



# **Virtual Pollution**



History of Information 103

Geoff Nunberg

**April 30, 2015** 



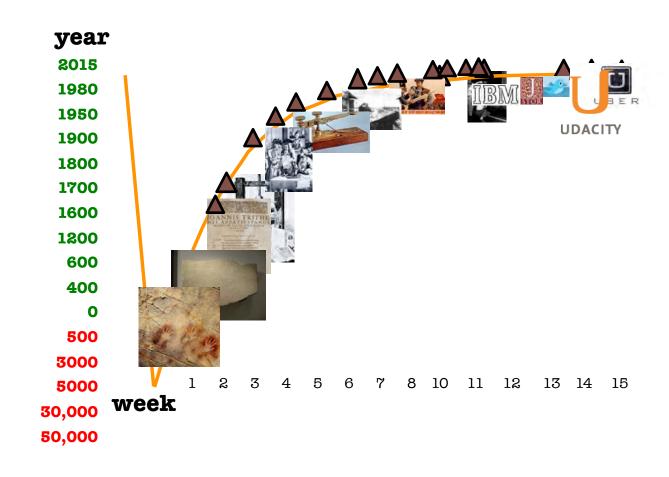
### **Virtual Pollution**



INVESTING

SURPRISE! SOME HEALTHY

NET STOCKS





# Itinerary, 4/30

Polemics and polarization

Life on the Dark Side

Virtual Pollution: hate speech, porn and incivility

**Valediction** 



# The siloing of political discourse



### DESCRIPTION OF SERVICE PROPERTY. The Deepwater Horizon Threat

In Ukraine,

MORNAGE BY

Seehing



# Claims about online political discourse

#### The internet

Broadens access to information

Broadens the opportunity to speak.

Increases the number of information sources, bypassing media "gatekeepers" or official censors.

Offers information about a wider range of topics, and more information and opinion on any given topic.

Provides more reliable ways of checking or interpreting information, and gives citizens more opportunity to verify information



# Claims about online political discourse

#### The internet

Restricts the exchange of information and opinion to a more closed, like-minded group (silo effect)

Exposes people to more information that is misleading, inaccurate, extreme, inflammatory, etc.;

Eliminates the guidance that the traditional media provided.

Widens the divisions between the informed and ill-informed sectors of the public.



# Polarization and the "Siloing" of Political Discourse





Online discourse facilitates "siloing" of political discourse...

But siloing has independent offline roots

Polarization of political language on the Internet mirrors polarization of elite/activist views and the increasing importance of elective associations (geographical, occupational)

Number of Americans living in landslide counties:

1976: 26%

2008: 48%



### **Ruptured Discourses**

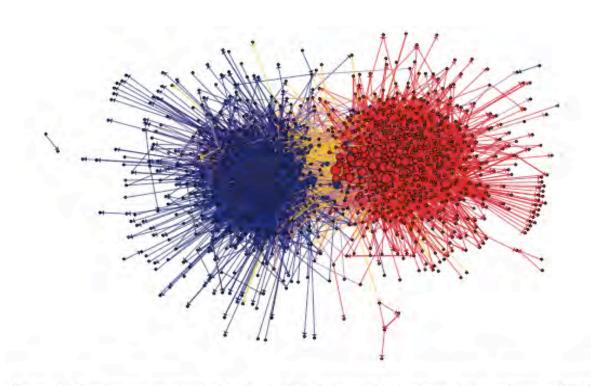


Figure 1: Community structure of political blogs (expanded set), shown using utilizing a GEM layout [11] in the GUESS[3] visualization and analysis tool. The colors reflect political orientation, red for conservative, and blue for liberal. Orange links go from liberal to conservative, and purple ones from conservative to liberal. The size of each blog reflects the number of other blogs that link to it.



### traffic is also polarized

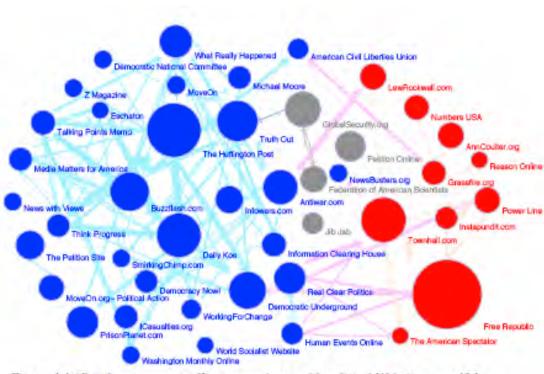
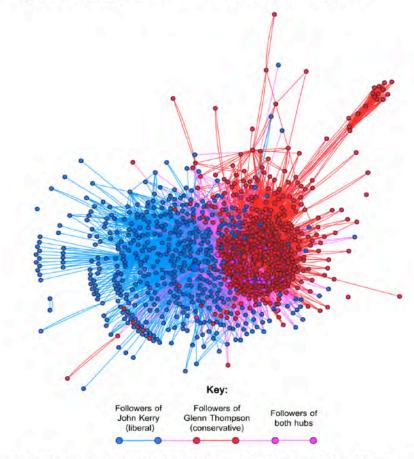


Figure 4.4: This figure maps traffic among the top 50 political Websites, as of May 2006. Liberal- or Democratic leaning sites are in blue; conservative- or Republican-leaning sites are in red. Self-declared neutral or nonpartisan sites are in gray.



# Partisan Differences in Homophily among Twitter followers

Figure 3. Core Homophilous Follower Networks Of Two Political Hubs



Note: This diagram depicts core followers of two hubs closely matched on follower count and

Boutyline and Willer, "The Social Structure of Political Echo Chambers: Ideology and Political Homophily in Online Communication Networks." 2014



## Polarization by age?

Average age of Fox News viewer: 65—but CNN isn't that much lower.

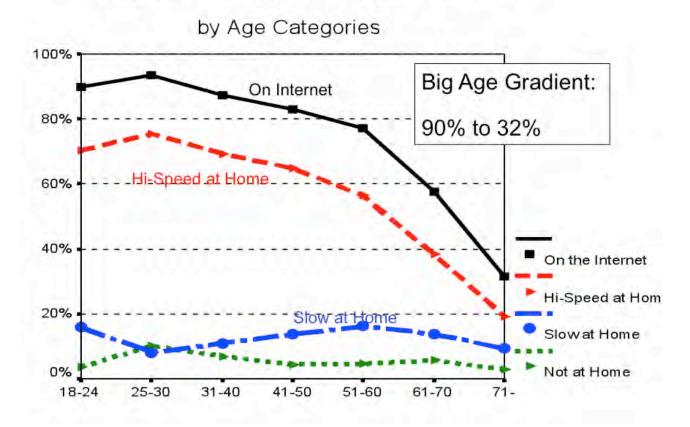
Rank	Blog	Male readership (%)		
1.	DailyKos.com			
2.	Instapundit	59 %		
3.	Eschaton (Atrios)	52%		
4.	Michelle Malkin	57 %		
5.	Crooks and liars	32%		
6.	Little Green Footballs	89%		
7.	Powerline	74%		
8.	RedState.org	68%		
9.	Wonkette	46%		
10.	Andrew Sullivan	53%		
11.	Kevin Drum	55%		
12.	Hugh Hewitt	80%		

Sites with highest pct of male readers tend to be conservative



## **Reinforcing Social Divisions**

Percent on Internet and by Connection Type



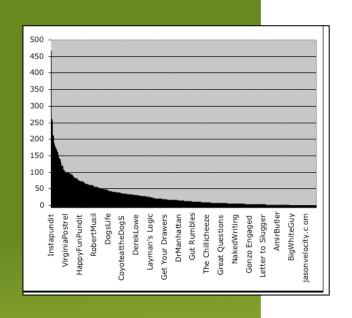


## Polarization by gender?

1.	DailyKos.com			47%		
2.						
3.	Rank	Blog	18-34	35-44	45-54	55+
	1.	DailyKos.com	34%	13%	29%	24%
4.	2.	Instapundit	29%	22%	20%	29%
5.	3.	Eschaton (Atrios)	26%	29%	31%	14%
	4.	Michelle Malkin	19%	29%	19%	33%
6.	5.	Crooks and liars	29%	16%	30%	26%
7.	6.	Little Green Footballs	26%	22%	20%	32%
3.	7.	Powerline	21%	16%	24%	40%
	8.	RedState.org	29%	26%	26%	20%
9.	9.	Wonkette	28%	19%	41%	12%
10.	10.	Andrew Sullivan	31%	34%	12%	13%
11.	11.	Kevin Drum	22%	24%	23%	30%
	12.	Hugh Hewitt	31%	23%	25%	21%
12.		Average	27%	23%	25%	25%

Sites with highest pct of male readers tend to be conservative





"Winner take all" effects: Zipf's Law distributions (note: Most influential bloggers are journalists etc.)

Internet doesn't level political participation or access to political information within society...

But it may broaden participation & information flow among political classes...

And does facilitate lateral connections & organization

### What you tweet

#### Republicans

pelosi obamacare

stimulus

liberty patriots

taxpayer

feds

taxpayers

trillion

naacp

socialism

...

libs

leftist

tyranny

imam

#### **Democrats**

Igbt
suicides
homophobia
veggie
baggers
rwnj
inequality
wingnuts
mandela
argh
cinema
mas
horrifying
rights
hysteria

sexuality

libraries

omfg

### African-American niggas songz betta dats finna weave flocka bruh boondocks jeezy brotha ole str8 hart ..smh

pastor

Starbucks fans net ... sms ... virus restart recipes oatmeal tasting espresso candles pumpkins delish columbia maple

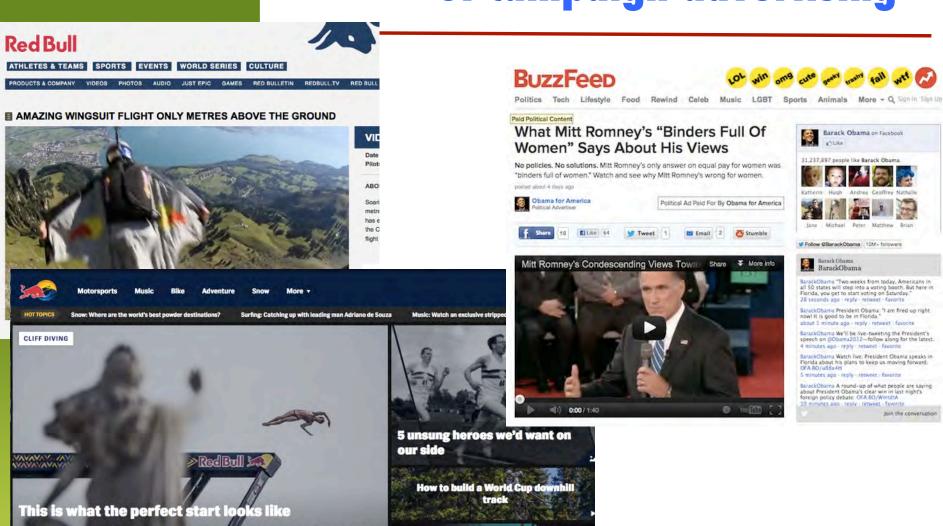


Exclusive video: Gary Hunt's dive to win round one of the Red Bull Cliff Diving World

Series 2015.

By Alex Hazle on 27 April 2015

# "Branded content" & the future of campaign advertising



**Explore underground, underwater** 

Mayan kingdoms



### **Effects of the Internet**

The Internet potentially amplifies and enhances all forms of social organization

... But doesn't eliminate basic conflicts and oppositions...



# Participation in online political discourse



# Participation in online political discourse

Does the net level the informational playing field?

Initially, those with access tend to be younger, collegeeducated, male, white...

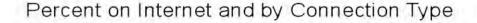
Curves of access are flattening...

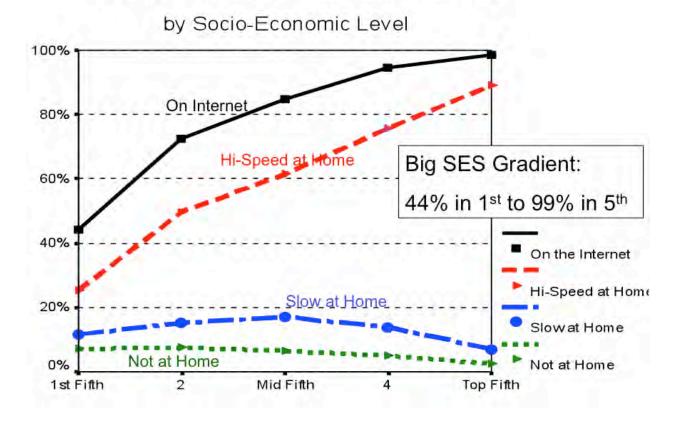
But among those w/access, older users are more likely to be daily users...



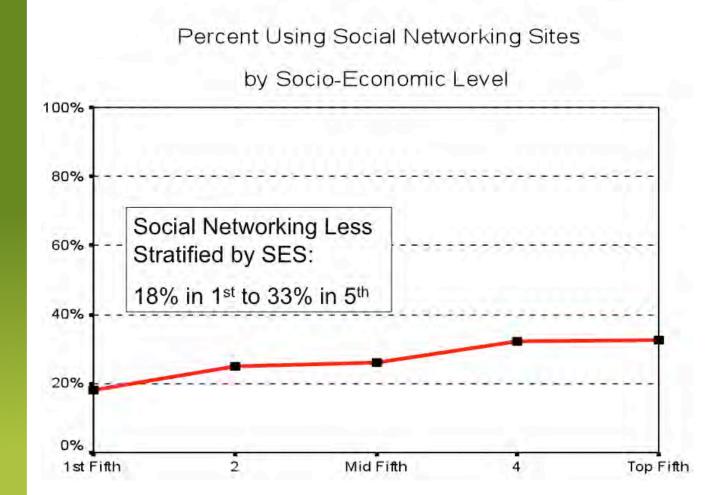
But how much does access/daily use predict political engagement?





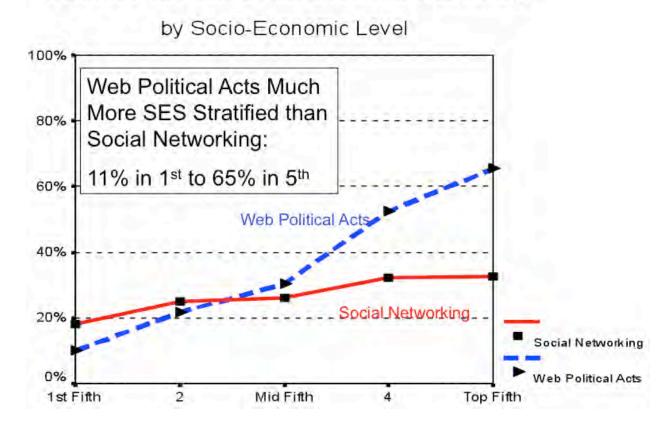








Percent Web Political Acts and Social Networking

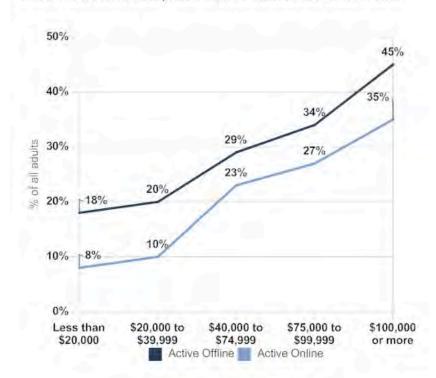




# political activity online mirrors offline

# Political activity is highly correlated with income, whether that activity takes place online or offline

The proportion of adults within each income category who have participated in two or more online/offline political activities within the last twelve months.





## **Virtual Pollution**











# Spatial Models of Electronic Discourse: "Cyberspace"

### The New Jerusalem, ca. 1992

Cyberspace: A world in which the global traffic of knowledge, secrets, measurements, indicators, and alter-human agency takes on form: sights, sounds, presences never seen on the surface of the earth blossoming in a vast electronic night. . . . From vast databases that constitute the culture's deposited wealth, every document is available, every recording is playable, and every picture is viewable. The realm of pure information, filling like a lake.

— Michael Benedikt, Introduction to Cyberspace, MIT Press, 1991



### **Buyer's Remorse?**



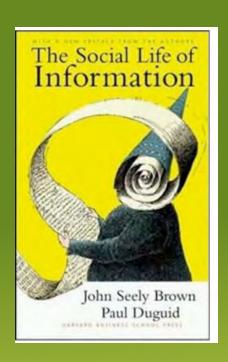
### The virtual Bowery

[The Internet is] a place where crime is rampant and every twisted urge can be satisfied. Thousands of virtual streets are lined with casinos, porn shops, and drug dealers. Scam artists and terrorists skulk behind seemingly lawful Web sites. And cops wander through once in a while, mostly looking lost. It's the Strip in Las Vegas, the Red Light district in Amsterdam, and New York's Times Square at its worst, all rolled into one -- and all easily accessible from your living room couch.

"The Underground Web," Business Week, 9/2/02



### The Dark Side of the Virtual



Brown and Duguid's six D's

Decentralization

**Denationalization** 

Despatialization

Disintermediation

Disaggregation

Dematerialization







Brown and Duguid's six D's

Decentralization

**Denationalization** 

Despatialization

Disintermediation

Disaggregation

**Dematerialization** 

What happens when we eliminate material and social constraints and boundaries



## **Magnifying Social Deviance**

ME > U.S.

#### zhokhar Tsarnaev: Bombing Suspect Has Online Following



Sick Boston Marathon bombing game hits the Internet

April 24, 2013 by & Tom Tillison 1 Comment

Well, that didn't take very long at all.

Just nine days after two bombs exploded at the finish line of the Boston Marathon, killing three and leaving scores injured, a sick video game based on the terror attack has been developed.

The game, "The Boston Marathon: Terror on the Streets," has emerged on

the internet, according to the Daily Mail, with players taking on the role of a marathon runner attempting to jump over pressure cooker bombs. Dead and injured runners are seen in the street, splattered in blood.



Most of the tech industry, or at least the most vocal parts of it, have a prevailing belief that the Internet will solve everything while the government is little more than a parasite and obstacle that only serves to prevent the collective forces of the Web from solving all of the world's problems. While I think everyone can agree that the government does a lot of stupid things, the increasingly popular view that the government is unnecessary and/or evil and all we need is a bunch of entrepreneurs and the almighty Internet to fix everything is frankly asinine arrogance of the highest order.



### **Uses and Abuses of Chatter**

CNET > News > Internet & Media > Boston police turn to Twitter for tips after ...

## Boston police turn to Twitter for tips after twin bombings

The Boston Police Department uses its official Twitter feed to disseminate information and gather potential evidence.

#### Social

### **Boston Marathon Bomb Photos Engulf Twitter**

Boston Marathon bombing: Was Twitter for the birds or revolutionary?

By Joe Gandelman Syndicated columnist

Updated: 04/26/2013 06:11:07 PM MDT

### Man on roof near Boston Marathon bombings sparks Twitter debate





Donald J. Trump

@realDonaldTrump





I live in rural NC. We don't riot. We shoot rioters. Which is why we don't riot. We do watch riots on tv in cities where Dems ok



Our great African American President hasn't exactly had a positive impact on the thugs who are so happily and openly destroving Baltimore!

9:38 PM - 27 Apr 2015

₹ 6,416 ★ 5,966

### Baltimore, 2015

LAW & ORDER

More: Baltimore Riots Police Brutality Visual Features >

politics politics

battle on Twitter

How Baltimore police, protesters

This amateur photographer's images of the Baltimore riots are going viral on Instagram In the news



First Night of Baltimore's Curfew: State of Emergency - Baltimore, Maryland (Dispatch 1)

VICE News - 11 hours ago

On April 19, Freddie Gray died from injuries he sustained while in the custody of Baltimore police. In the wake .

Amid Unrest In Baltimore, Images Of Empty Ballpark Game Between Orioles And White Sox

Forbes - 9 hours ago

Texas GOP lawmaker: 'What is going on in Baltimore' is because of too many gay

Raw Story - 11 hours ago

More news for baltimore youtube

#### Good morning baltimore - YouTube



www.youtube.com/watch?v=FGa6Tkopqug

20 hours ago - Uploaded by chimpy tron

Good morning baltimore ... National Guard deployed to Baltimore Riots - State of Emergency in Baltimore ...

#### Daily Show - Baltimore on Fire - YouTube



www.youtube.com/watch?v=Wwy7pWvO3p0

16 hours ago - Uploaded by Comedy Central Violent protests erupt in Baltimore, apparently blindsiding the media and CNN's Wolf Blitzer despite a long ...

### VILLER USERS WHO ARE ON THE GROUND IN BALTIMORE

News coverage of Baltimore ...

er thousands paid their respects to Freddie

eddie Gray continue - YouTube

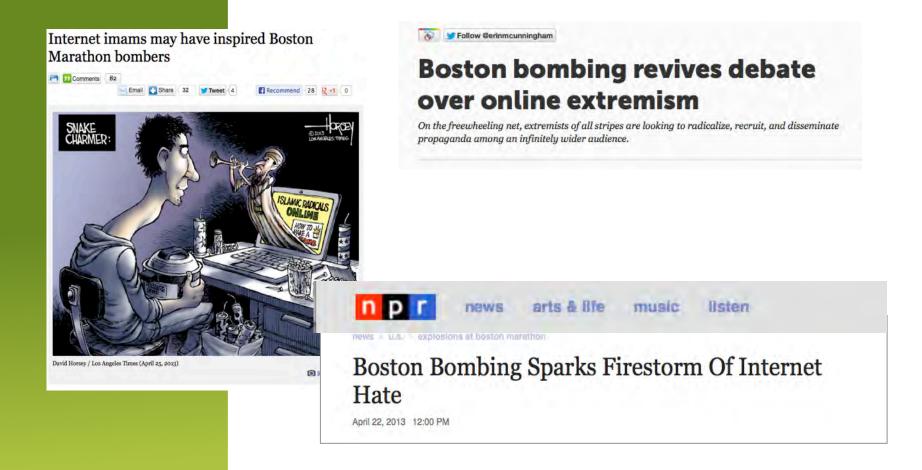
/watch?v=UTcJwYVHi6w

/watch?v=hIIYrEMvZMU

er's funeral in Baltimore on ...



## **Centering the periphery**





# Varieties of "Rotten Information"

Problems of authenticity: fakes, hoaxes, forgeries, plagiarism, etc.

Problems of quality: reliability and "authoritativeness"

Problems of "pollution": pornography, violence, racism & hate speech, predators, incivility, etc.

Mary Douglas: "Dirt is matter out of place... Dirt then, is never a unique, isolated event. Where there is dirt there is a system. Dirt is the by-product of a systematic ordering and classification of matter, in so far as ordering involves rejecting inappropriate elements."

How to tell pollution from the merely "unacceptable"?



# The boundaries of discourse: A racist hoax

#### THE FRANKLIN PROPHECY

Recorded by Charles Coteworth Pinckney Delegate to the Constitutional Convention of 1787

"I fully agree with General Washington, that we must protect this young nation from an insidious influence and impenetration. The menace, gentlemen, is the Jews.

"In whatever co number, they h commercial into not been assim undermine the founded....

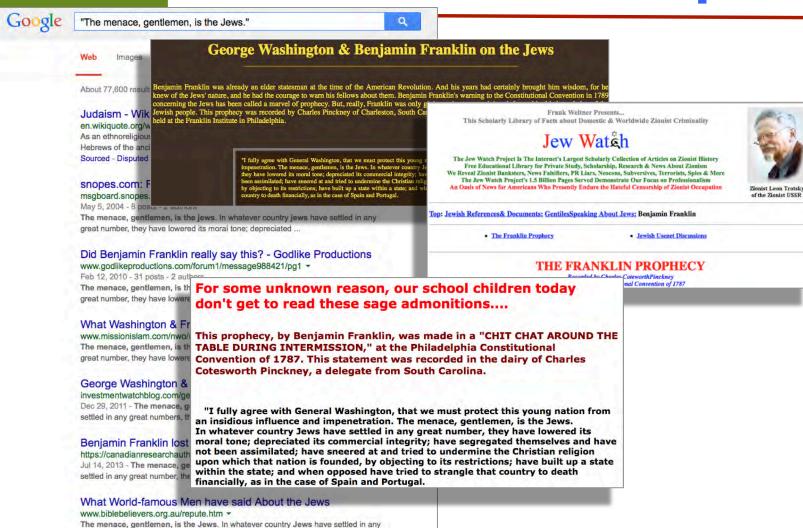
. If you do not e their Constituti swarmed here i dominate and c government...

"I cannot find a single original source that gives the slightest justification for believing that the Prophecy is any1thing more than a barefaced forgery. Not a word have I discovered in Franklin's letters and papers expressing any such sentiments against the Jews as are ascribed to him by the Nazis — American and German."

Charles Beard, *NY Times*, March 10, 1937.



# Pervasiveness of Hate Speech

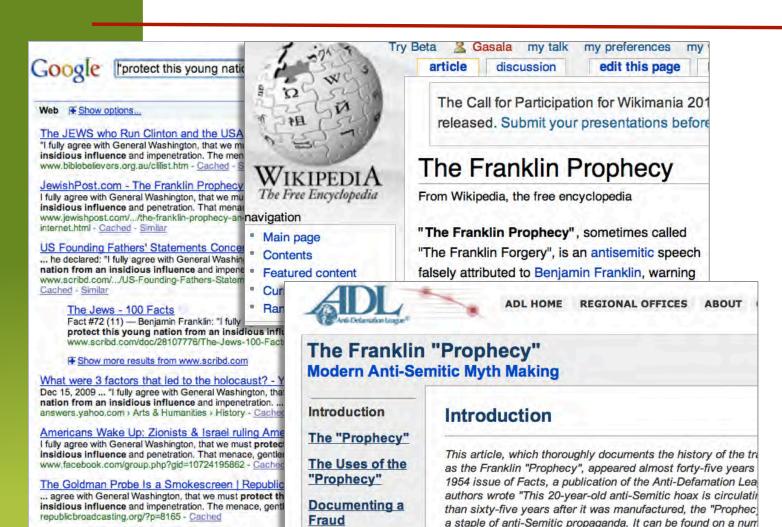


great number, they have lowered its moral tone; depreciated its commercial ...



## Pervasiveness of Hate Speech

maintained by haters and hate-groups. The article is, therefor



Judenhass Quotes
"I fully agree with General Washington, that we must protect this young nation from an insidious influence and imperentation. The menace, gentlemen, is the ...

\*\*Washington Special Special



## **An Awkward Search Result**



Images Groups News Froogle Local more »

Advanced Search Search Preferences

#### Web

#### Offensive Search Re www.google.com/explana

#### Jew - Wikipedia, the

Discussion of the differen history, beliefs, and cultur en.wikipedia.org/wiki/Jew

#### Jew Watch - W

According to its su features an archive en.wikipedia.org/wi More results from

#### Jew Watch

Keeping a close watch on control worldwide.

www.jewwatch.com/ - 321

#### Jew Watch

Keeping a close watch on Jewish communities, organizations, monopoly, banking, and media control worldwide.

www.jewwatch.com/ - 32k - Cached - Similar pages

#### Jew Watch - Jewish Atrocities - Jews Against Jews

Rabin was assassinated in 1995 by a right-wing orthodox Jew. Abraham Hecht has been quoted as citing Jewish scripture to justify the killing. ...

www.jewwatch.com/jew-atrocities-jewsagainstjews.html - 8k - Cached - Similar pages More results from www.jewwatch.com

#### Judaiam 101. M/ha la a law?

#### Jew Watch - Jewish Atrocities - Jews Against Jews

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Judgiam 101. Who lo a law?

other anti rigi dontblameme

The World's I

A fun photo r to Jewish per www.GinAnd



## Google's Explanation

#### Web

Offensive Search Results

www.google.com/explanation

We're disturbed about these results as well. Please read o

If you recently used Google to search for the word "Jew," you may have seen results that were very disturbing. We assure you that the views expressed by the sites in your results are not in any way endorsed by Google. .... A site's ranking in Google's search results relies heavily on computer algorithms using thousands of factors to calculate a page's relevance to a given query. Sometimes subtleties of language cause anomalies to appear that cannot be predicted. ...

What would you tell Google to do?



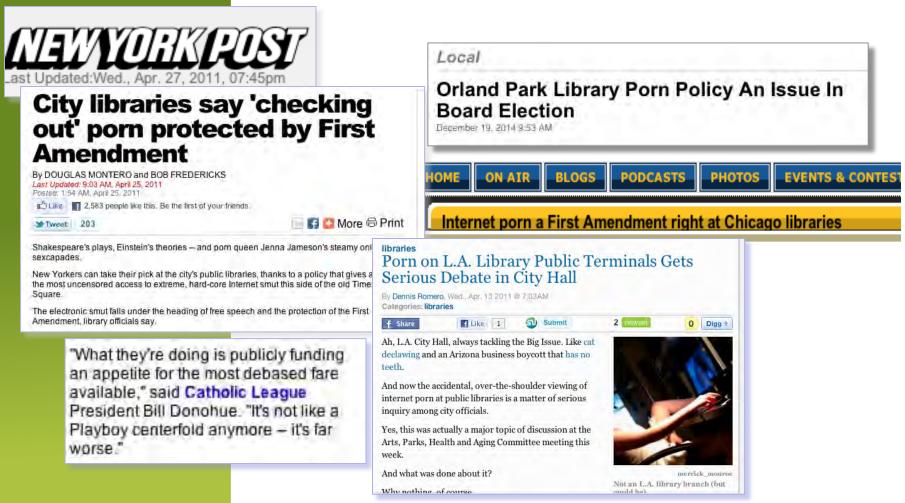
## Why is racist speech a problem?

How concerned should we be about racist speech? Is there more racist speech than before?...

Or is it just more visible – like bad spelling?



## Porn in the Library!!









Whereas pornography was once furtively glimpsed at dimly lighted newsstands or seedy adult theaters, today it is everywhere. It pours in over the Internet, sometimes uninvited, sometimes via eagerly forwarded links...

...Whereas children used to supplement sex education by tearing through *National Geographic* in search of naked aboriginals ... today many are confronted by pornographic images on a daily basis. In a 2001 poll by the Kaiser Family Foundation, 70% of 15-to 17-year-olds said they had accidentally come across pornography online.

Time, January 19, 2004



#### **Dimensions(?) of the Problem**



he nation's financial system

agency staffers spent hours surfing pornographic websites on government-issued computers while they were supposed to be policing

"More than 4 million Web sites worldwide show images of children being sexually exploited, said the U.N. investigator on the sale of children, child prostitution and child pornography..."

"It is estimated that 100,000 sites contain child pornography."

"A total of 4.2 million websites econtain pornography."

≤1% of Websites contain porn. Philip B. Stark UCB, 2006 (100-200m sites in all)

\_\_\_... But what do the numbers really mean?



## How Porn Sites are Used: An Exception to "Winner Take All"

#### **Distribution of User Volume Among Sites**

% of Sites	<u>% of traffic</u>	
	All Sites	
.01	32.36	
1	55.63	
5	74.8 I	
10	82.26	
50	94.92	

Adamic & Huberman, 2000



## How Porn Sites are Used: An Exception to "Winner Take All"

#### **Distribution of User Volume Among Sites**

O/ of Augstin

<u>% of Sites</u>	<u>% Of traffic</u>	
	All Sites	Porn Sites
.01	32.36	1.4
I	55.63	15.83
5	74.81	41.75
10	82.26	59.29
50	94.92	90.76

% of Ci4oc

Adamic & Huberman, 2000



## Responses to Rotten Information

Technological solutions

Institutional & organizational adaptations

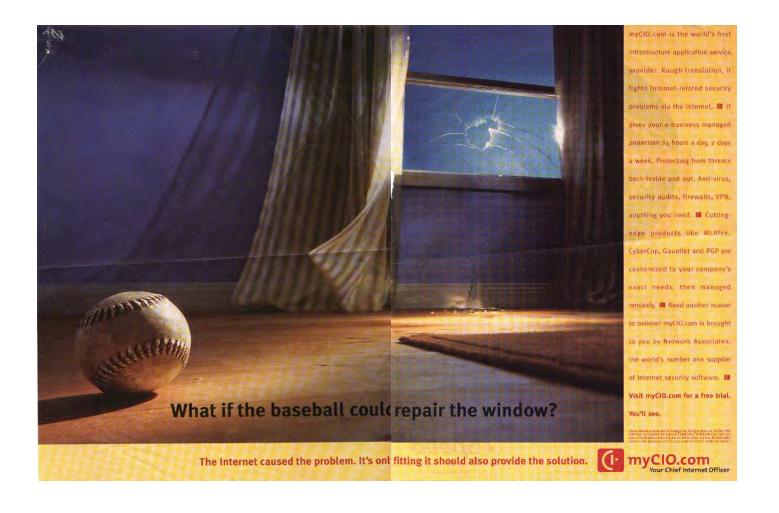
Social/cultural change

Appeals to market forces

Legislative and legal remedies



## Technology to the rescue?





## **Filtering Frenzy**

#### RemoteWebGuard

We'll help you help yourself.

April 25, 2011 13:44 ET

Addicts Seek Help as US Internet Porn Addiction Rates Reach Alarming Heights

New Web-Based Services Like RemoteWebGuard Help Addicts by Monitoring Online Behavior and Blocking Tempting Sites



Ad for McAfee's GuardDog software



## **Legal Solutions**

Children's Internet Protection Act:

Passed in 2001 -- 3rd attempt to regulate online porn



## **Limits of Text Blocking**

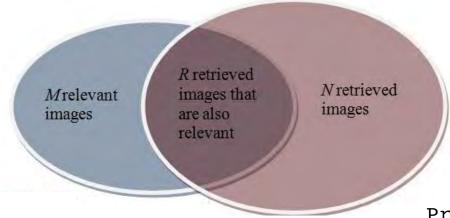
Text unavailable (imaged, etc.)

Confusion with innocent text

Need to block IP numbers

"Loophole" sites: anonymizer sites, Google cache & images

Inherent trade-offs of precision and recall



Precision = R/N Recall = R/M



## Limits of Image Classification

Images found "Probably Obectionable" by WIPE (Wavelet Image Pornography Elimination / Detection).













## Social, Economic & Institutional Responses to Internet Pornography

Libraries can regulate use by means of use policies, training and guidance, monitoring of logs, tap-on-the-shoulder policies, etc.

Rights of other patrons can be protected by privacy screens, etc.

Parents can assume responsibility for monitoring kids' surfing.

Providers can offer "greenspace" browsers for kids.



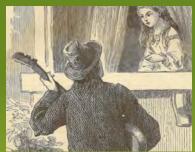
#### Social & Institutional Responses

Even porn can get old...









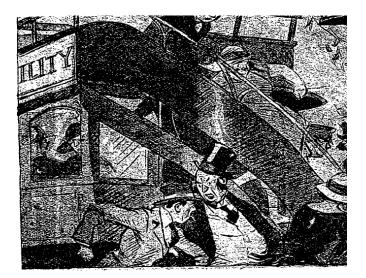


#### **Technology and incivility**

"Since the nineteenth century, every new form of communication has multiplied the opportunities for unwelcomed intrusions on our persons and privacy...

"The serenading troubadour can now thrum his throbbing guitar before the transmitter undisturbed by apprehensions of shotguns and bulldogs," 1884





1921



# The New Bestiary: Flamers, Trolls, Sock Puppets, Bullies...







... In their power and ubiquity, digital technologies introduce hitherto unimaginable possibilities for being uncivil and inconsiderate: cyber-bullying, tweeting or checking your mail in the middle of a meeting, posting anonymous defamations about an ex-boss or ex-girlfriend..., lurking and trolling on blogs and discussion lists, and all the other forms of misbehavior that new media have given rise to.

The repeal of reticence...

The new vocabulary of incivility: trolls, sock-puppets, flamers, lurkers, shaming....







#### Redefining social categories

"the technological constraints and affordances of a site will shape user practices and...social norms will emerge over time." Ellison & Boyd

"it is often difficult for two users who both call each other a friend to know if they are talking about the same thing" (Fono & Raynes-Goldie 2006)

Or is it?

"Drama implies something not to be taken seriously, ... while the adult-defined 'bullying' connotes childishness or immaturity to teenagers." Marwick & Boyd



#### We've been here before

Where else has technology interacted with social, political, and economic forces to produce outcome?

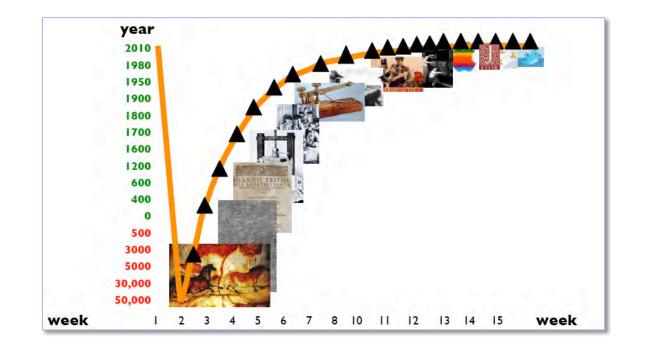


#### We've been here before

Writing
Print
Telegraph & telephone
Newspapers
Advertising
Propaganda
Photography
Radio & TV
Computers
Search
Internet...

Where else has technology interacted with social, political, and economic forces to produce outcome?

Where hasn't it?



Course Syllabus

History of Information, 2015

INFO 103 | COG SCI C103 | HIST C192 | MSC 104C

Note: Required readings not reached by "hyperlinks" from this page will be in the course reader.

## **Looking Backwards**

WEEK 1

20 Jan: Introduction: Why "History of Information?"

Which classes were most/least

22 Jan: The "According able?

27 Jan: Technological Determinism

Which readings were most/least

Read: "Preface to Third Printing" (or

Source: Course reader

Read: Chapter 1, in

Source: Course reader

29 Jan: First Technologies: Writing

Required Reading

How could assignments be improved? Society, Allyn & Bacon,

Source: Course reader

Gnanades kan, Amalia E. 2009. The Writing Revolution: Cuneiform to the Internet. Hoboken: Wiley-Blackwell. Read: Chs 1, 2, 4, 12.

Source: ebrary [hyperlink@]

Other suggestions....

WEEK 3

3 Feb: Cultural Effects of Writing

Required Reading

Gough, Kathleen. 1975. "Implications of Literacy in Traditional China and India." pp. 70-84. in Jack Goody (ed.) Literacy in Traditional Societies.. Allyn & Bacon.Cambridge: Cambridge University Press.

Source: Google books [hyperlink] & Also online here

Havelock, Eric, 1980 "The Coming of Literate Communication to Western Culture," Journal of Communication, 30(1): 90-98. Source: Wiley [hyperlink o]

Additional Materials



## **Good-bye and good luck**

