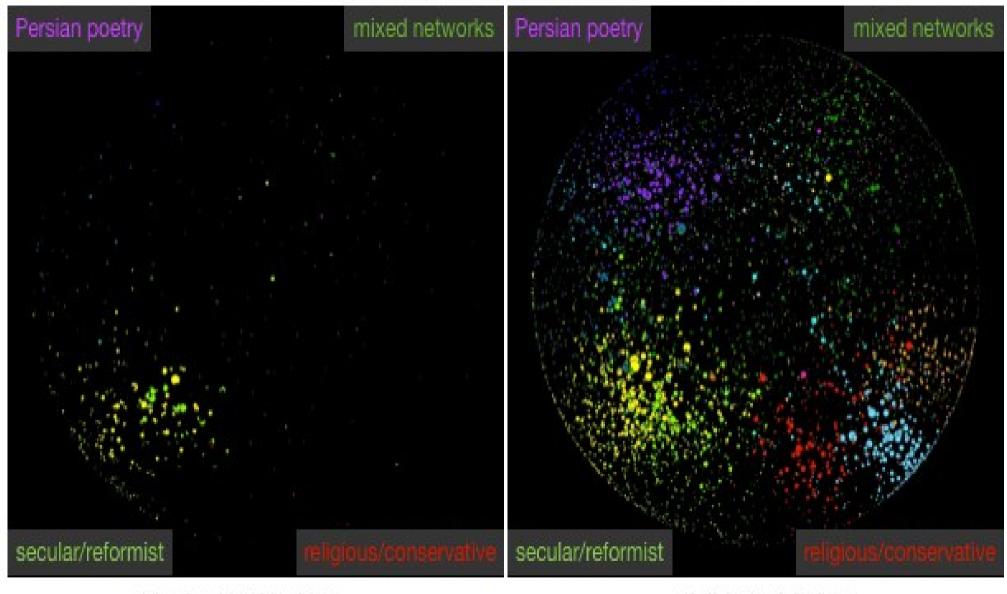
Social Production in the Networked Information Environment

Constructing an open, dynamic, and democratic core common infrastructure

Yochai Benkler Berkman Professor of Entrepreneurial Legal Studies Harvard Law School Co-Director, Berkman Center for Internet and Society Harvard University

Neda

social network map of the Iranian blogosphere



blocked inside Iran

visible inside Iran

(Kelly and Etling, Berkman Center 2008)

The Lede



The New York Times News Blog

July 9, 2009, 9:59 AM

Latest Updates on Iran Election Protests

By ROBERT MACKEY

Reports are coming out of Tehran on Thursday of fresh clashes between protesters and security forces. The Lede will provide updates on the protest as information becomes available. If readers are in touch with people in Iran and can share text, video or photo accounts of the protest with us, please let us know using the comments box below this post. Update times reflect the hour in New York; it is 8.5 hours later in Tehran.

Update | 3:06 p.m. Readers and Iranian bloggers continue to point to what appears to be more video of Thursday's protests in Tehran. This clip, uploaded to YouTube today, appears to have been shot on a mobile phone and is one of several short pieces of video that seem to show protesters on Tehran's streets today:



This clip, also <u>uploaded to YouTube on Thursday</u>, appears to show the security forces sweeping protesters from a street in Tehran:

Search This Blog

Search

Previous Post:

 Managing Dissent in China and Iran

Recent Posts

July 09 (30 comments)

Latest Updates on Iran Election Protests

Reports are coming out of Tehran on Thursday of fresh clashes between protesters and security forces. The Lede will provide updates on the protest as information becomes available. If readers are in touch with people in Iran and can share text, video or photo accounts of the protest with us, please let us know using [...]

July 08

(3 comments)

Managing Dissent in China and Iran

Just weeks after the disputed presidential election in Iran, outside observers find themselves in a somewhat familiar situation: trying to piece together a sense of what is happening in China's Xinjiang Province in the aftermath of anti-government protests that turned violent.

July 07 (29 comments)

Dark Humor and Shouts in Response to Ahmadinejad Speech

Some Iranian bloggers joked that an insect that interrupted a televised address by Mahmoud Ahmadinejad on Tuesday was later arrested and would soon be forced to confess on state TV.

July 07 (115 comments)

Another Media Tour Goes Very, Very Badly for Chinese Authorities

Not for the first time in China, a governmentorganized tour for journalists went badly awry, when hundreds of protesters from an ethnic minority made an unscheduled appearance.

July 06 (17 comments)

Unrest Prompts a Web Clampdown in Western China

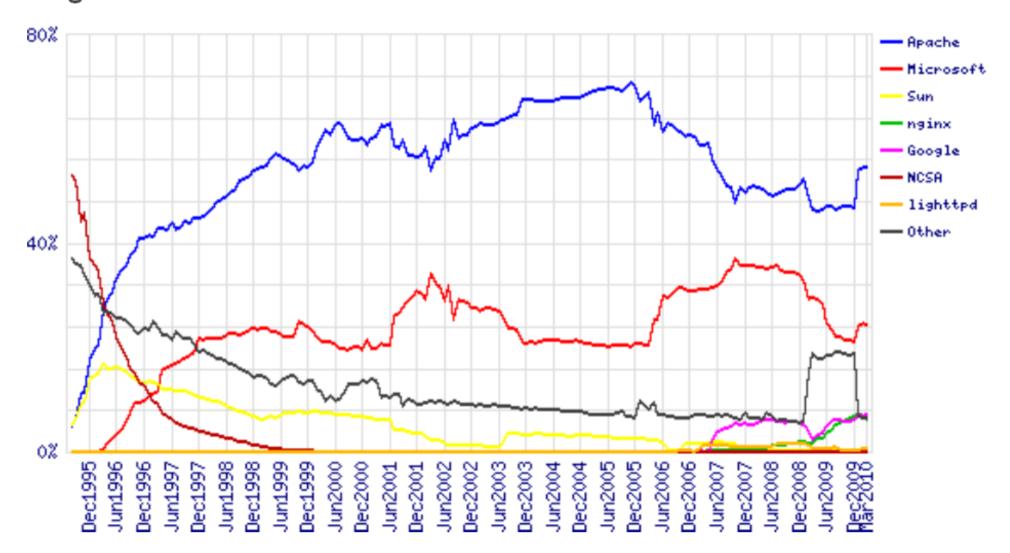
News of the unrest in Western China is trickling out despite China's clampdown on the Internet and social networking sites.





Free/Open Source Software

Market Share for Top Servers Across All Domains August 1995 - March 2010





Jimmy Wales, Wikipedia founder Social entrepreneurship gains new capacity of unparalleled effectiveness

Craig Newmark
Craigslist innovates and competes
with newspapers for local personals...



Networked Information Economy

- The most important inputs, into the core economic activities, of the most advanced economies, are widely distributed in the population
 - Material
 - Computation, sensing, storage, communications
 - Knowledge, information, insight
 - Creativity, intuition, experience
 - Social
 - foundation of new organizational forms

Networked Information Economy

- The most important inputs, into the core economic activities, of the most advanced economies, are widely distributed in the population
- Behaviors once on the periphery: social motivations, cooperation, friendship, decency, move to the very core of economic life in the most technically and economically advanced societies
- Low cost innovation, experimentation, rapid deployment, cheap failure make market innovation faster, more diverse

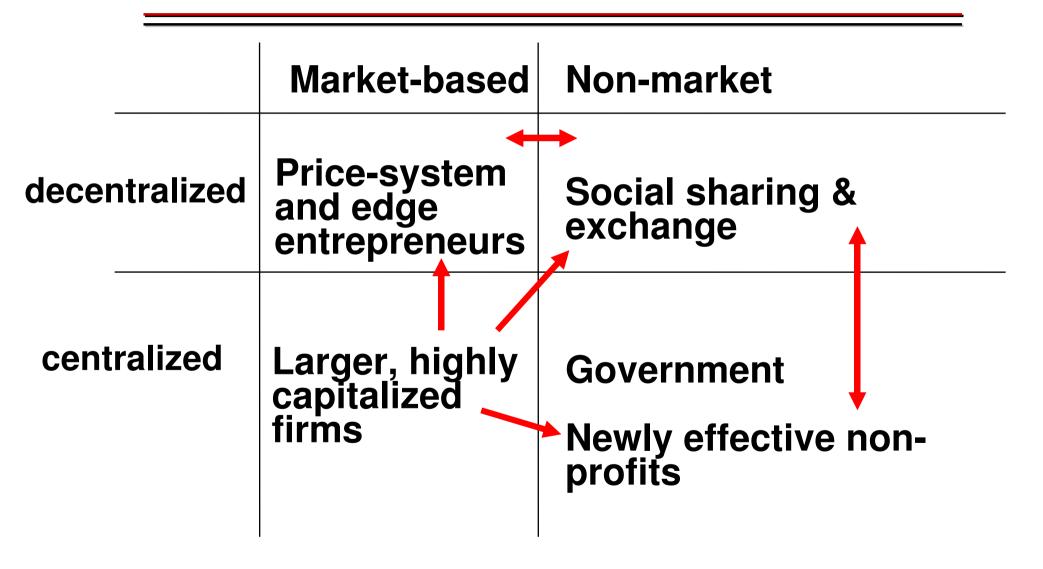
Commons-based production

- Symmetrically available freedom to operate: institutional, technical, organizational
- Individual or collaborative
- Commercial or noncommercial
 - increases the diversity of actors, motivations, transactional forms,
- Important because it decentralizes authority to act, paralleling what technology/economy has done for practical <u>capacity</u> to act

Four transactional frameworks

	Market-based	Non-market
decentralized	Price-system	
centralized	Firms	Government; Non-profits

Networked information economy destabilized the Second Industrial Divide



Innovation, participation, culture

- A networked information economy
 - facilitating rapid innovation through edge experimentation over an open system
 - With a new significant role for commonsbased and peer production
- A networked public sphere constructed through systems that harness diverse motivations and models
- A diverse and open system of cultural expression and meaning making

Characteristics of the global, networked information economy

- Change and complexity vs. predictability and "well-behaved" change
- Innovation and growth vs. efficiency and optimization
- "Scruffy," adaptive, learning systems with late-binding design vs. tightlycoupled, slower moving, optimized systems
- Open vs. closed



craigslist

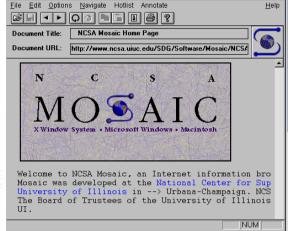








Google



From Computer Desktop Encyclopedia

Reproduced with permission.

© 2004 National Center for Supercomputing Applications









META-WIKI

WikipediA The Free Encyclopedia











Innovation, social and market, comes from the edge







Distributed innovation

- Low cost invention, prototyping, deployment, and experimentation
- Cheap failure; rapid learning
- Evolutionary process: high variation, selective pressure, adaptation
- Independent of & cumulative to mutualism with social production generally and peer production in particular

Social production

- Socially-motivated behaviors were once too costly to become effective as sustained economic activities
- Radically-decentralized capitalization makes possible pooled human and material resources to achieve effective alternative: in competition or in mutualism with market-based and statebased action

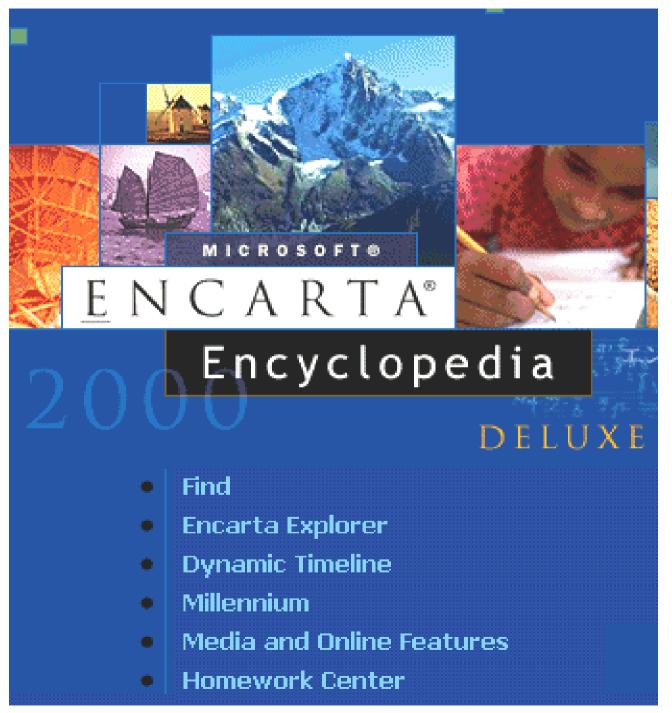
Information RULES

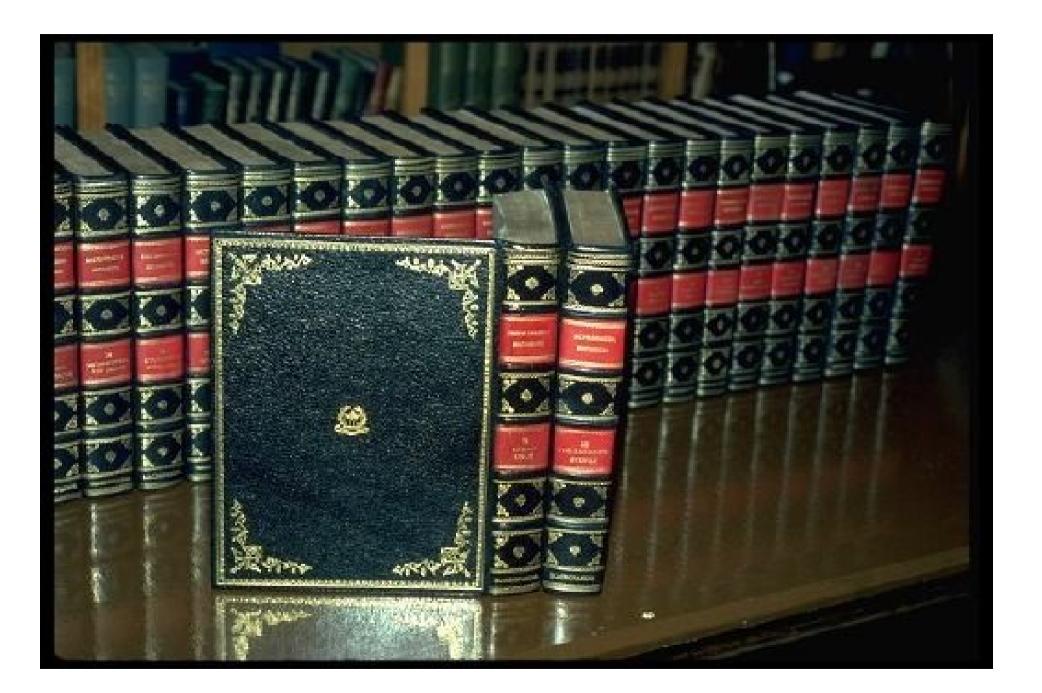


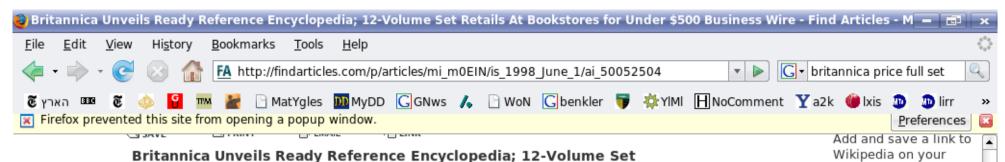
A Strategic Guide to the Network Economy

carl shapiro and hal r. varian

Harvard Business school press







Retails At Bookstores for Under \$500

Business Wire, June 1, 1998

CHICAGO--(BUSINESS WIRE)--June 1, 1998--

New Product Demonstrates Company's Commitment To Print

Encyclopaedia Britannica, Inc. today announced that it will begin selling a popular-priced encyclopedia in bookstores across the country. Called Britannica Ready Reference(TM), the 12-volume set will be available in June at a suggested retail price of \$499.

Affordable Britannica(R) Quality

"We are enhancing our print encyclopedia line to offer consumers more choices, especially parents who previously may have passed up Britannica due to price," said John Hallberg, senior vice present, worldwide marketing. "The Britannica Ready Reference gives families the legendary Britannica quality at a price they can afford."

The Ready Reference set consists of the first 12 volumes of the full 32 -volume Encyclopaedia Britannica. Containing 64,000 articles organized from A to Z, the Ready Reference provides an unmatched breadth of information on a variety of topics. Contributors include many leading authorities and Nobel Prize winners, such as Albert Einstein, Sigmond Freud and Milton Friedman. The articles are enhanced by more than 16,000 illustrations, maps and photographs. Also included with the set is the Britannica Year Book(R) which features the important people, events, disasters, discoveries and achievements that changed our lives in the past year.

Room To Grow

The most frequently used part of the full Encyclopaedia Britannica, the Ready Reference is designed as a starter set for families who expect to expand their reference resources as their information needs grow over time. With the initial investment in the Ready Reference, parents can add other reference tools such as the remaining volumes of the print encyclopedia or Britannica's electronic products.

Google homepage, free. www.google.com/ig/

Britannica

Take A Free Trial Of Britannica.com Trusted By Students Worldwide! Britannica.com

Telesales Marketing Svcs.

Learn about the right solutions for your business & get free auotes.

CallCenterComparison.com/Tell

Britannica

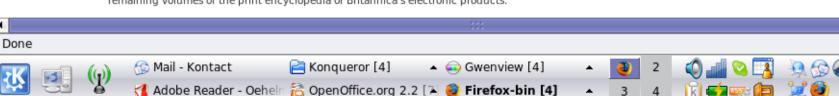
Browse a huge selection now. Find exactly what you want todav.

www.eBay.com

Improve Your Profit

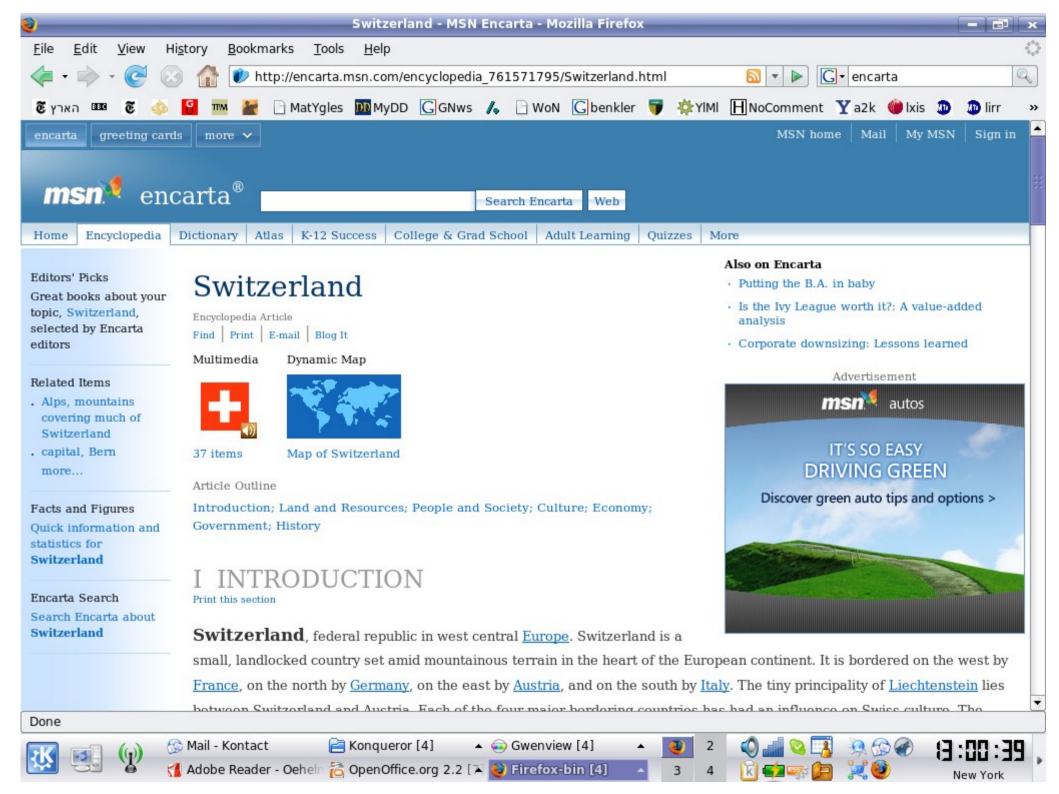
Perceived value pricing quickest way to improve profits. Learn more

www.atenga.com

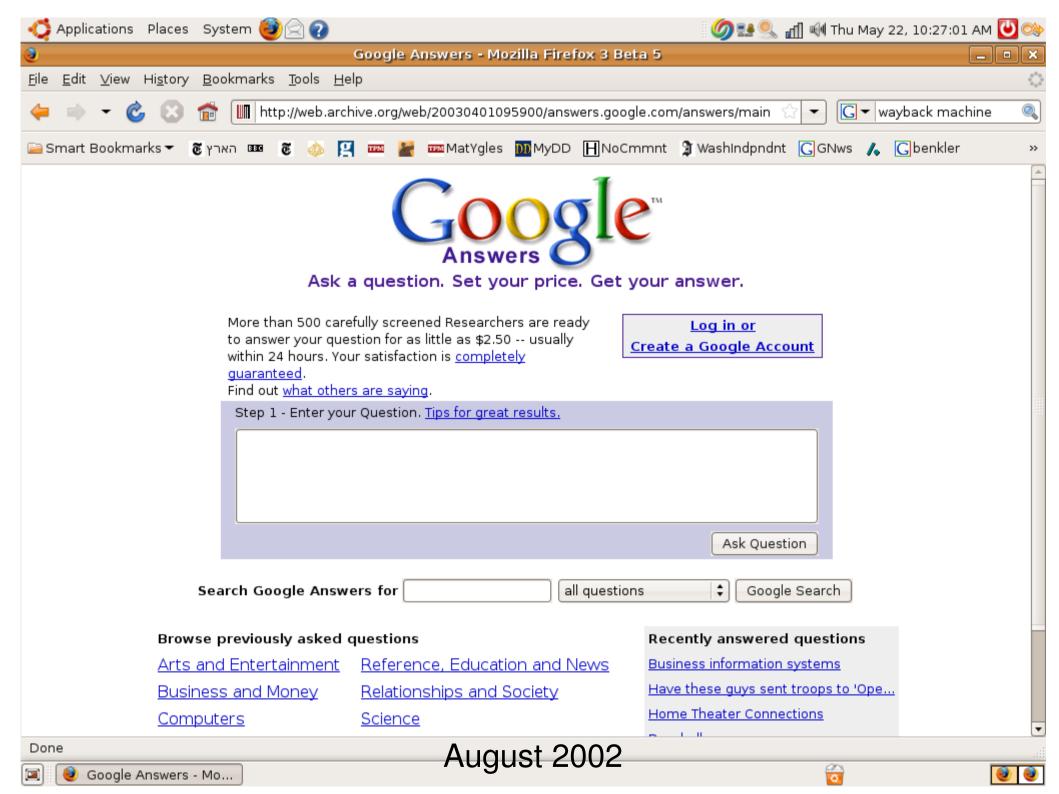


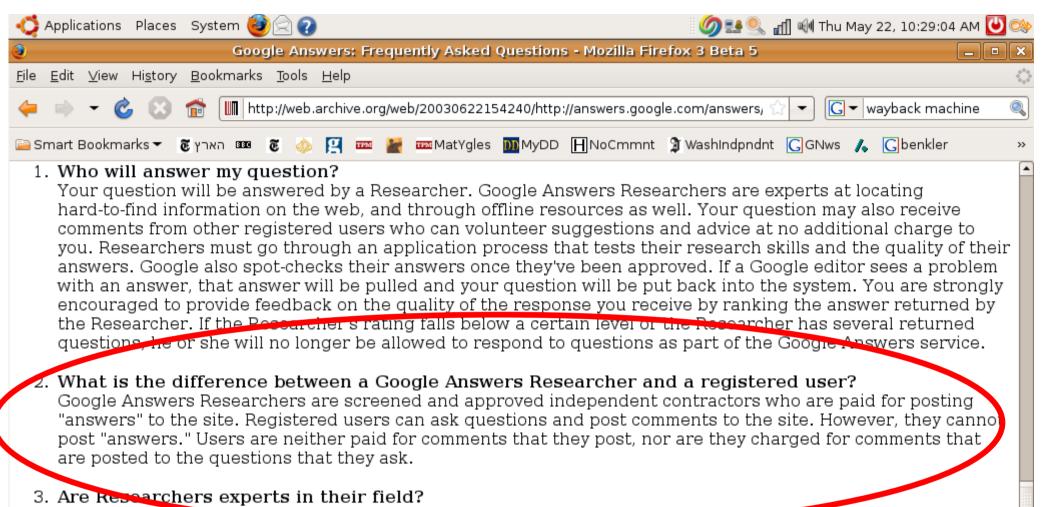












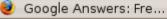
All Google Researchers are tested to ensure that they are expert searchers with excellent communication skills. Some of them also have expertise in various news. Your question may be answered by an expert in a particular field or by an expert searcher. Either way, if you are unsatisfied with your answer for any reason, you may apply for a full refund.

4. How does Google make sure Researchers provide high quality answers?

Google Answers has a stringent process for screening Researchers before they're allowed to participate. Each applicant must write an essay explaining why he or she wants to take part in the program and successfully answer a number of test questions. Once Researchers begin answering live questions, you're encouraged to rate their responses to ensure they continue to provide useful information. If an individual's rating falls below an acceptable level, he or she will no longer be allowed to participate as a Researcher.

Done

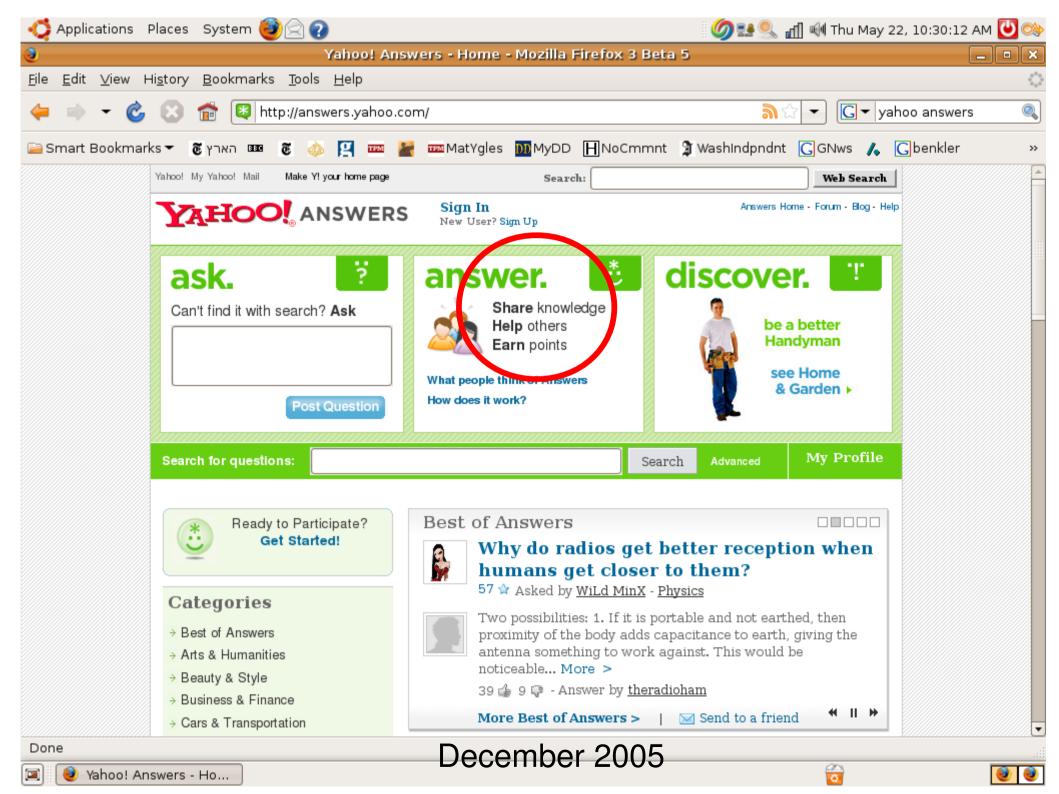


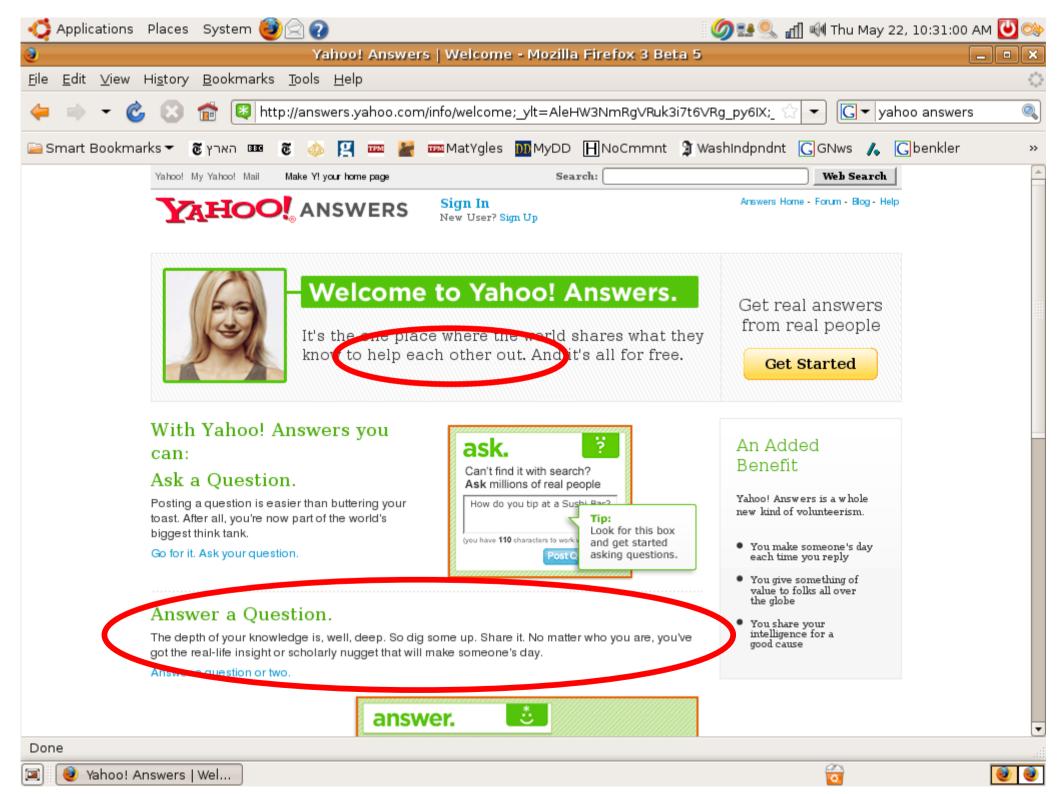
















Search Answers

Google Answers is no longer accepting questions.

where sorry, but Google Answers has been retired, and is no longer accepting new questions. Search or browse the chisting Google Answers index by using the search box above or the category links below.

Arts and Entertainment Reference, Education and News

Business and Money Relationships and Society

<u>Computers</u> <u>Science</u>

Family and Home Sports and Recreation

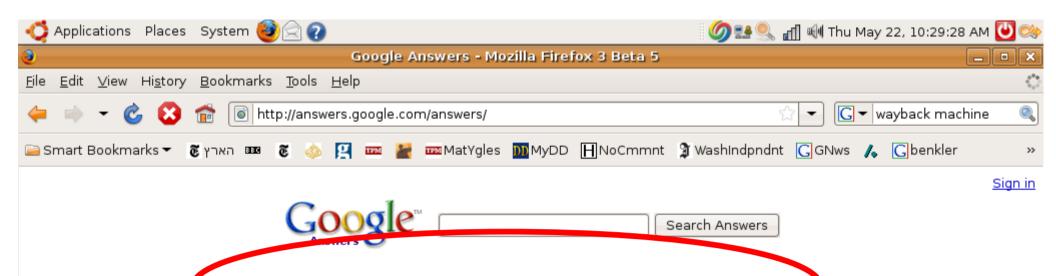
<u>Health</u> <u>Miscellaneous</u>

Google Home - Answers FAQ - Terms of Service - Privacy Policy

©2008 Google







Google Answers is no longer accepting questions.

We're sorry, but Google Answers has been retired, and is no longer accepting new questions. Search or prowse the existing Google Answers index by using the search pox above or the category links below.

Arts and Entertainment

Reference, Education and News

Business and Money

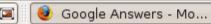
Relationships and Society

Computers

Science

Harper/Refaeli groups 2008: Money improves quality & quantity but community matters greatly, is sensitive to design, and seems to do better than lone expertise

Looking up www.google-analytics.com

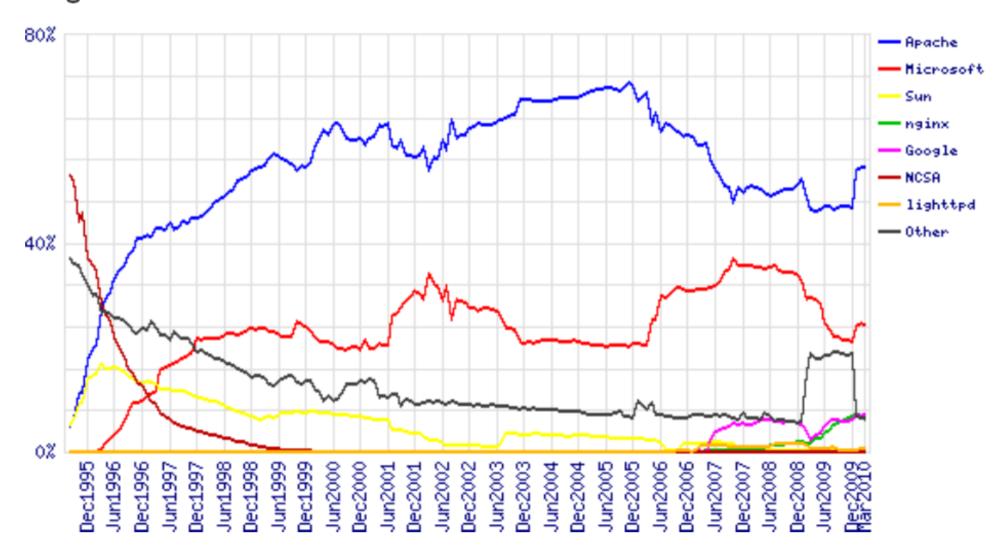




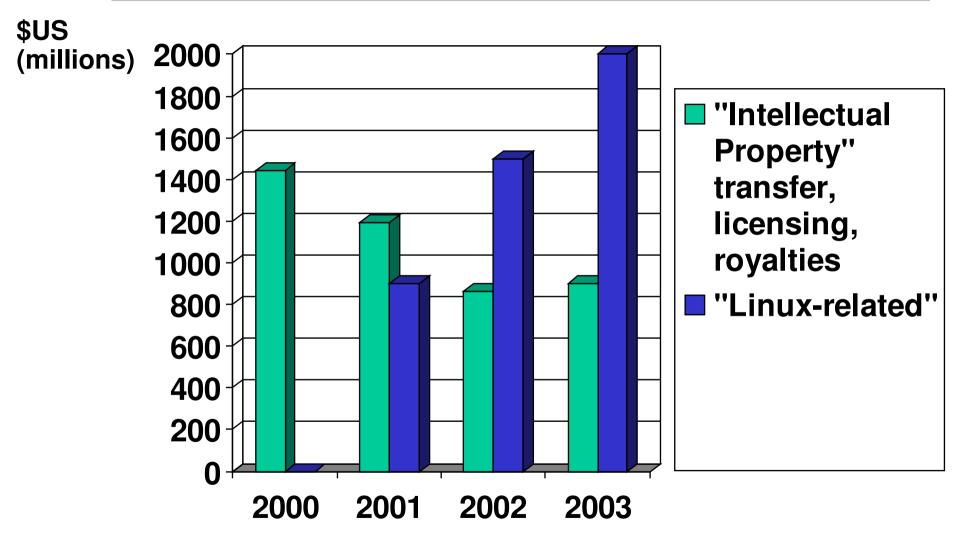


Free/Open Source Software

Market Share for Top Servers Across All Domains
August 1995 - March 2010



Selected IBM revenues



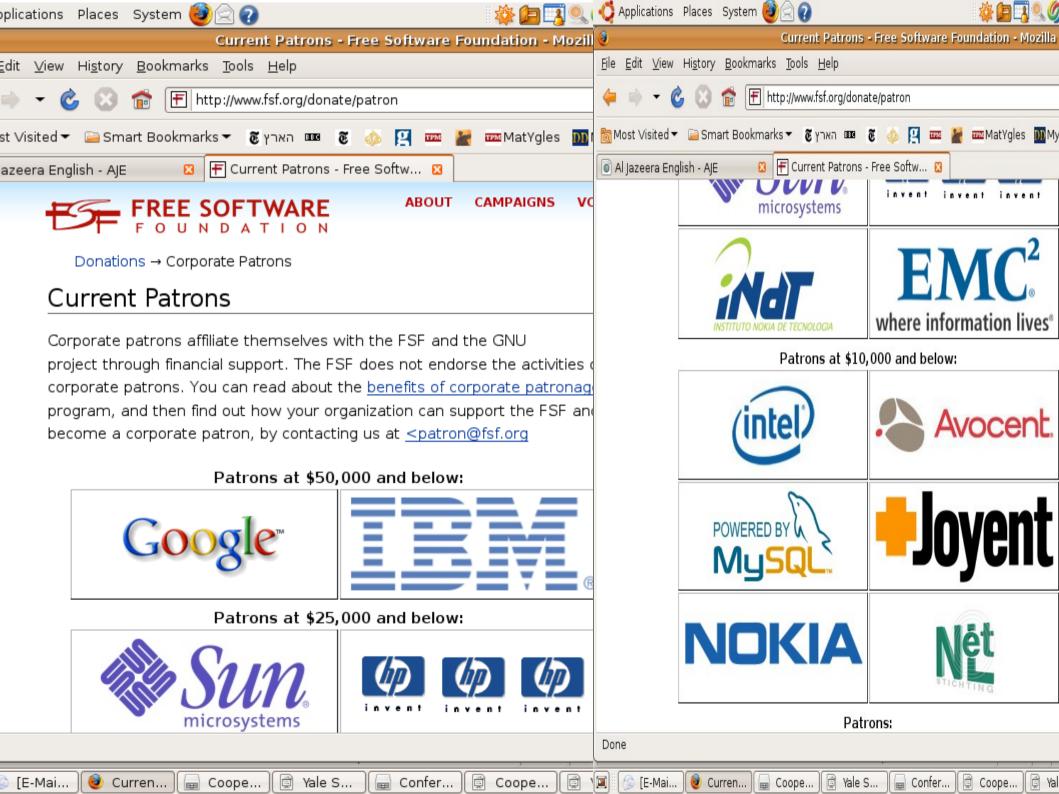
Sources: IP income: IBM annual reports

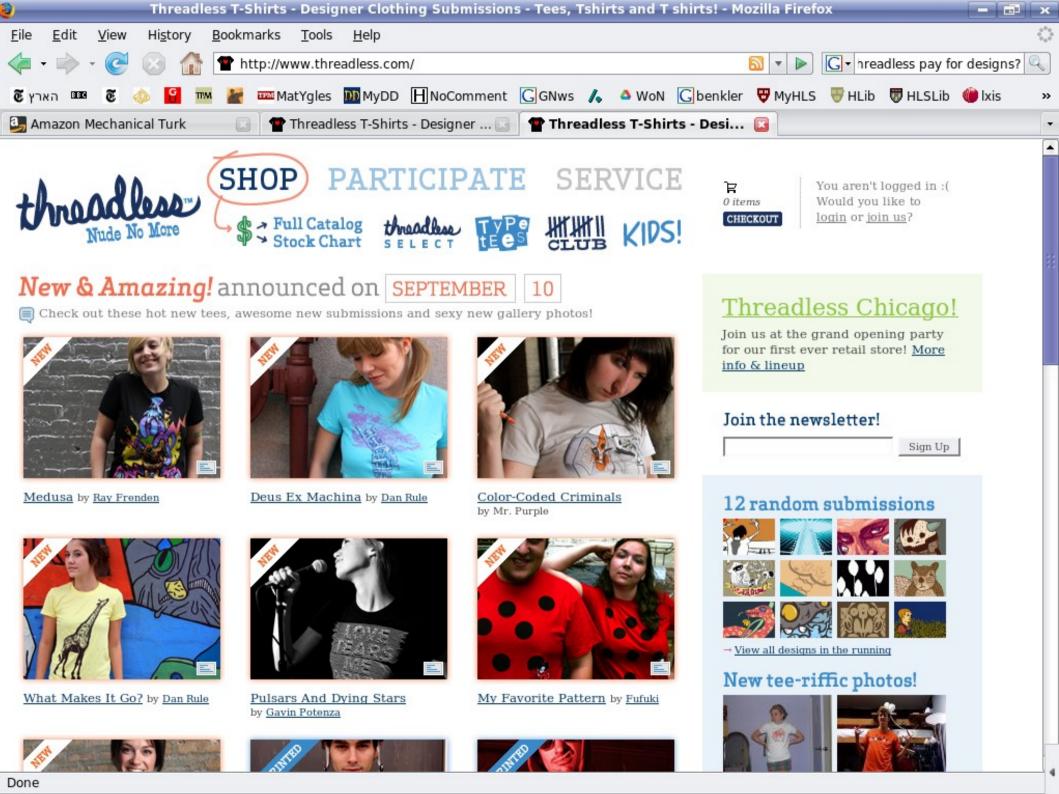
"Linux-related":

2003 Forbes Magazine, http://www.forbes.com/forbes/2004/0607/086_print.html

2002 CNET News http://news.com.com/2100-1001-981633.html

2001 CNET



















Þ 0 items CHECKOUT

You aren't logged in :(Would you like to login or join us?

You wear their designs, now read their thoughts!



Yeoh Guan Hong from Wanganui, New Zealand

Yeoh Guan Hong has won 4 times ... Love*Rain, Nature Call!, Finding Rhinoceros, After Show



Rodrigo William Rimes Rezende

from Rio de Janeiro, Brazil http://www.rwr2.com.br

Rodrigo William Rimes Rezende has won 1 time...

Pexe





Mr. Toxic Waste by Jan Avendano



Ross Zietz

from Baton Rouge, LA, USA www.rosszietz.com

Ross Zietz has won 17 times...

Squeaked, Eighty One Gemini, Pandamonium, A Fathom Farewell, Fred and the Giant Eel, Piece of Meat, On The Plains, Loch Ness Imposter, Regrowth: Katrina, Vegetarians are Eating the Rainforests, 99 Luftballons, Satan's Little Helper, Infinity MPG, In A Comic, Home Is Where The Heart Is, Phascolarctos Cinereus, Strength In Numbers



Kristy Anne Ligones from Cagayan de Oro, Philippines http://www.freewebs.com/subconagileverie

Kristy Anne Ligones has won 1 time... Dead Sucker



Aled Lewis from London http://www.aledlewis.com/

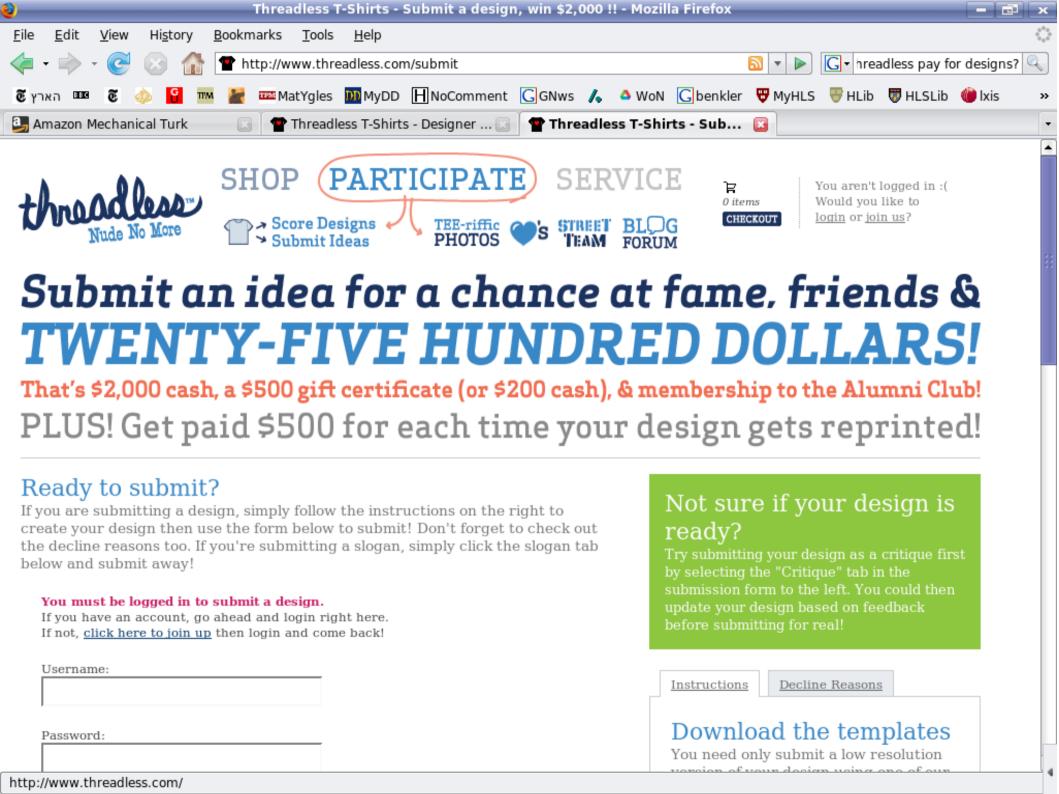
Aled Lewis has won 5 times... Party Pieces, I'm Sure I Used To Fit Keening It Real Rhings Hunt In Dacks She



Para Poppins by Stanislas GIROUX

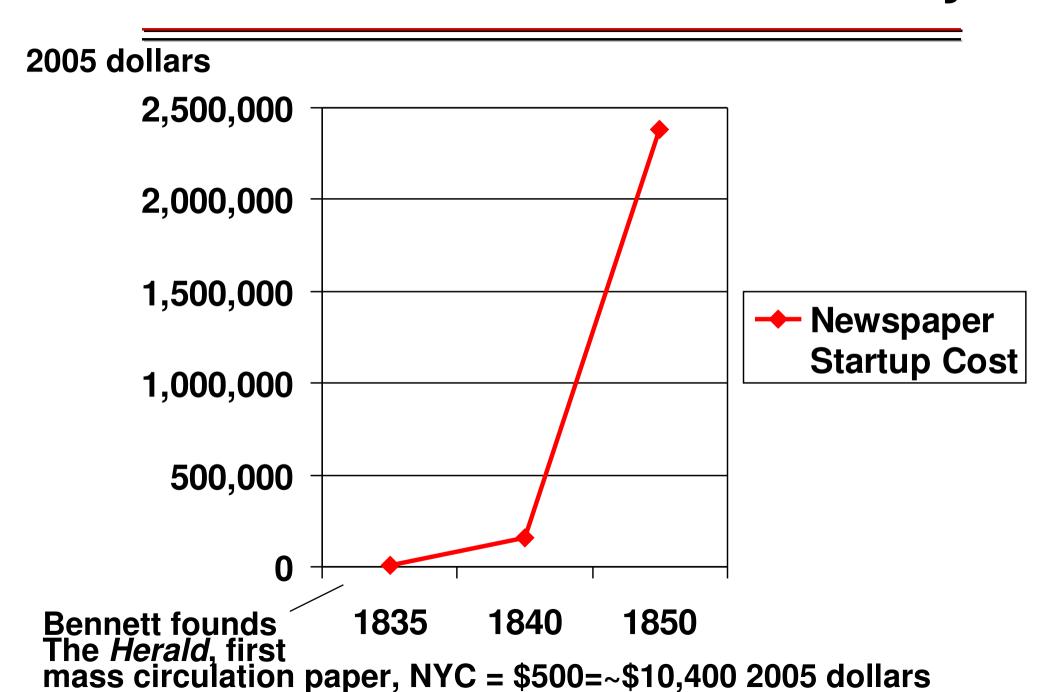




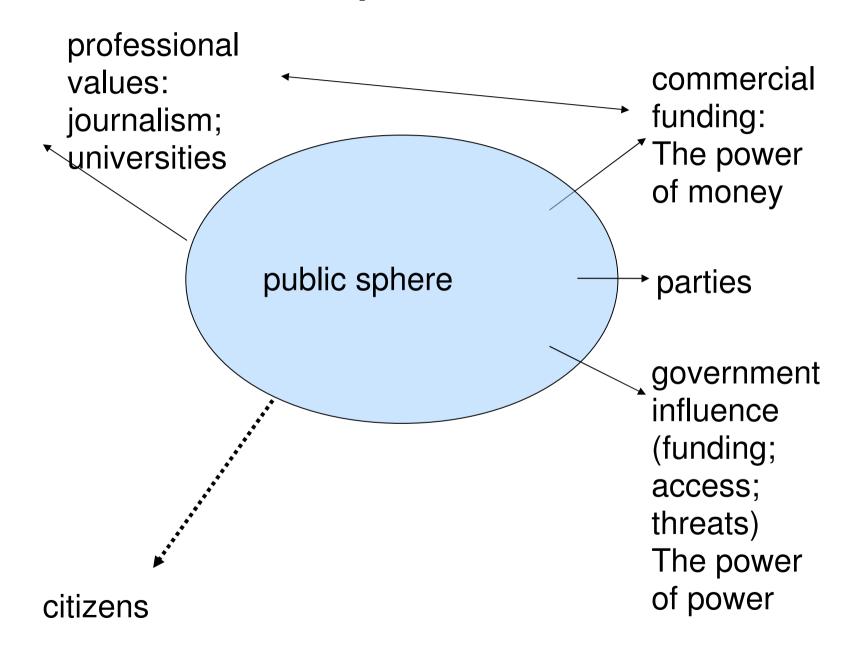




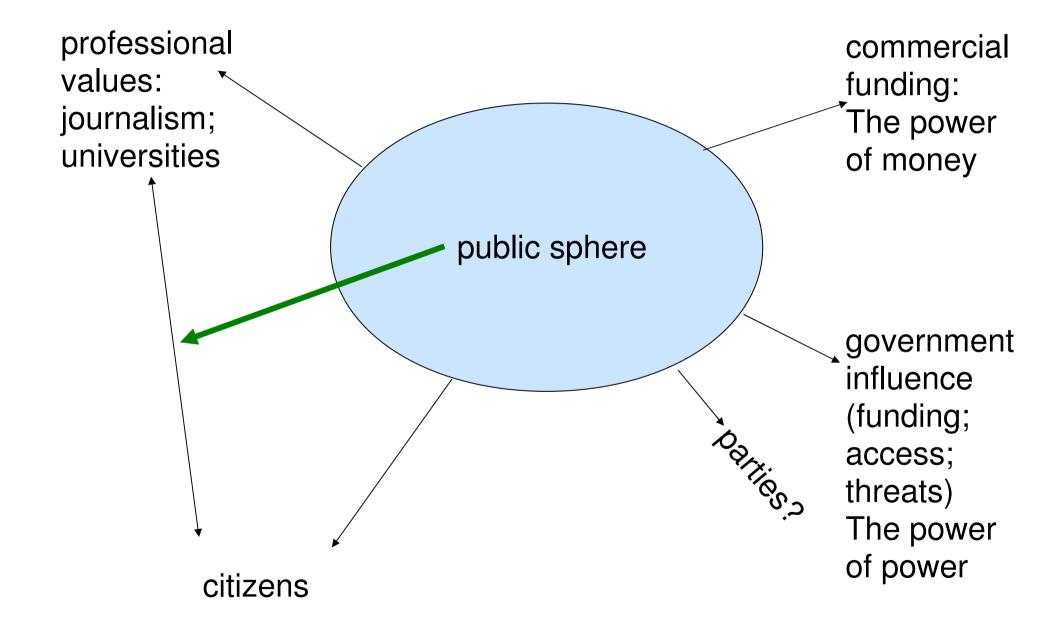
Industrial Information Economy



The Mass Mediated Public Sphere



The Networked Public Sphere



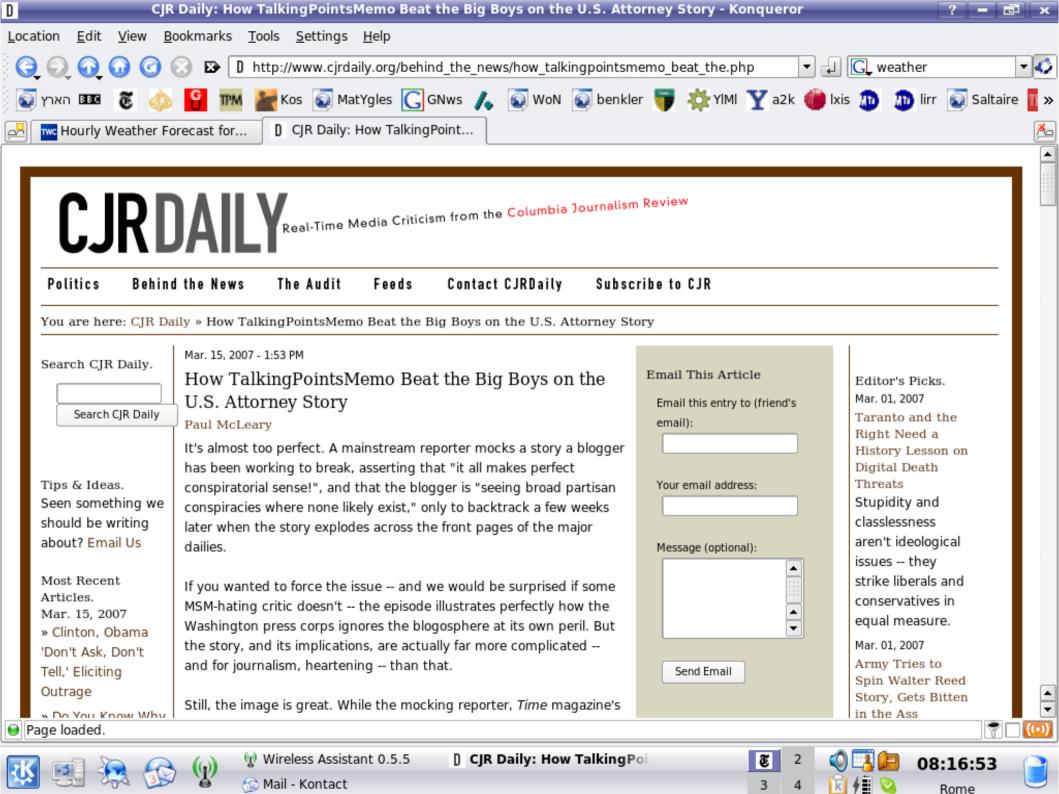
Destabilized categories of power

- Consumers/Producers => users
- Authority
- Quality, accreditation
- Capital as a proxy for authority, quality, accreditation destabilized
- Practices of skeptical reading
 - "how can you trust what you see on the Net" leads to skeptical reading;
 - "trust the NYT" leads to Iraq WMD coverage
- Maybe erosion of "there's nothing I can do about it"

An emerging networked public sphere

- A few large commercial/professional news organizations, with global reach
- Distributed social action:
 - politically mobilized peer production platforms; a new party press system on a volunteer model (dailyKos)
 - Individual research and expression in networked clusters of mutual linking
- Low cost, low profit commercial models, engaged with peer producers (TPM)
- Nonprofit increased efficacy because of lower costs and capacity to leverage distributed social action (Sunlight)









About In the beginning

Founders

Glenn Reynolds N.Z. Bear

Pork Issues

Pork Hall of Shame HHS Earmarks Who Put a Secret Hold on Government Transparency?

WHO IS THE SECRET HOLDER?

Senators Tom Coburn and Barak Obama have proposed <u>s.2590</u>, legislation that would create a single website with access to information on nearly all recipients of federal funding. The bill cannot proceed, however, because <u>one or more Senators placed a "secret hold" on it.</u>

Who is the secret holder? We want to know, and we want your help finding out. Call your Senator, and ask them to go on the record denying that they placed the hold. Then <u>e-mail Porkbusters</u> and let us know what they said! Senators who issue denials will be removed from the suspect list --- and those who do not, won't!

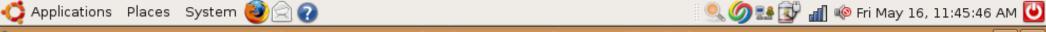
UPDATE 8/30 pm:

Revealed! Senator Ted Stevens' staff acknowledges that he has placed a hold on the bill.

General Pork

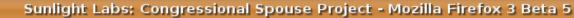


Done



MatYgles MyDD HNoCmmnt Washindpridge GNws 16 Gbenkler

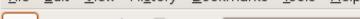
MUCKRAKER



PAID

Edit View History Bookmarks Tools Help

g



Smart Bookmarks ▼

STATE



Citizen Muckrakers have investigated 438 members of Congress, and tentatively found 19 spouses who

were paid by a member's campaign committee-totaling some \$636,876 since January 1, 2005.

SPOUSE

Possible Congressional Family Businesses

€ הארץ **פוס** הארץ

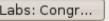
REPRESENTATIVE

TX	Barton, Joe	Тепі	\$27,637	KCinDC
NY	Boehlert, Sherwood	Marianne Willey	\$35.430	beezling
IL	Davis, Danny K.	Vena	\$10.543	beezling
PA	Doyle, Michael F.	Susan	\$31,673	KCinDC
AZ	Flake, Jeff	Cheryl	\$15,750	KCinDC
CA	Gallegly, Elton	Janice Shrader	\$42.404	Hells Bells
TX	Gohmert, Louie	Kathy	\$53,261	anonymous
sc	Inglis, Bob	Mary-Anne	\$28,960	beezling
KY	Lewis, Ron	Kayi	\$37,552	VaAntirepublican
CA	McKeon, Howard P.	Patricia Kunz	\$78,287	anonymous
он	Ney, Robert W.	Elizabeth	\$25,598	beezling
CA	Pombo, Richard W.	Annette Rena Cole	\$52,950	KCinDC
CA	Rohrabacher, Dana	Rhonda Carmony	\$40,502	KCinDC
IL	Rush, Bobby L.	Carolyn Thomas	\$5,398	anonymous

Done



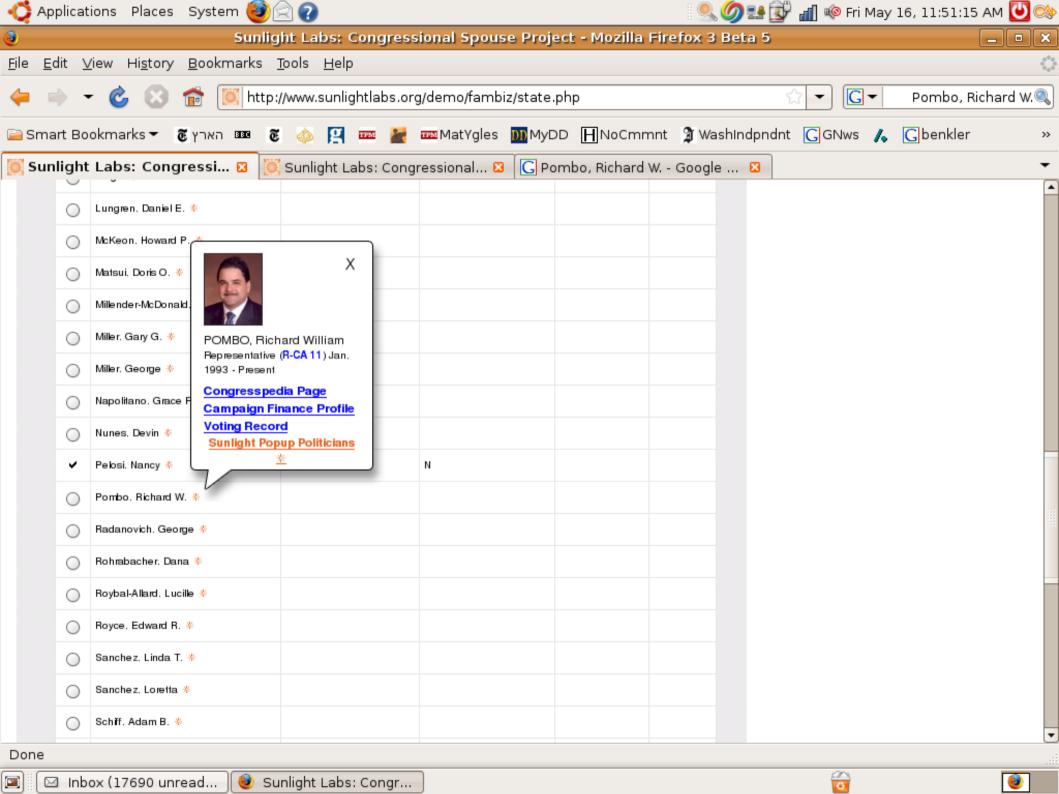


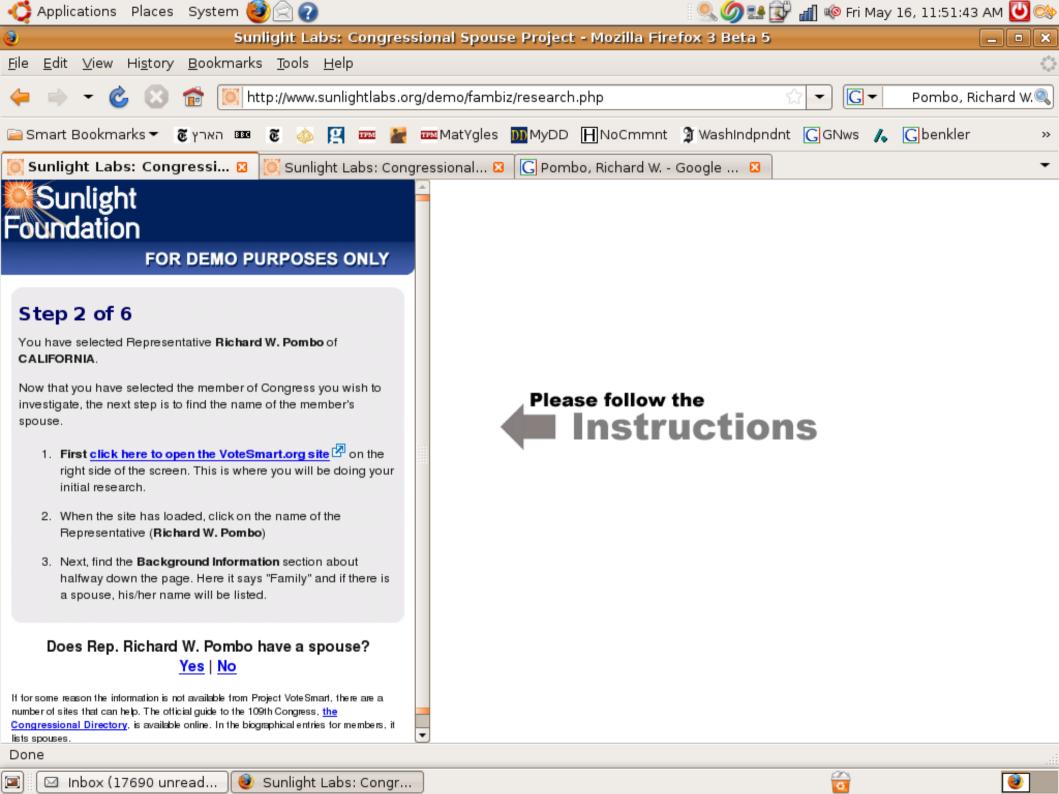


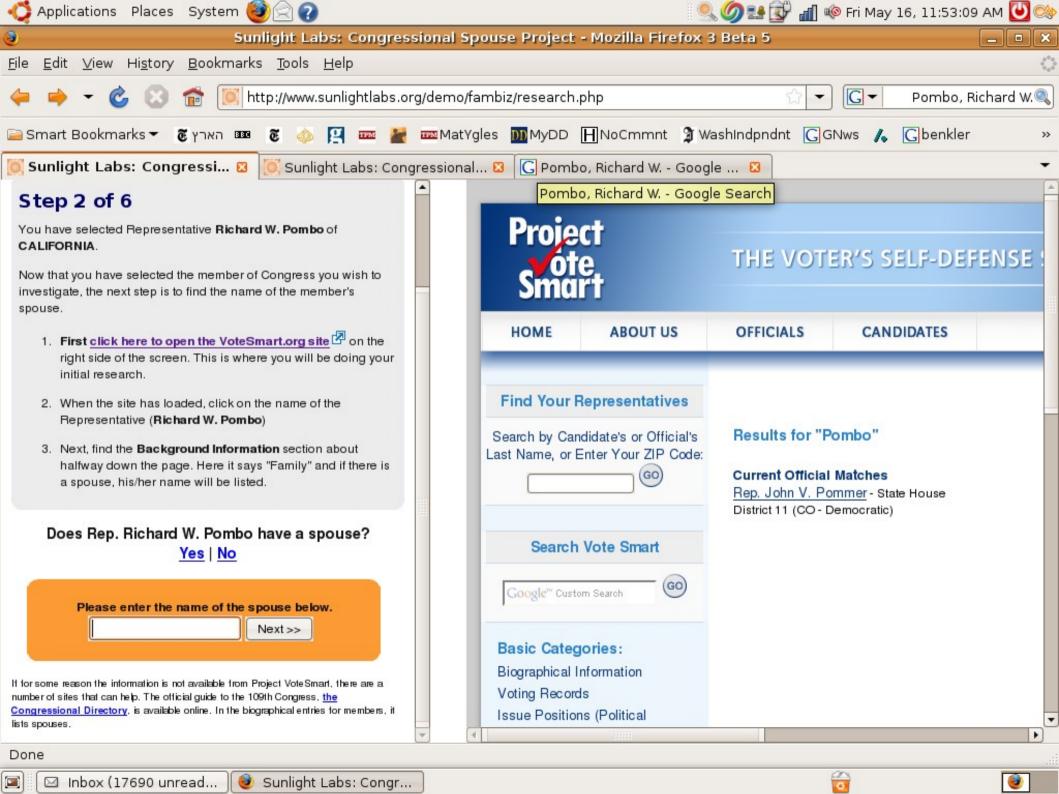


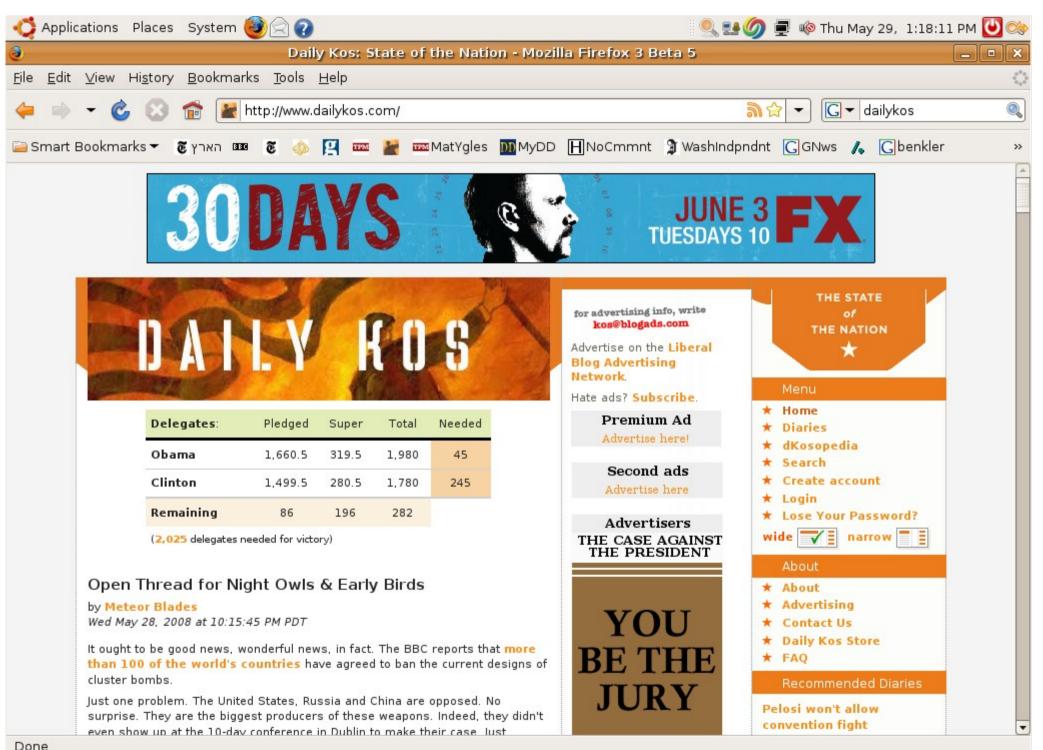


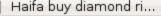
G ▼ sunlight foundation





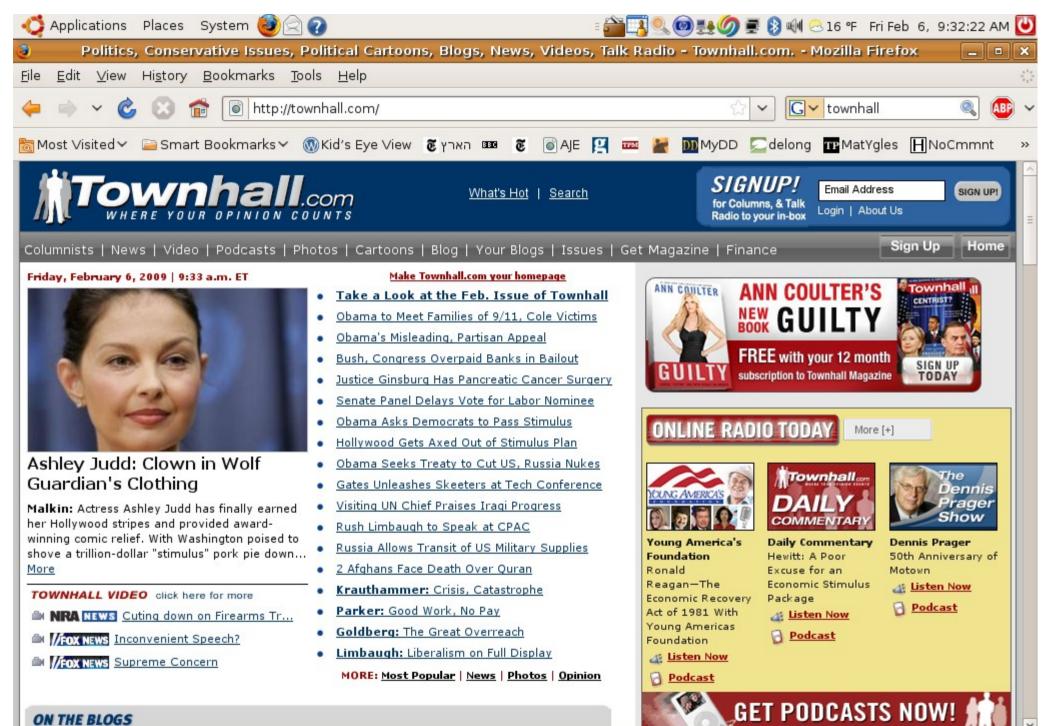






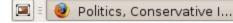






ON THE BLOGS

Done







Daily Kos :: About Daily Kos - Mozilla Firefox

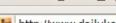
History Bookmarks Tools Help Edit View



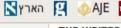
lost Visited ✓

































Markos Moulitsas Zúniga

Founder, Daily Kos

Markos Moulitsas Zúniga is founder and publisher of Daily Kos, the largest progressive community blog in the United States. Named "the single most successful entrepreneur of the progressive movement" by NY Times magazine writer and author Matt Bai, Moulitsas is also co-author of the critically acclaimed book Crashing the Gate: Netroots, Grassroots, and the Rise of People-Powered Politics, author of Taking on the System: Rules for Radical Change in a Digital Era, a contributing columnist to Newsweek Magazine and a weekly columnist at The Hill newspaper. He was named one of the 100 Most Influential



Hispanics in the world by People en Español, clocked in at third in Forbe's Web Celeb 25 rankings, and was listed 26th in PC World's list of the "Most Important People on the Web".

Moulitsas was born on September 11, 1971, in Chicago, IL. The son of a Salvadoran mother and Greek father, Moulitsas spent his formative years in El Salvador (1976-1980), where he saw first-hand the ravages of civil war. His family fled threats on their lives by the communist guerillas and settled in the Chicago area.

After high school, Moulitsas served in the U.S. Army (1989-92) as a 13P --Multiple Launch Rocket System (MLRS) Fire Direction Specialist. He trained at Ft. Sill, Oklahoma and served the remainder of his three-year enlistment in Bamberg, Germany. While he entered the Army as a Republican, he abandoned the GOP soon after his enlistment.

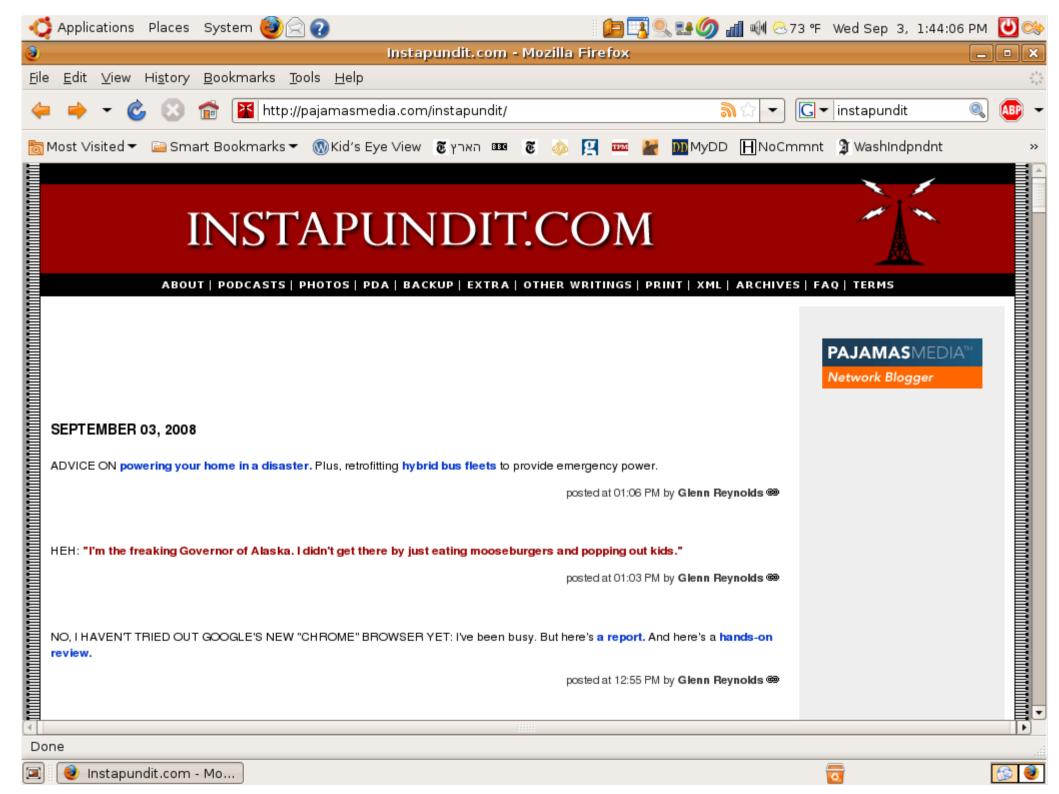
Moulitsas earned two bachelor degrees at Northern Illinois University (1992-96), with majors in Philosophy, Journalism, and Political Science and a minor in German. He subsequently earned a J.D. at Boston University School of Law (1996-99) before deciding that it would be a cold day in hell before he ever worked as a lawyer.

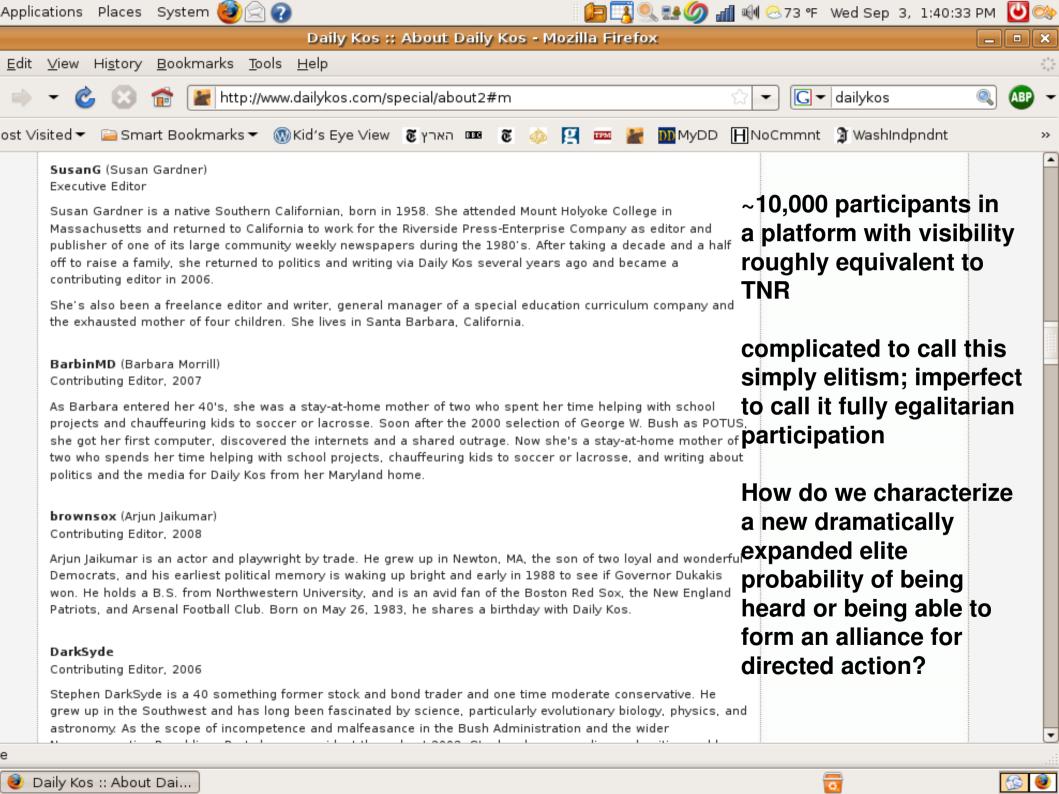
He headed West to the San Francisco Bay Area to make his dot.com millions but got nowhere. He worked as a project manager at a web development shop when, in 2002, he started Daily Kos. Moulitsas flirted with political consulting in 2003, but that didn't last long, and he has focused on Daily Kos full-time since early 2004.

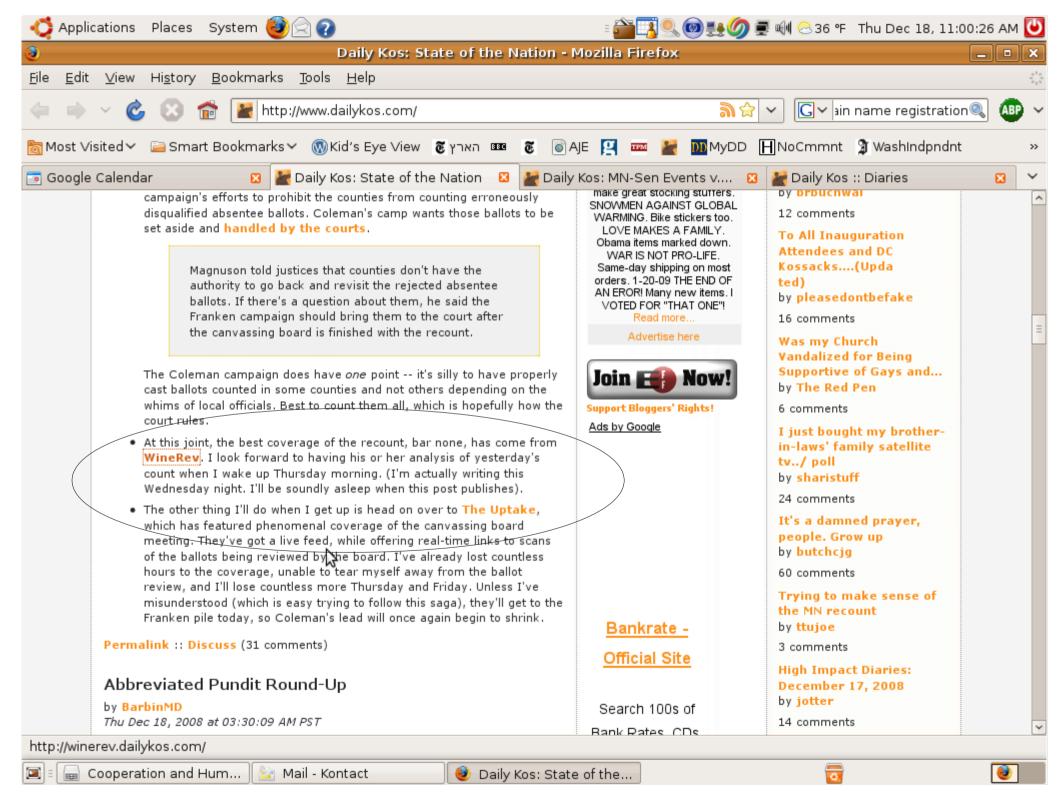
In addition to running Kos Media, LLC, which publishes Daily Kos, Moulitsas is also founder of venture-backed SB Nation network of sports blogs. He's an avid planist and composer.

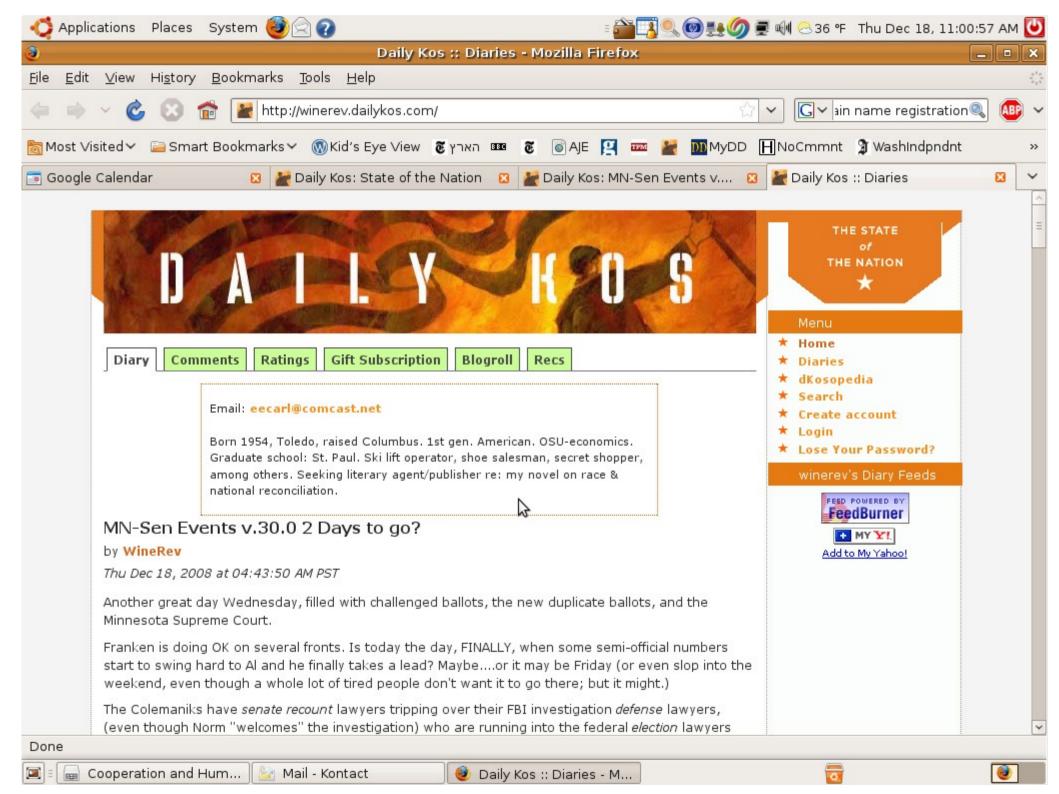
Moulitsas has been happily married since 2000. He has a wonderful boy, Aristotle, born in November 2003 and a

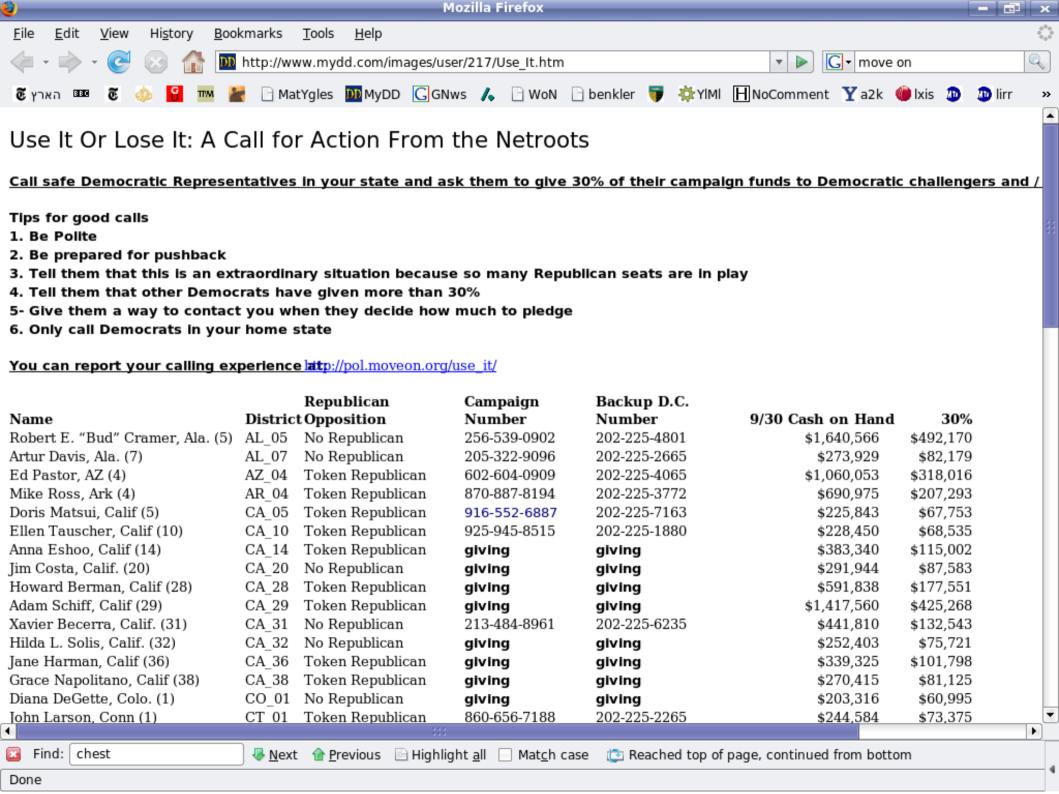
Are bloggers merely a replication of existing elites?

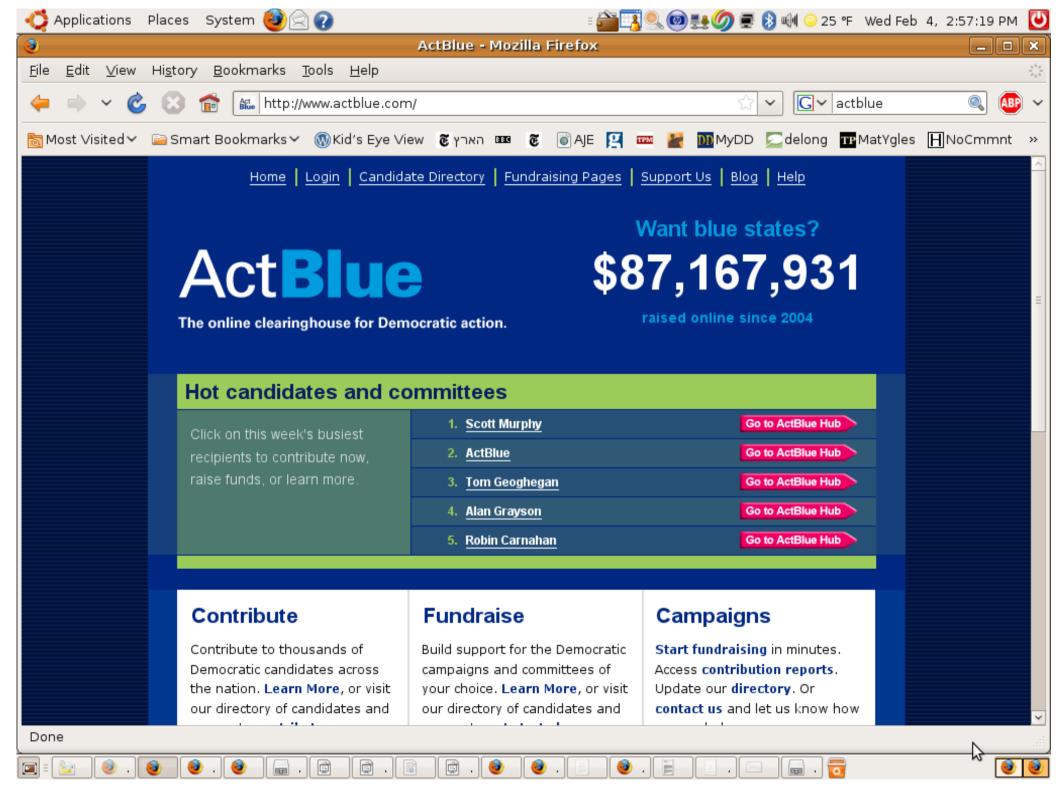






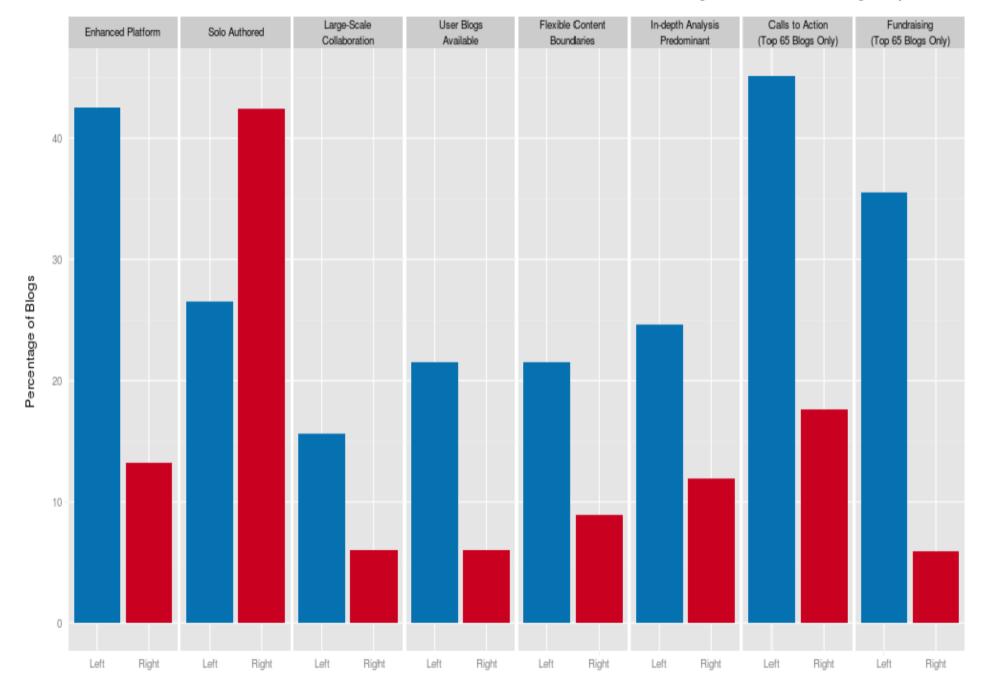






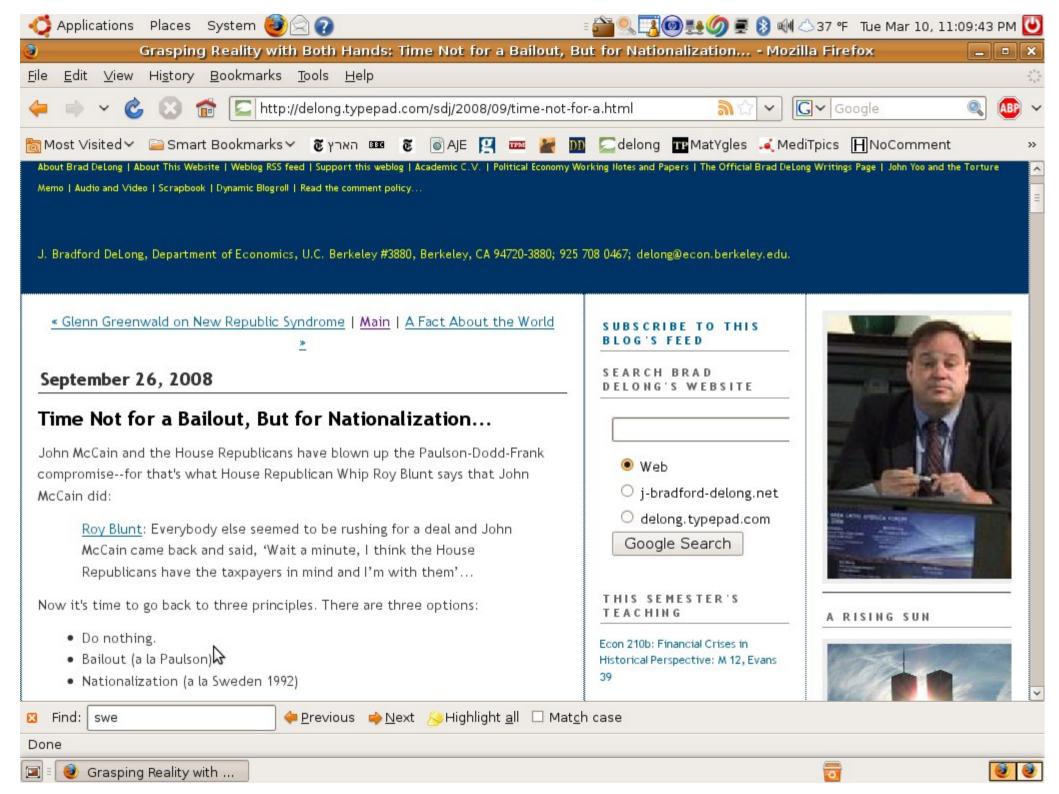
Benkler, Shaw, and Stodden 2010 (forthcoming) Top 155 U.S. political blogs

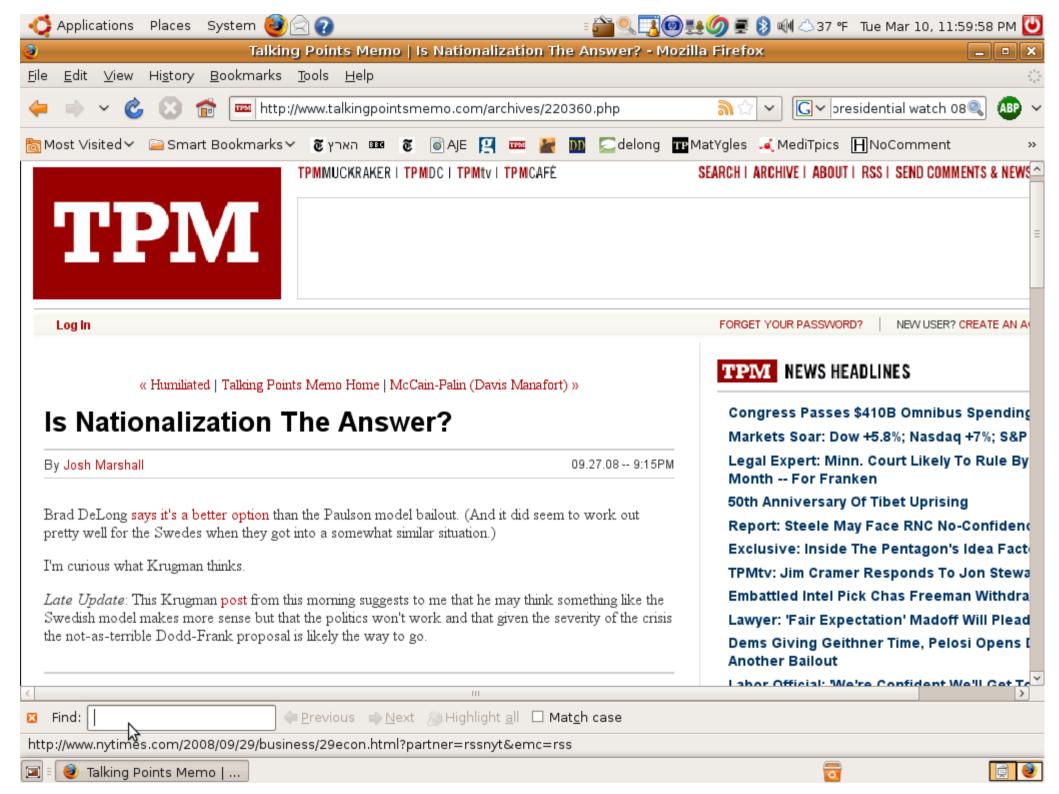
Significant differences between left and right Figure 6: Summary of Significant Differences wings in U.S. blogosphere

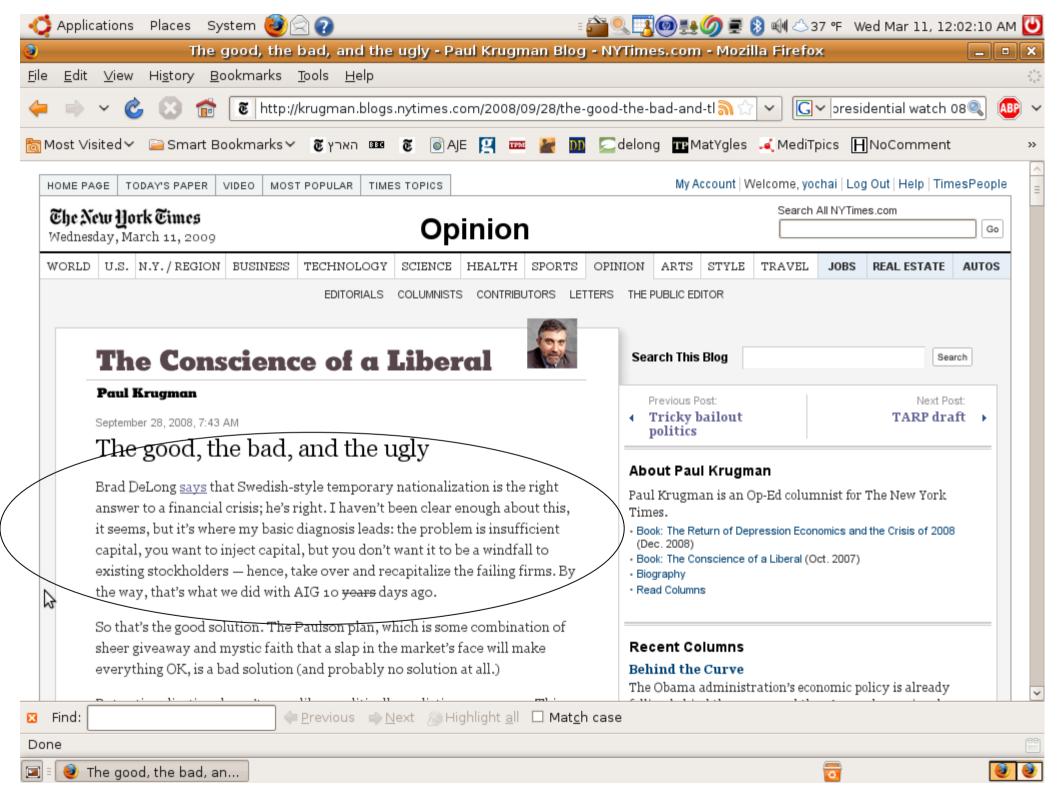


Who can participate in setting the public agenda?

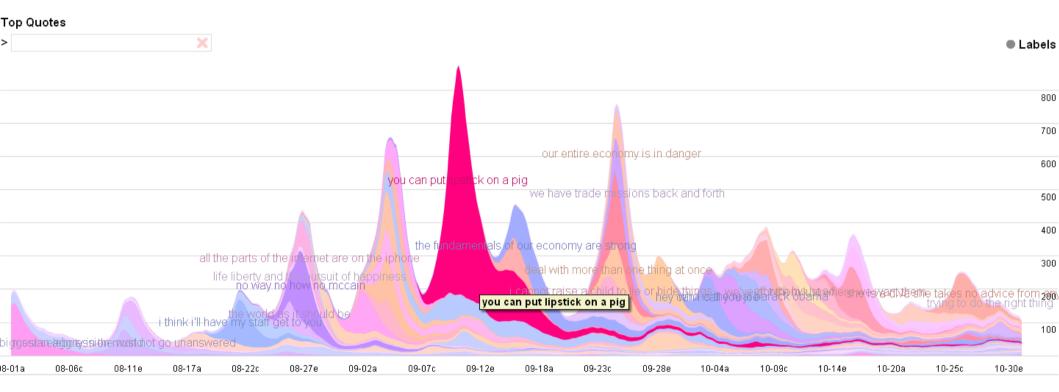
- Drezner & Farrell (2004):
 - Bloggers can set agenda through mainstream media informing itself about views on the cheap
- Benkler (2006)
 - An attention backbone building on topical clustering, speakers on the periphery can be identified by major sites and broadcast iteratively to higher-level visibility
 - Large scale sites become their own platforms for participation and mobilization

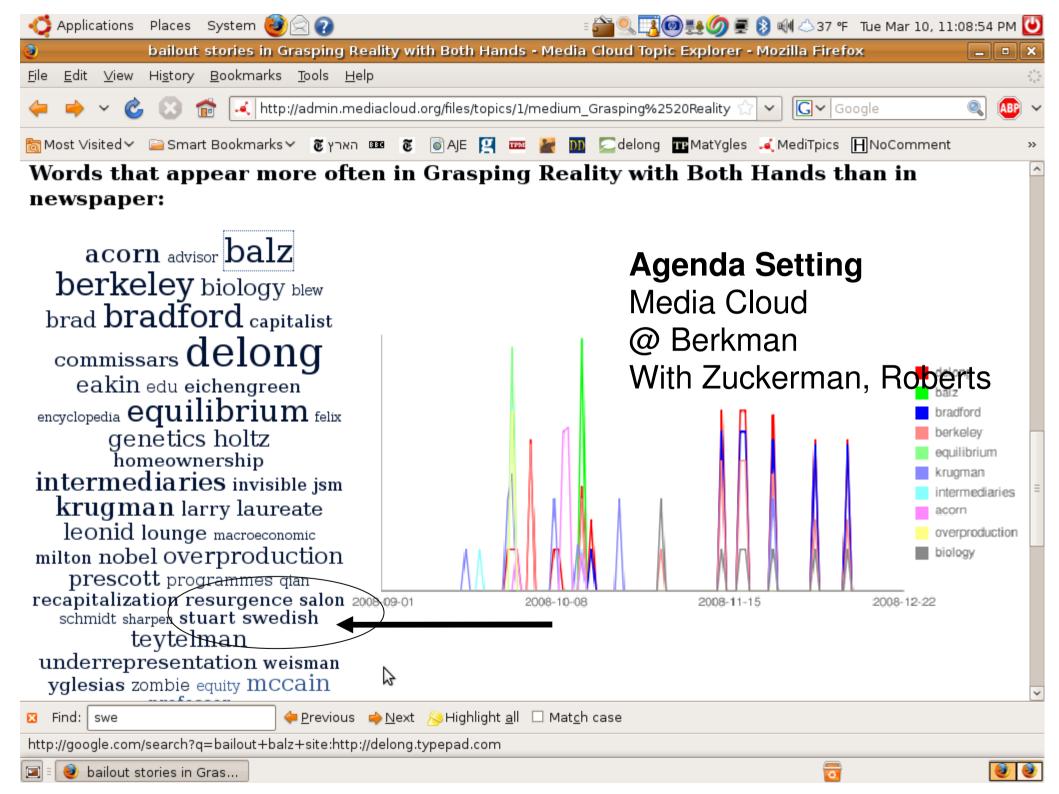


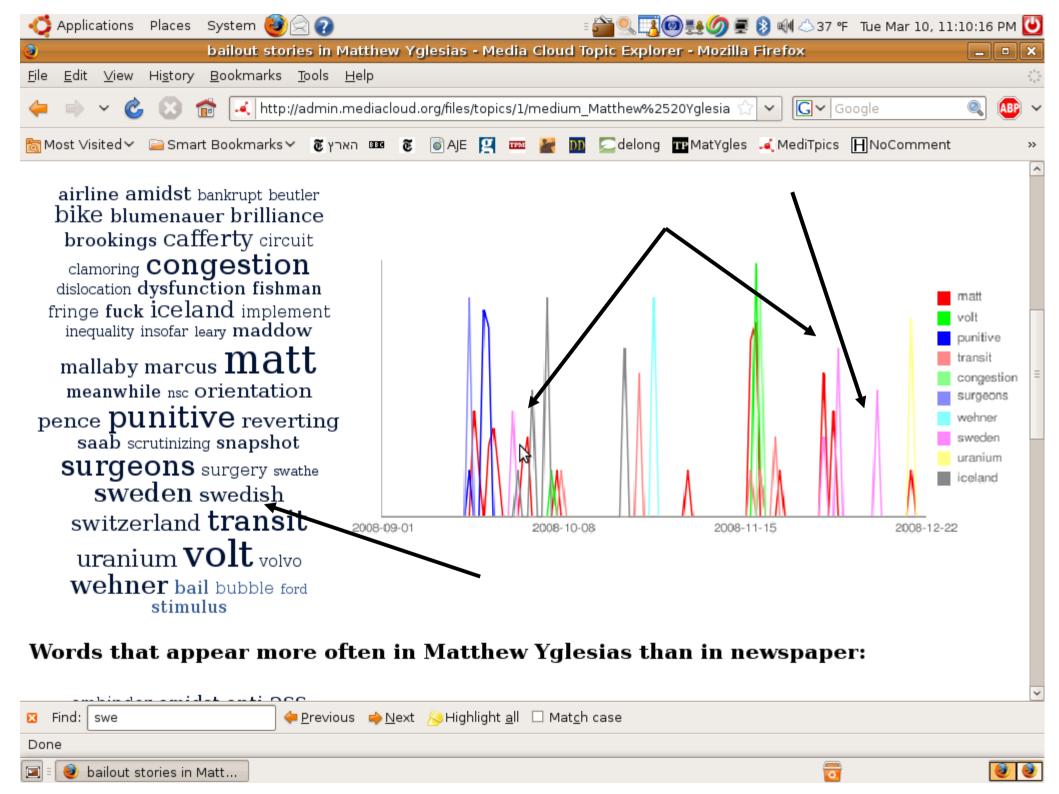


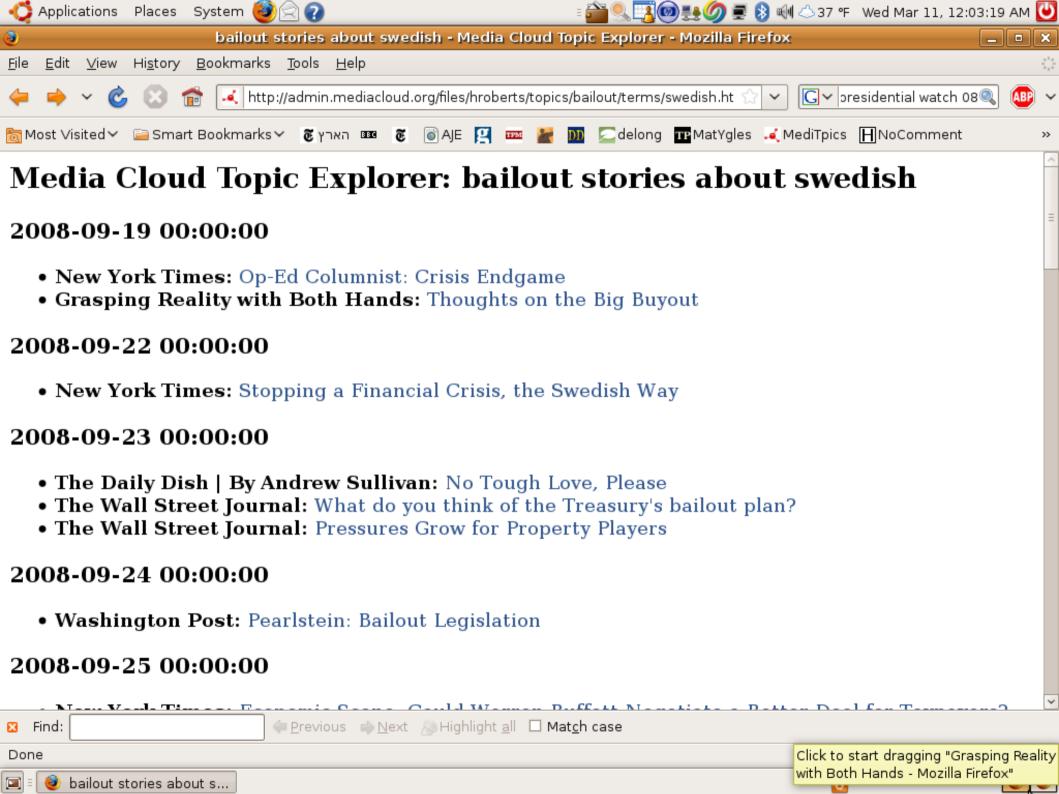


Memetracker: (Leskovec, Backstorm, and Kleinberg)









More democratic, after all

- Not "everyone a pamphleteer"; but we are also not all intellectual lemmings
- Structured web offers more visibility, to more people
- Strong "see for yourself" ethic
- Greater practical capacity to organize
- At a minimum, an expanded elite
 - Is a shift from several thousand to a few million out of 300 million significant?

Debating "creationism" on Wikipedia talk pages

Yes, you may choose to view the question as a two-sided debate. Others, however, have been shown to view the question on other terms. Some see the split three ways: special Creation only, secular evolution only, and God-guided evolution. Your point seems to be focused on what people teach in a science class - which is only one small part of this question. Many "creationists" are very willing to leave science to science. Rlsheehan (talk) 22:28, 22 April 2008 (UTC)

No! I *do not* "choose to view the question as a two-sided debate" -- I *describe* what many prominent *participants* see as a two-sided debate. There is no "third way" unattached to either side. Your "Godguided evolution" is made up of TEs who side with what you describe as "secular evolution" and consider ID to be pseudoscience and IDers who side with the YECs and consider TE to be intellectually dishonest. This whole controversy is about "what people teach in a science class" -- it has been from Scopes through to Dover. Your entire argument is nothing but WP:OR, and you have

presented no <u>WP:RS</u> supporting the existence of a *coherent and cohesive* 'middle ground' (i.e. one that does not ally itself with the more extreme wings on either side), or what specific views this mythic creature might possess. Lacking such sources, this has no relevance to the article, and no place on this talkpage. <u>Hrafn^{Talk}</u> Stalk 11:23, 23 April 2008 (UTC)

Please be careful of <u>WP:NOTOPINION</u> and <u>WP:SOAP</u>. If your interest is primarily in <u>creation</u>

then focus on that. This article has a POV problem and needs revision. Please do not get in the way of improvements. Rlsheehan (talk) 01:57, 25 April 2008 (UTC)

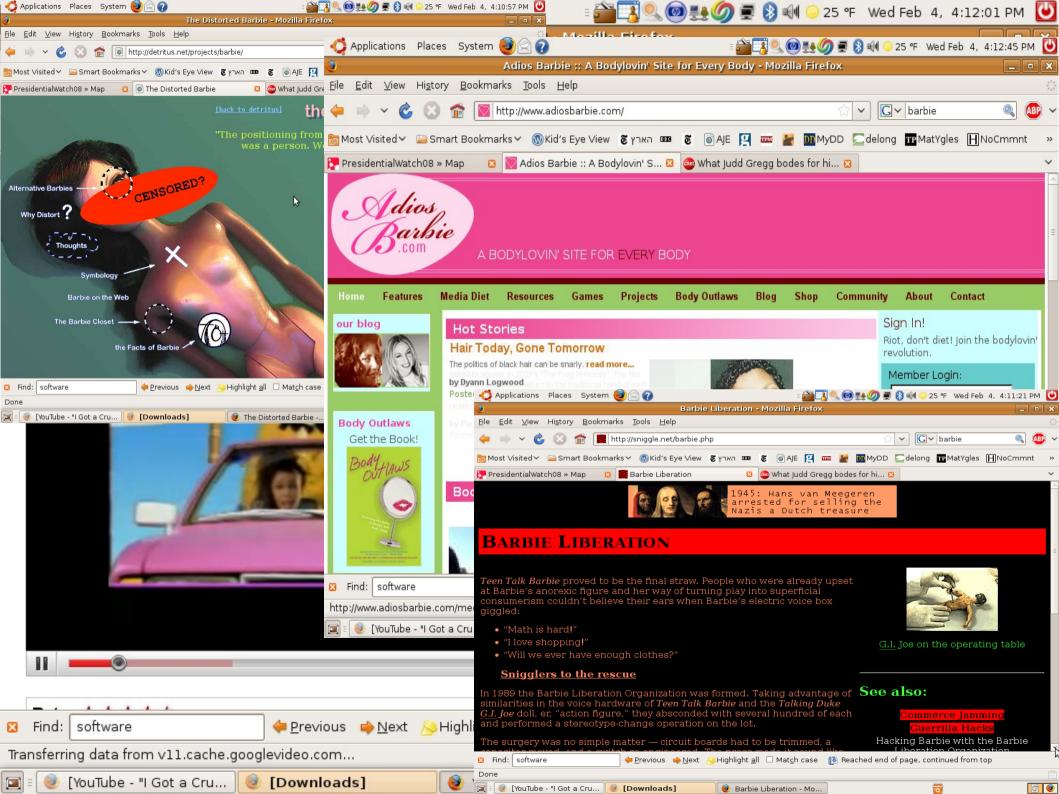
Thank you for that violation of <u>WP:AGF</u>, making spurious accusations of my motivations for simply stating the positions that the *participants* in the controversy hold.

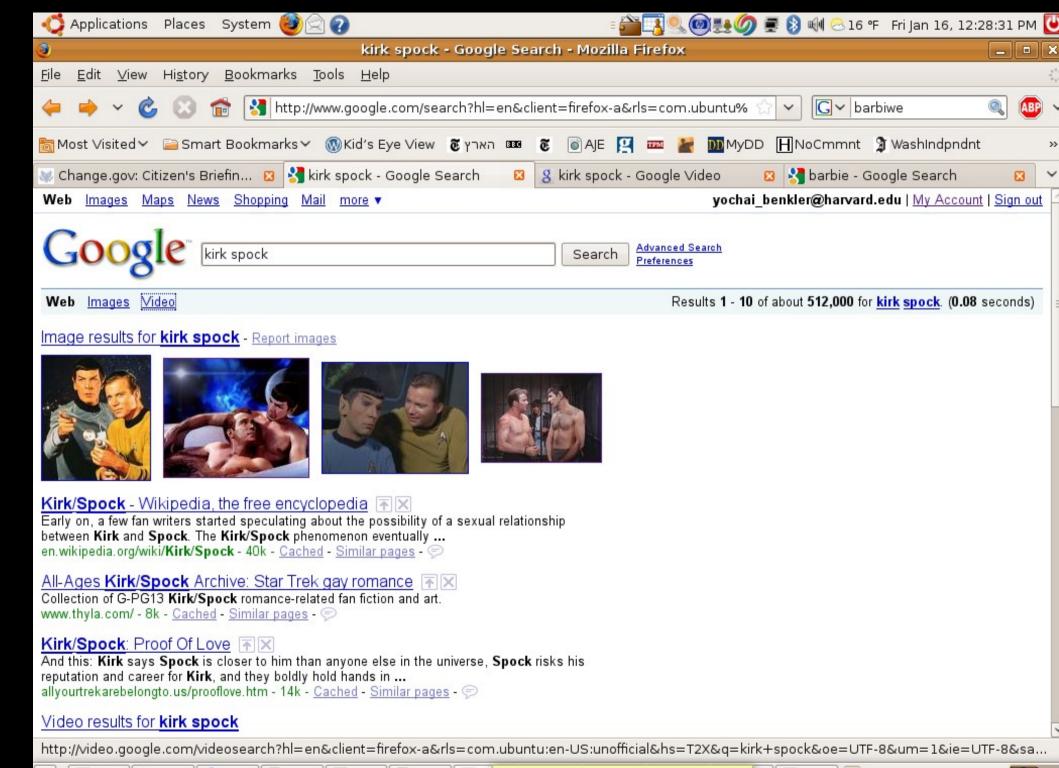
You seem to be igoring the valid citations which prove that a large number of people have a "centrist" position of accepting both Science and Creation. is acceptable. Please let other editors have access to this article.

WP:IDIDNTHEARTHATnot RIsheehan (talk) 14:25, 25 April 2008 (UTC)

Let's take this one step at a time. What is this article about? Is it limited to the about what is to be taught in schools? Is it over what's been demonstrated or is demonstrable by science? Is it about what "people personally believe" or subscribe to? Or is it about the alleged "consequences" or "fallout" different sides in the controversy accuse the "other side" of. (ie controversy over the redefinition of science, say, or moral decay in society etc). Professor marginalia (talk) 15:53, 25 April 2008 (UTC)

Politics and culture





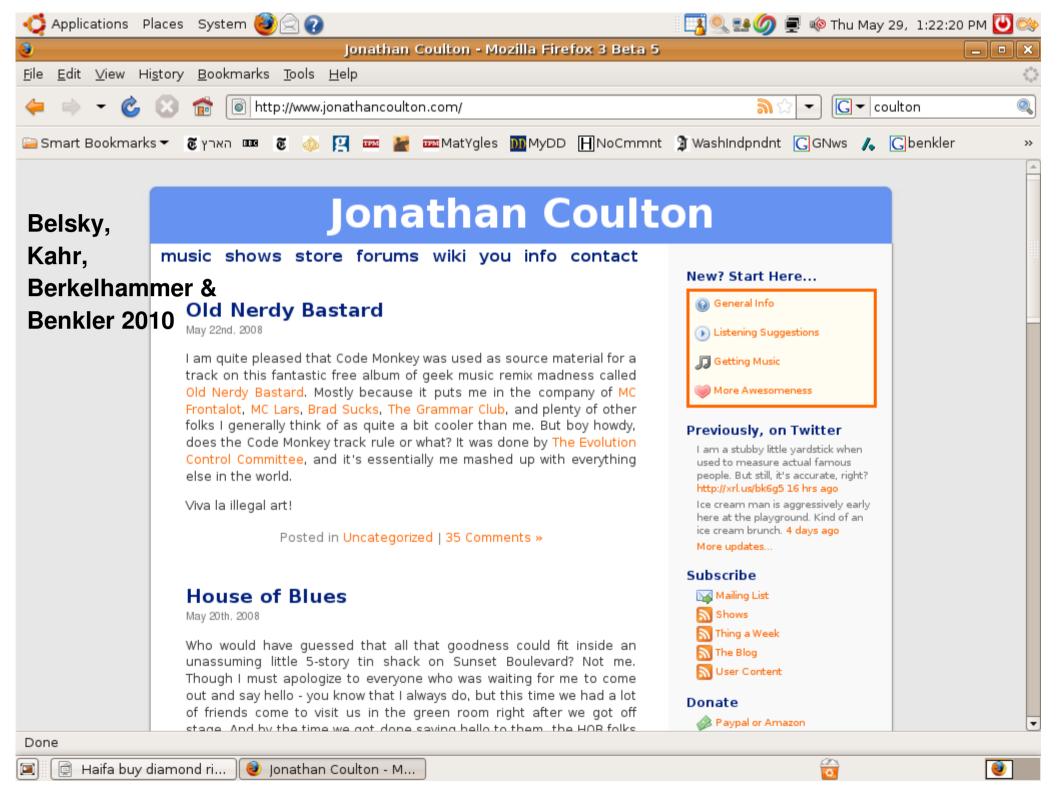
... Conference presentations - File Browser

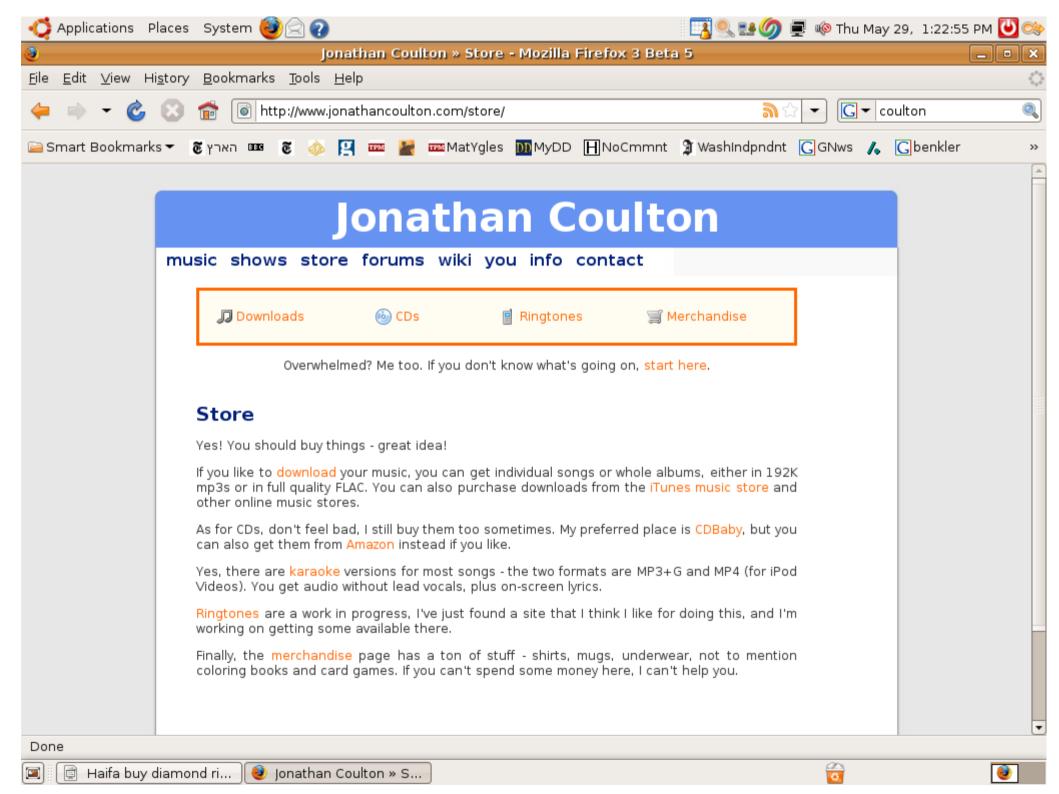
Kirk / Spock

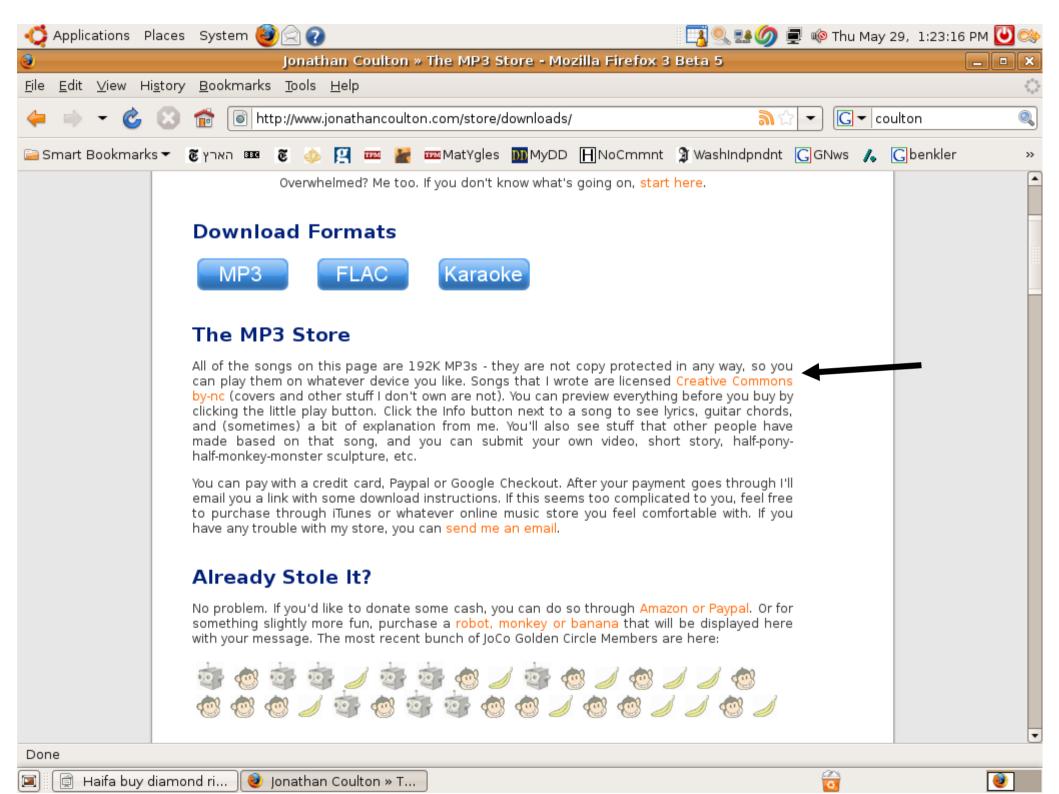


Integrated systems

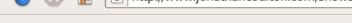
- Technical: DRM; push for Trusted Computing
- Legal: Copyright extended vastly, RAM copies, minimal "commercial" trigger for criminal liability; narrow fair use; aggressive litigation against fans
- · Social: resistance; glorification of piracy;
- New efforts at voluntary enforcement reverse the model: loosening technical and institutional bonds, ratcheting up social, moral, emotional systems















Jonathan Coulton

music shows store forums wiki you info contact

Shows

- 1. Sign up for the mailing list I am serious. That way you won't miss anything.
- 2. Subscribe to this RSS feed that's if you're very fancy and you don't want to use the email list. You'll get all new shows pushed out to your feed reader as soon as I post them.
- 3. Demand me in your town I really do use the numbers at Eventful to figure out where it makes sense for me to play. I'm talking to you, Europe.

Now. Below is a list of all the stuff I've got coming up. Details are always subject to change (and of course all the errors that I make), so don't sue me if anything here is not totally accurate. Also, I mostly don't know what's going on, so please check with the venue if you've got questions about specific start times, parking, whether or not they serve onion rings, etc. See you at the show!

Sorry, there aren't any upcoming gigs right now. Check back soon!

Powered by Blogs for Bands Silk icons by Mark James

New? Start Here...







More Awesomeness

Previously, on Twitter

As Scarface said to me upon hearing Aya Korem's cover of Still Alive, "Whoa." http://bit.ly/D9pEl 17 hrs ago

@unmodisch Nope. 22 hrs ago More updates...

Subscribe



Shows

Thing a Week

The Blog

S User Content



Coulton

Jane Siberry

"This store model is based on the belief that: People are good. In trust, our best comes forward full force. To treat others as we would like to be treated is generous, not selfish. Good living can still come from not trying to control things; in trusting in a wider sense of transactions. We are 'a part' more than 'apart'. Things to ponder. Not too long, though. Life is out there waiting. The most important thing is that the music flow out to where it could bring enjoyment. And THAT is the best thing you could give back to me."

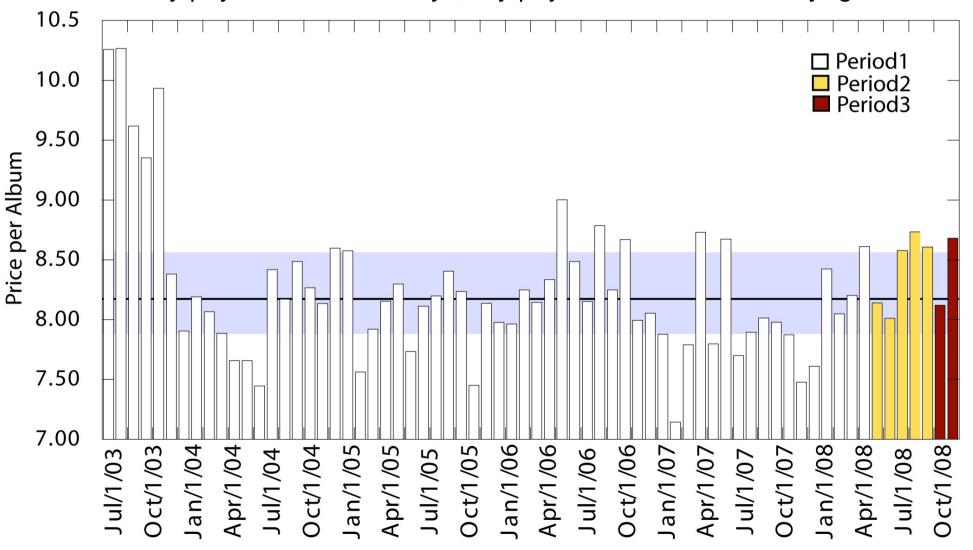
But: mixed messages: "store"; anchoring uses "market price" instead of "average donation"; no anchoring for the higher-end contributions; "pay later" option throughout most of the period reduces moral load on non-contributors

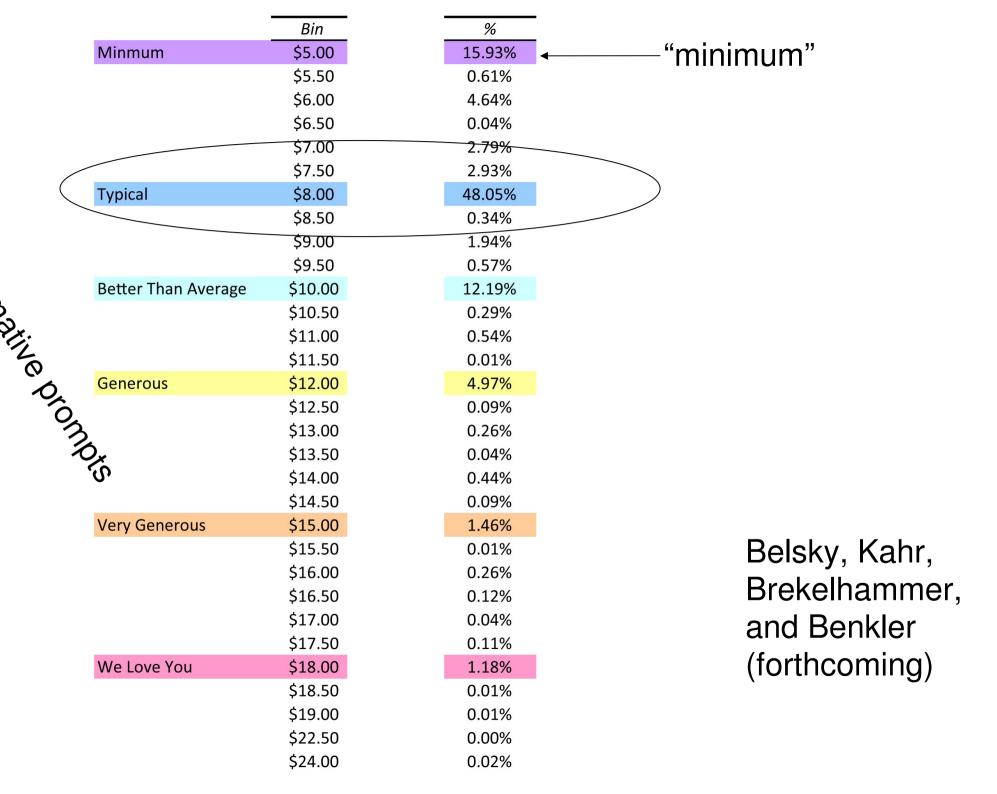
only 22% still paid

average payments among those who did pay were roughly equivalent to market: \$1.25 per song as compared to iTunes \$0.99;

Voluntary Compliance: Magnatune

Five years; ~75,000 transactions at the album-sales level; albums in high quality digital download with CC, so legal and technically trivial to redistribute full quality versions; any payment is "voluntary"; any payment above \$5 strictly "generous"





Innovation, creativity, expression in the networked information environment

- Open systems: technical, organizational, institutional
- A core set of resources based on symmetrical freedom to operate
- <u>Technical</u>: TCP/IP; open standards
- Institutional: commons, or symmetric non-discriminatory terms
- Organizational: limiting control-points to a minimum: self-ownership; competition; public provisioning; behavioral regs as needed

- Battle over the institutional ecosystem of the information networked environment
- At the physical, logical and human expression and interaction layers
- At each point the questions are
 - Are there control points at which authority can be demanded and exercised so that capacity to act, speak and experiment depends on permission?
 - If so, what constraints are there on the exercise of that control?
 - Pressures toward control differ in different layers, and require different solutions

- Physical:
 - Transport: wired
 - Competitive/non-competitive
 - Discriminatory/non-discriminatory
 - Private vs. municipal / public
 - Transport: wireless
 - Competitive / noncompetitive
 - Discriminatory / nondiscriminatory
 - Proprietary / open wireless

- Physical:
 - Transport: wired
 - Competition primary structural constraint on control
 - Mixed facilities and open access
 - Highly divergent costs of DOCSIS 3.0 and FttH underscore need for shared facilities as part of the solution
 - Public/municipal plays significant role; likely larger for next generation
 - Behavioral controls: net neutrality

- Physical:
 - Transport: wireless
 - Competitive / noncompetitive
 - Fixed-wireless convergence creates new potential limits on competition
 - Discriminatory / nondiscriminatory
 - Proprietary / open wireless
 - Unlicensed wireless drives an equipment-market dynamic, instead of infrastructure market
 - Sole pathway to user-owned last mile
 - Potential to combine with ubiquitous open access fiber?

- Physical:
 - Device: PC evolutionary path
 - "Trusted systems" vs. general purpose devices:
 - demand in the market pushes against content-owner-driven regulation
 - Netbook vs. high-power processing in the hands of the user
 - Web 2.0 pushing away?

- Physical:
 - Device: PC evolutionary path
 - Device: Handheld evolutionary path
 - Newly important given <u>ubiquity</u>
 - Owned and controlled historical path
 - iPhone leads the way
 - Behavioral regulation? In particular interoperability and portability across carriers? Competition regulation?

Logical:

- TCP/IP, IETF, HTML5 vs. efforts to create more controlled, optimized and proprietary standards and affordances
- Software patents; E911-type regulations vs. FOSS; increasing business awareness of open business models; increased political awareness of FOSS developers
- Heavy "reach through" regulation: DMCA, NET Act, toolmaker liability vs. increasing new models of open creativity; a culture that glorifies the hackers who circumvent DRM

- Human expression and communication:
 - Broader, deeper, more extensive copyright and neighboring rights vs. increasing market and social practices of sharing and open innovation/creativity
 - Current battleground: ACTA
- Efforts to control "undesirable content" lead to development of control systems that can then be abused
 - E.g. Naïve Net Nanny type filters developed later deployed by censorial regimes
 - Security and spam concerns align with content industry concerns to push trusted systems

- Tension between models based on control, stabilization, optimization and models based on rapid evolution, experimentation, failure and adaptation
 - Twentieth century control-based business models, Hollywood/RIAA (& now journalism) lobbying vs.
 21st century commercial players and social actors
- Tension between models based on pure self-interested rational actor model and models based on mixed social motivations
- Growth and innovation, individual freedom and democratization reinforce each other
- Require openness and policies of inclusion