who was he and who ran him over? I've heard both sides blame the other.

7 minutes ago via TweetDeck in reply to [alphaleah](#)

[@AngelaConner](#): We've got some great people there; my team too. But trust me, it is. Very few places are accessible to reporters.

8 minutes ago via TweetDeck in reply to [AngelaConner](#)

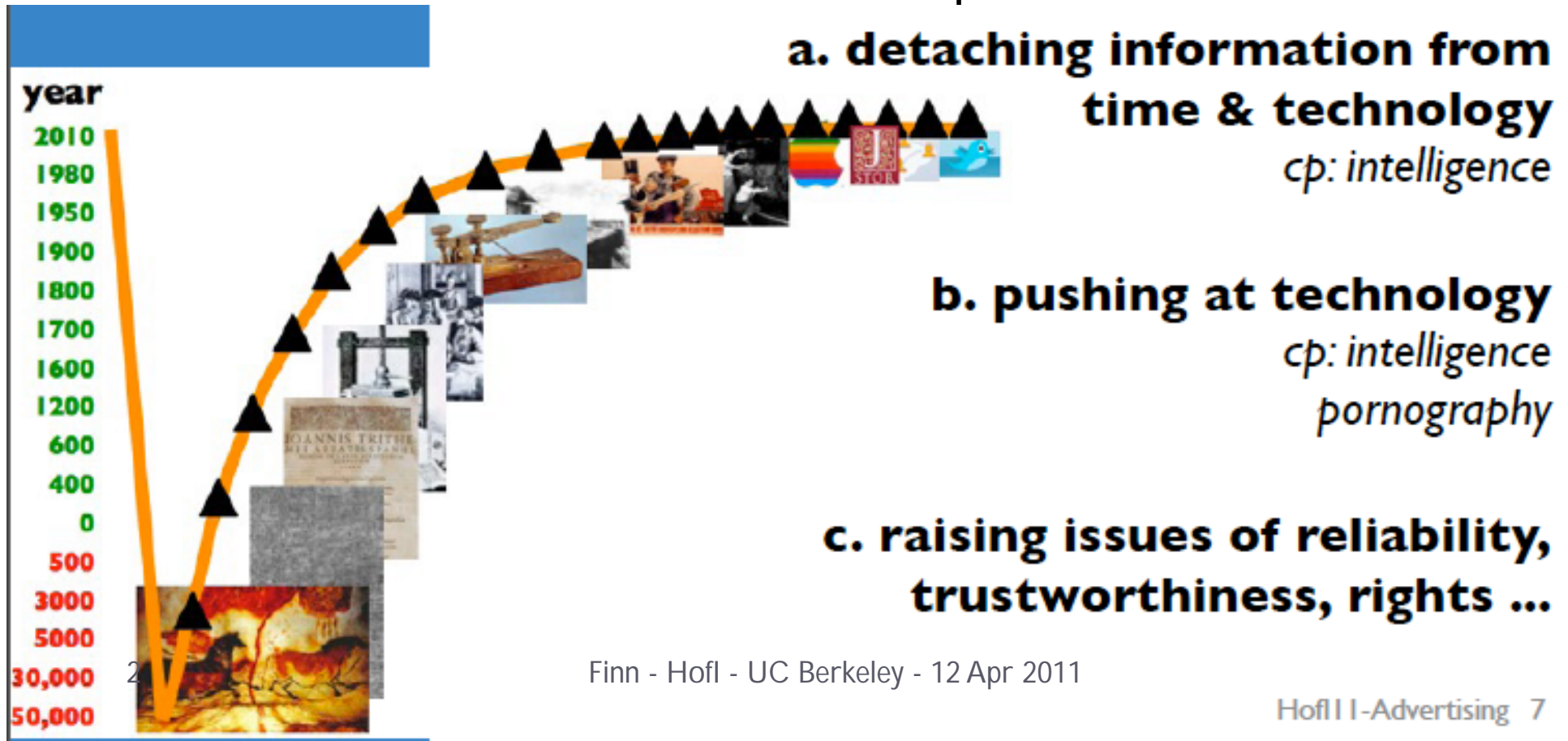
# Information and crisis

Megan Finn

Prepared for History of  
Information 12 April 2011

# Today

- ▶ Understanding Infrastructure and the post office
- ▶ You: on Twitter in Egypt
- ▶ Infrastructure, California and earthquakes



# Infrastructure Theme

- ▶ Monopolistic
- ▶ Private or government
- ▶ Profitability
- ▶ Surveillance

## why advertising?

### supporting information infrastructure



3

Finn Hofl - UC Berkeley - 12 Apr 2011

### House subcommittee votes to kill net neutrality

Republicans push through a resolution of disapproval for the FCC's new rules

10 March, 2011 09:55 | Comments

Recommend 61 recommendations. Sign Up to see what your friends recommend.

## telegraph neutrality

"it is true, give a convincing proof of your power over the press; but surely this is not needed. The newspapers of California, which hardly dare notice the incorporation of a rival company, and dare not endorse a public measure of which you disapprove, are subservient enough already ... you could destroy a private business ... more completely than earthquake or conflagration could do the work the Telegraph, which has become a necessity of individual and social life, is not merely private property ... it is a great public trust to be administered for the benefit of the whole community"

Henry George, 1869

## a suspect relationship

"In 1993, 1.5% of web servers were on .com domains. This number grew to over 60% in 1997. At the same time, search engines have migrated from the academic domain to the commercial. Up until now most search engine development has gone on at companies with little publication of technical details. **This causes search engine technology to remain largely a black art and to be advertising oriented.** ... we have a strong goal to push more development and understanding into the academic realm."

# The War Machine and the Love Machine

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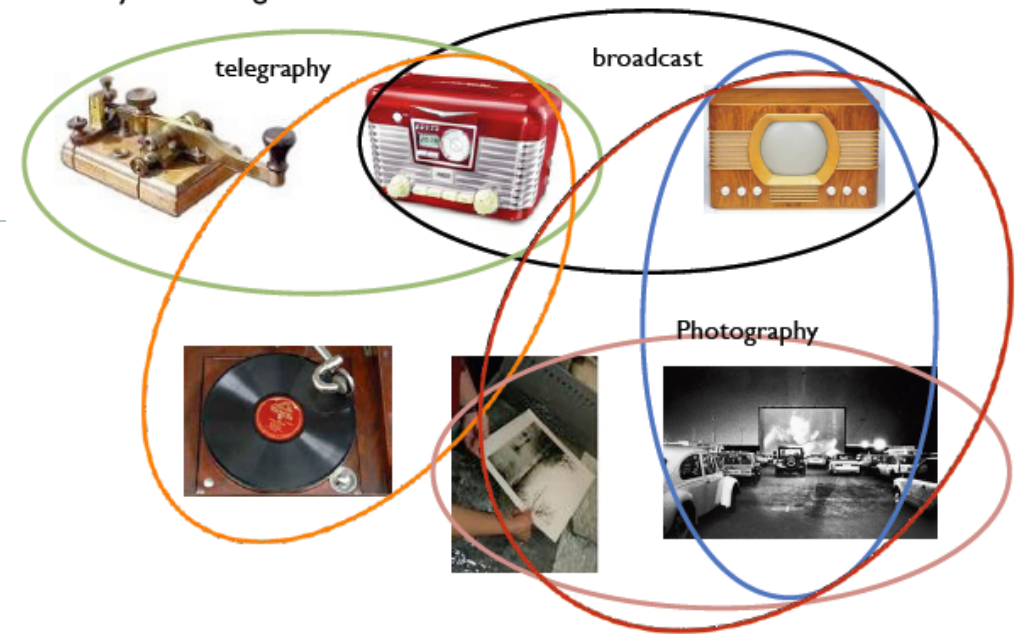
- ▶ "Everything in this new warfare becomes a question of time won by man over the fatal projectiles toward which his path throws him... We have to face the facts: ***speed is war, the last war***"
  - ▶ Paul Virilio, *Speed and Politics*. 1977
- ▶ "Electric circuitry has overthrown the regime of 'time' and 'space' and pours upon us instantly and continuously concerns of all other men... 'Time' has ceased, 'space' has vanished. ***We now live in a global village . . . a simultaneous happening.***"
  - ▶ *Marshall McLuhan et al., Medium is the Masseur*, 1967

# Paradigms?

## ▶ Technological determinism



John Gast  
*American Progress*  
1872



## **assessing a revolution:**

what happened, what came before,  
what came after, who was involved  
what happened elsewhere  
what was necessary, what sufficient, what  
incidental

# Information infrastructure

The postal system: information infrastructure without  
“technology”?

# Some bold statements

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- ▶ “One of the most effective elements of civilization”?
  - ▶ Francis Lieber, *Encyclopedia Americana*, 1932
- ▶ “mighty arm of civil government”
  - ▶ *New York Times*, 1852
- ▶ “How society in the nineteenth century could exist without mail routes and the regular delivery of letters, it is impossible to conceive.”
  - ▶ James Holbrock, *My Years Amongst the Mailbags*. 1955
  - ▶ Quoted from: John, *Spreading the News*, 1995

# Infrastructure: “Pervasive enabling resources”

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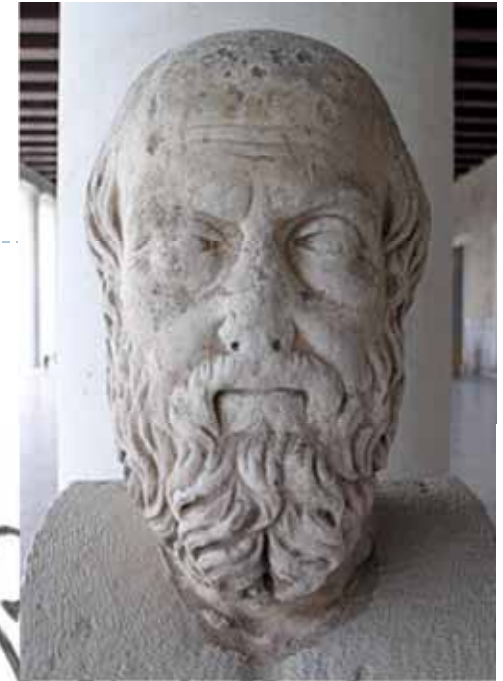
- ▶ So what constitutes infrastructure? Infrastructure has the following qualities:
  - ▶ *modular increments*
  - ▶ *Embedded*
  - ▶ *Transparent*
  - ▶ *Reach*
  - ▶ *Learned*
  - ▶ *Practice*
  - ▶ *installed base*
  - ▶ from Jackson et al quoting Star and Ruhleder–



# Circulation of mails



**TRA**  
**B**  
 In 17  
 British Dominions in America was  
 packet-boats between Falmouth and  
 York, sailing from the former the first  
 day, from the latter the second Satur  
 every month, they were,  
 Halifax, Capt. John Bolderson.  
 Duke of Cumberland, Capt. John Mitchell.  
 Lord Hyde, Capt. Norris Goddard.  
 Harriot, Capt. Geo. Oake.  
 Mercury, Capt. Rob. Dillon.  
 The postage between London, and any port  
 within the British Dominions in America, of  
 a single letter (i.e., one sheet of paper) was  
 12d., which covered inland conveyance in the  
 Dominions up to 60 English miles; from 60 to  
 100 miles, 6d.; 100 to 200 miles, 8d., not pas  
 sing through a chief office; and so in pro  
 portion increasing two pence for any distance  
 above every 100 miles. All double, treble,



## Information infrastructure: Postal system

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- ▶ “To establish Post Offices and Post Roads;”
  - ▶ U.S. Constitution - Article 1 Section 8
- ▶ “The United States in Congress assembled shall also have the sole and exclusive right and power of ... establishing or regulating post offices from one State to another, throughout all the United States, and exacting such postage on the papers passing through the same as may be requisite to defray the expenses of the said office ...”
  - ▶ Article 9, “The Articles of Confederation” (Agreed to by Congress November 15, 1777; ratified and in force, March 1, 1781.)

# Modular increments

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- ▶ *Fixed and changed in **modular increments**, through complex processes of negotiation and mutual adjustment with adjacent systems, structures, and practices*
- ▶ Post Office Act, 1792:
  - ▶ 1. newspapers were subsidized
  - ▶ 2. public officials are not supposed to spy on the mail
  - ▶ 3. facilitated the expansion of the postal network

# Reach of the post office

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- ▶ *Defined by its **reach** beyond particular spatial or temporal locations;*
- ▶ **By 1840:**
  - ▶ ~4 of every 5 Federal employees worked for the post office
  - ▶ 13,486 post offices (75 in 1790)
    - ▶ 1,087 people served by each office (43,084 per office in 1790)
    - ▶ 1 office every 61.4 square miles (1 per 3492.7 square miles in 1790)
- ▶ 500,000 newspapers sent through the mail in 1790
- ▶ 39,000,000 newspapers sent through the mail in 1840
  - ▶ 2.7 newspapers per capita
  - ▶ from: Headrick, *When Information Came of Age*, 2000.

# Embedded

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- ▶ *Embedded in other structures, social arrangements, and technologies*
- ▶ "... in the very process of incorporating the the citizenry into American public life, postal policy marginalized a number of groups – in particular, women and blacks – and in this way identified the public sphere with free white men..."
  - John, *Spreading the News*, 1995.

# Transparent

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- ▶ *Transparent (and largely invisible) once established, "reappearing" only at moments of upheaval or breakdown;*
- ▶ "...while his fear of the use of new communication technologies may seem irrational, it may also be viewed as a legitimate response to fears of modernity and the attendant further ebbing of the slaveholders' ability to control everything and everyone around them."
  - ▶ Jennifer R. Mercieca, "The Culture of Honor: How Slaveholders Responded to the Abolitionist Mail Crisis of 1835,"

## Another *modular increment*.

- ▶ 1845 and 1851:
  - ▶ Lower the rates for letters
  - ▶ Pay by weight instead of by the sheet
- ▶ 1854: prepayment only

Mission of Santa Clara  
July 29 1850

Dear Brother

I write you again thinking you might like to hear something of my movements. I believe I told you in the letter I wrote about a fortnight ago that I went to Sava. I am afterwards, with the intention of going to San Jose. I found there were two ways of getting there, by the stage for twenty dollars and by vessel to the Embocadero, eight miles from San Jose. I chose to go by the vessel as it was cheapest. I got on board a sloop of nine tons and at 11 o'clock in the day we started. There were five passengers besides myself one of whom was a boy. The sloop being deeply laden with lumber, when the afternoon wind sprang up the spray dashed over our heads and the sea was so rough that we were at the sea's edge. The hulls on the shores of the bay had the appearance of being sandy and barren, but they were covered with wild oats which are now ripe. At 5 o'clock we entered the mouth of a small, crooked cove and after sailing up its bay we reached the Embocadero. This was a swamp in which there was about a dozen houses, the occupants of which we engaged in carrying lumber to the capital. I spent my bed in the house of a Mr. Richell

# Practice

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- ▶ *Deeply linked with conventions of **practice** and other forms of routinized social action;*
- ▶ “our pervasive expectations of complete contact, of boundless accessibility, actually link us back to the cultural moment when ordinary Americans first experience the mail in similar terms.”
  - ▶ Addressability
  - ▶ Dead Letter Office
  - ▶ Junk mail
  - ▶ Anonymity
  - ▶ Henkin, *The Postal Age*. 2006



[Black Valentines (London, c.1850)]  
Source: Monash University Library  
<http://www.lib.monash.edu.au/exhibitions/recent-acquisitions4/virtual/photos/photo6.html>



## Learned

- ▶ *Learned as a part of membership within particular professional, social, or cultural communities;*

- ▶ “An interval of two weeks elapsing for the arrival of one mail to another, creates an anxiety to hear form home that can scarcely be comprehended by other than residents of California”  
Scene at the San Francisco Post Office  
BANC PIC 1963.002:0137--A

The vast majority of the world's internet traffic is carried by undersea cables that connect the continents. A single undersea cable can carry as much data as a highway, and only about 100 miles of cable are needed to connect two continents.

There are two main categories of undersea cables: **fiber-optic** and **copper**. Fiber-optic cables are the most common and carry the most data. Copper cables are used for shorter distances and carry less data.

# Installed base

- ▶ Built on, shaped and constrained by its relationship to an already **installed base**;



<http://www.postalmuseum.si.edu/duty/dangersofthetrail.html>



## Ongoing questions

Who is controlling the infrastructure?

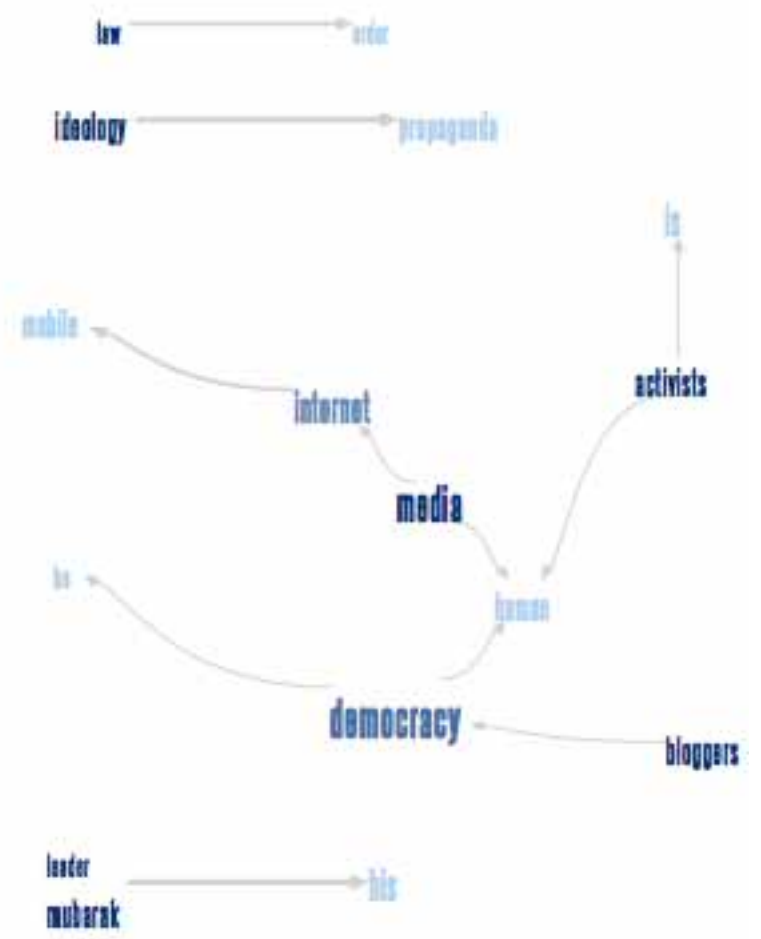
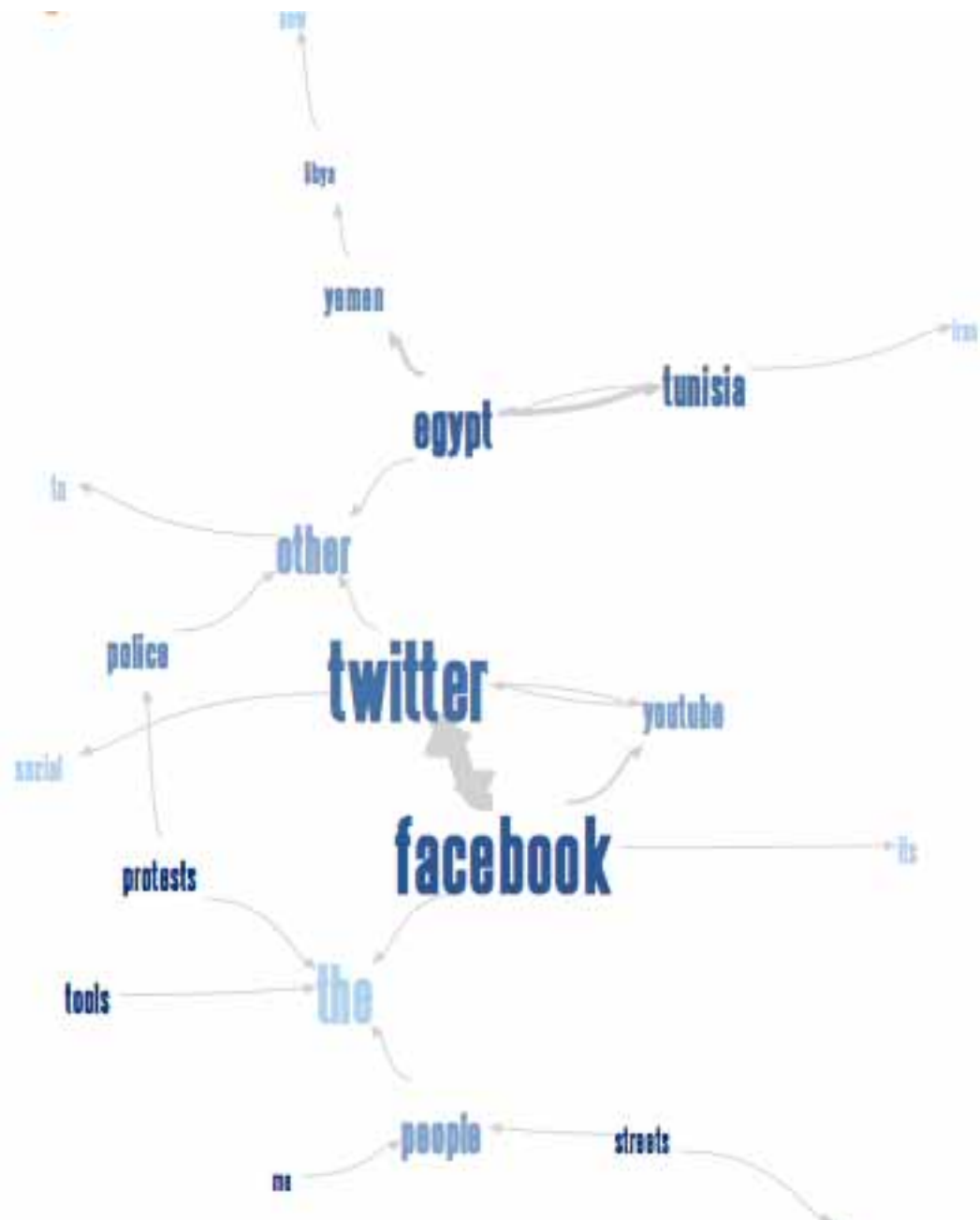
Government or private corporations?

“natural” monopoly of infrastructure?

What are the practices that are part of the infrastructure?

Change in practice without technical change?

Point to point or broadcast?





**Motion:** Twitter was necessary for the ousting of Mubarak

# Twitter, Egypt and the role of infrastructure in social movements

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## ▶ Debate! The rules:

2 Teams – one team arguing for the motion, one arguing against.

Audience votes (for, against, undecided).

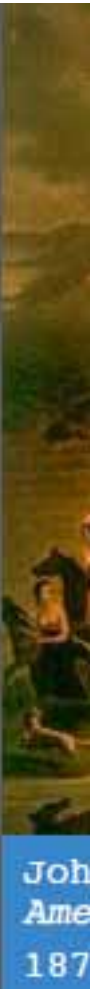
Three introductions for each team. We will alternate between the teams. Introductions should be about two minutes each.

There will be fifteen minutes for moderated questions.

Three closing statements for each team. . We will alternate between teams. Concluding remarks should be about two minutes each.

Audience votes (for, against, undecided).

The team with the greatest GAIN in number of supporters will be declared victor and the first ever champions of the History of Information current events debate.



voice to the turmoil in the Middle East via memeburn.com For the nearly 40000 followers

.com For the nearly 40000 followers of his feed, Andy Carvin is providing a unique window

rain, Yemen, Libya and now Syria. Carvin's account, , is a steady stream of messages

Middle East. After giving a blow-by-blow on of the fall of Tunisian president Zine el Abidine

by a message he saw from a Tunisian on .OK, Arab world, tag you're it, it said. That re-

anchor coverage of the Middle East using , in the same way that you might see a broad

users and editors assisting me I have my followers. They're able to essentially serve as

door while retweeting a message from the user who claimed a maternity hospital that tr

mine of content A lot of Egyptians were on but Yemen and Libya have been more chall

ghazi, was killed in a fire on March 19 is Carvin's platform, but it is not his only new

id. Mainly what I'm trying to do is have my feed essentially become an archive of the h

using a range of different media - including - for communication They are varied socially

the government blocked Facebook and and eventually shut down Internet access co

line, political leaders and others, including , spoke out against the violence and freedom

down couldn't keep the news from flowing and Facebook users found ways to work ar

ded instantaneously, as reporters took to to share 140-character updates and person

inate information. Why John McCain used to take on Hosni Mubarak (video) In talking a

he noted, We have 1.7 million followers on in his Senate office. After a recent trip to the

n to have gone straight from plan A (block and Facebook) to plan Z (turn off the Internet

ally said it was not targeting Facebook or . Once developed, the software could allow l

1 to remove references to Facebook and , introduced during the editing process, and

with social networking platforms such as , Facebook and YouTube that expose or th

with social media such as Facebook and , has played a huge role forcing the military t

Fisher. Egyptian police use Facebook and to track down protesters' names before our

our names from Facebook postings and . Some have not been heard of since. Gabrie

sfully used , like Facebook, YouTube and to help drive his 2008 presidential campaign

ubarak protesters near graffiti referring to in Tahrir Square in Cairo last Saturday. (Ima

# Conclusion: 1868 Hayward Fault Earthquake

Overview of Information infrastructure

Overview of Hayward Fault Earthquake

How was the telegraph used?

Rumors

Business

Looking for loved ones