# Freedom of Expression, Censorship, & The Internet

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# Universal Declaration of Human Rights

### Article 19

Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers.

### Article 20

Everyone has the right to freedom of peaceful assembly and association.

# George Orwell was an optimist

Who controls the past, controls the future: who controls the present controls the past

- George Orwell, Nineteen Eighty Four, 1949

The re-writing of history is now much more efficient than when George Orwell imagined armies of Winston Smiths cutting holes in newspaper archives

# Online archives are easily censored

coinciding as it does with his plans to pecome a big player in the City Reuben and his elder brother Simon and David, 64, may David isunched a website last together be worth \$2.1 billion,

been victims of organised crimeone of the reasons they scaled tions about Simon's business down their activities in Russia.

methods. Anglo, once part of independent petrol retailer with

himself. in the event, Save was not Spain's Repsol oil group, was an sold to either Anglo or Reuben. month announcing their inten- according to a recent estimate. about 45 service stations in the case last week, but Reuben is appropriate their stake in Russia's

ing Save, which he wanted to buy Kazakhstan, which had confis-They also went to court to fight an Neither side would comment on attempt by gangland interests to

Simon Reuben's next legal bet tle - against Anglo Petroleum - k unlikely to come to trial before next year. But he is clearly not afraid of a fight.

# So, Norman, any regrets this time?

Lord Lamont has kept some odd company since leaving politics. Now a company he chairs faces collapse. Jamie Doward reports

HE FAMOUSLY lathered fallen by the wayside while from the Baropean Exchange . Lamont, 61, is battling for Rade Mechanism but it is 'credibility as one of the com-debatable whether these days , pumps be chairs hovers on the Lord Lamont can affect such! brink of collapse. Shares in

himself while singing 'Je ne others have landed him in regrette rien', when Britain; deep controversy, craising was humiliatingly jettisoned if questions over his judgment. achery disposition "leve" (allies of compos control in schola stee saving the Caste achery disposition "leve") (allies of inhovations, the net ended up ac chairman of The cortucating business: investment company as up a tiny floated company is a tiny floated company is by the controversal business open to question. But the heart following his ignoming man and former pipe fitter chance to share in its poten-lous outling as Chancellor of Paul Davidson, were sain tailly locrative future must the Exchequer, has proved pended by the Stock Exchange elusive for Norman Stewart's last Tuesday after it failed to Hugheon Lamont. Several of publish its initial report. rurses (Hurd, Hestletine) Lambis business ventures have: The Cheshire-based from out, who declined to return calls in not hughly wealthy.

Skills for Business is launching two Sector Skills Councils To find out more about how employers are responding to the UK's skills crisis. see next Sunday's Observer **Business Section** 

gling to work out whether lileo – whose shares have crashed from 20p to 1p - can tinue as a going concern It is the latest setback for riety last year when the Pin. into a spread bet he took out shortly before another firm analytical equipment for use tex - was floated.

Why Lamont - who joined By the end of last year Gall Investment bank NM Rothleo was predicting that three schild after leaving the Cabiof its investments would float quarter of 2002. But the triple score never harmened, rossipered the chances of getting have been a consideration. the companies away at a rea Dalike some of his contemposomable price, Plants and Fortunately for Lamont, he has other business interests to fall back on He is a tonsulcalls - is not hugely wealthy. He left Rothschild in 1995 and several other companies he based property company run ties. The Taiwan Investment. Robert and Vincent 7chen-Trust ECIT Finance, Equity guiz. Rotch is reputed to pre-Consort and First Philippine side over a property portfolio Securities all-ended up in liovalued at £4bn and is also the A number of other companies, on whose board Lamont sits, are not capable of deliv-

associated with Tory gran dees. Clarges Energy is a tid- Scottish Annuity & Life Hold- Romanian president Ion Illi dler with a near anonymous profile, and sitting on the pany that provides reinsurboard of the Indonesian Fund, an investment trust, is insurance industry and a Serious Fraud Squad inves unlikely to be a huge money-But Galileo's board believed it had potential to pro-The company boosted that it cet. As Sir Anthony Joliffe. one of the non-executive

anted pubs giant Pubmaster. The brothers - who eschew ity - are ranked 90th in ering him the sort of salary : Britain's rich list: Lamont is also a director of ings, the Bermuda-based com-- escu - was attended by mil ance products to the life to high net worth individuals. Romanian Prime Minister and Then there is the directorship of Balli Group, the metals Patricia Hewitt - was spon-trader headquartered in Lon-sored by Mittal. don, which has hage interests Lamont's appeal to power. Guest attendees have incin Romania. Balli co-owns ful businessmen must lie at luded Richard Nixon, Henry Sidey International with least in part in his extensiva LNM, the steel group whose political contacts. He is chair." offshore parent company is man of a little-known but and King Hussein of Jordan. aire Lakshmi Mittal. His bid body called La Cercle, Toun secretive Bilderberg Group Participations Bancaires et bath again.

prospects and opportunities.

automotive industry. Another



for Sider was famously ded in the 1800 by Franch's or intervitable, appearing as printed-incomposition behavior of the property better, Antone Prays and Grant on an attender, the bats Alan or Conservat Medicariamon from Town Town Hauer. "Chinocher Konned Adequate" Clark, MP, suggested LL Corp. Hollmag, which bolts in take the contract of the Conservation of the Co Chamber of Commerce, Lamont is director of the British European and American pro. Lamont's most controversial lessionals – politicians, ret. business relationship, that merce and organised several ired ambassadors, former with Iraqi billionaire Nadhmi dinners to help advance busigenerals, lawyers and active 'Auchi, who was arrested in One dinner - in honour of

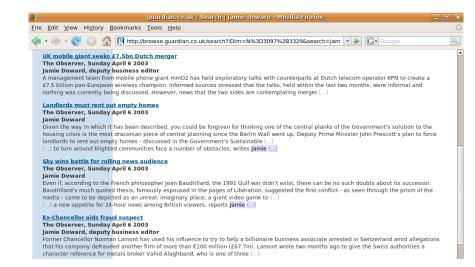
Lamont could well look back on last week as the point his fortunes lionaire metals trader Viven dra Rastogi, now the subject of took another turn for the worse attended by Trade secretary participants in banking oil. Britain last Monday Auchi. Lamont could well look back who is known to have att-

shipping, publishing and meetings, made millions selling Italian warships to the Kissinger, the Sultan of Iraqi regime in 1980. Lamont is a director of one Oman Romania's Illiesco of Auchi's biggest companies, hugely influential right-wing Comparisons with the highly Compagnie Internationale de

corruption trial involving of refinery in Kuwait. Auchi has Whatever the outcom

on last week as the point his fortunes took another turn for the worse. " ?" . the peer who pocketed thou sands of pounds from a Cheshire pipe-fitter and an

### Online archives are easily censored



### The Internet facilitates centralization

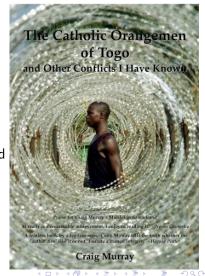
- Centralized systems work better: cheaper, more versatile, and more efficient
- By eliminating distance, the Internet allows greater centralization
- Centralized archiving of physical newspapers is awkward, but online archiving works well
- This makes life easier for readers, and censors too
- Many libraries are now dropping archiving of paper in favor of electronic subscriptions





# The Internet eases publication too

- "The Catholic Orangemen of Togo", by Craig Murray, was dropped by its publisher due to libel threats
- Even the Cambridge University Press pulped a book, "Alms for Jihad" by J. Millard Burr and Robert O. Collins, following legal action
- The lack of support from a publisher and network of book shops would previously be devastating
- However, the Internet facilitates self-publishing and marketing

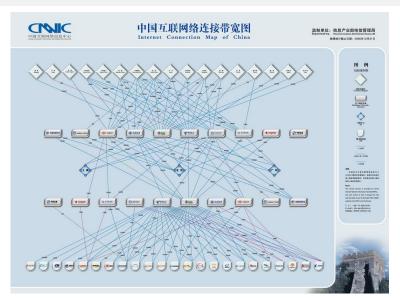


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# Internet architecture allows censorship



# What is being blocked, and why

- According to the Open Net Initiative, at least 70 countries filter the Internet in some way; from Asia, to Europe, to the Americas
- The types of material censored varied depending on country, e.g.:
  - Human Rights (blocked in China)
  - Religion (blocked in Saudi Arabia, UAE, Iran, Bahrain)
  - Pornography (blocked in Saudi Arabia, UAE, Iran, Bahrain, Singapore, Burma, ...)
- Other issues censored include: military and militant websites; sex education, alcohol/drugs, music; gay and lesbian websites; news



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# Search Engine results are censored



Searching for "Tiananmen Square" on Google.com and Google.cn

# Chilling effects: self-censorship through fear, intimidation, and punishment

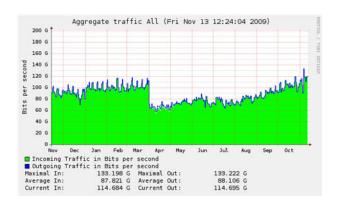
People can be intimidated into not testing rules through fear of detection and retribution



"I call on Egyptian government officials to take the necessary procedures to protect the Egyptian youth from the spread of subversive religious ideologies among them by permanently shutting down religious institutions in this country."

 Kareem Amer (sentenced to four years of prison in Egypt)

# Sweden's iPRED experience



Our analysis shows that consumers increasingly want to decide for themselves when to watch and from which screen. Unfortunately, many have become adept at circumventing the IPRED legislation.

- Jens Heron, Mediavision

# Resisting Internet censorship

The Net interprets censorship as damage and routes around it.

— John Gilmore, 1993

No longer true on a technical level: censorship is in the routers.

Remains true on a social level: when material is censored, people distribute copies and draw attention to them

But what if people are too afraid to do this?

# Freedom of speech and anonymity

### **United States Constitution: 1st Amendment**

Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances.

### McIntyre v. Ohio Elections Commission

Protections for anonymous speech are vital to democratic discourse. Allowing dissenters to shield their identities frees them to express critical, minority views ... Anonymity is a shield from the tyranny of the majority ... It thus exemplifies the purpose behind the Bill of Rights, and of the First Amendment in particular

### Iran Protests: Twitter, the Medium of the Movement

By LEV GROSSMAN Wednesday, Jun. 17, 2009

### Related

#### Photos



Behind the Scenes with Mousavi

#### **Stories**

- In Iran, Rival Regime Factions Play a High-Stakes Game of Chicken
- Latest Tweets on Fallout from Iran's





Share The U.S. State Department doesn't usually take an interest in the maintenance schedules of dotcom start-ups. But over the weekend, officials there reached out to Twitter and asked them to delay a network upgrade that was scheduled for Monday night. The reason? To protect the interests of

Mor

### Twitter in USA: Bad.

### FBI Raids Queens Home in G20 Protest Twitter Crackdown



of crime; he's currently out on bail.

That's right, a Twitter crackdown. A lawyer for Jackson Heights social worker Elliot Madison, 41, says that the feds searched his client's house for 16 hours on Thursday after Madison was arrested on September 24th at a Pittsburgh hotel room with another man. What were they up to? Sitting at laptops sending Twitter messages advising G20 demonstrators about riot police activity in the streets. And yet real Twitter threats like Lindsay Lohan and Courtney Love remain at large.

Madison, a self-described anarchist, was in Pittsburgh volunteering for the <u>Tin Can Comms Collective</u>, a group that uses Twitter to send mass text messages during protests describing events observed on the streets or over police scanners; stuff like "SWAT teams rolling down 5th Ave." Tin Can was active during the <u>St. Paul RNC protests</u>, and the authorities are now on to them. Madison was charged with hindering apprehension or prosecution, criminal use of a communication facility and possession of instruments

# Internet surveillance is pervasive

- Conventional surveillance methods had to be targeted
- Internet censorship is capable of monitoring everyone, all of the time
- Governments are increasing monitoring: SORM (Russia), Golden Shield (China), Data Retention Directive (EU), and Interception Modernisation Programme (UK), Warrantless Wiretapping (USA)
- 1 in 7 East German citizens worked for the Stasi. Today we can achieve the same results with a fraction of the cost



## Traffic data surveillance

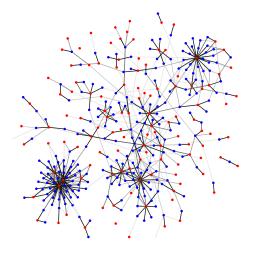
- Traffic data (who talks to whom, how often and for how long) is the core of intelligence capabilities
- This information is cheaper to record and store, compared to full content
- Because it can be easily processed by computer, data mining techniques can be used to understand social structures

No government of any colour is to be trusted with such a roadmap to our souls

— Sir Ken Macdonald, former director of public prosecutions, on the UK Interception Modernisation Program

# Importantly, information on social networks can be derived

- Communities
- People



From "The Economics of Mass Surveillance" by George Danezis and Bettina Wittneben

# The Transparent Society

- David Brin proposed that in a world of pervasive surveillance, balance could be maintained by allowing everyone to monitor everyone else
- Bruce Schneier retorted that surveillance amplifies existing powers
- Many countries restrict anonymous speech (e.g. Germany and China)
- It is easy for those in power to call on the weak to link their names to opinions



Photo: Manos Simonides

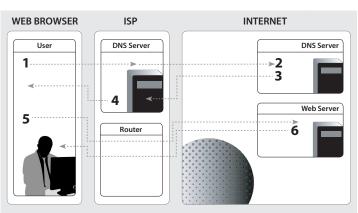
# Censorship resistance systems

- Software to resist censorship should
  - have a diverse set of users
  - work where you are without special steps
  - be sustainable (what if the company goes broke?)
  - be decentralized (swapping censors doesn't help you)
  - protect you by default
  - have accessible standards and published designs (black box vs. glass box)
  - be fast enough that you'll use it daily
  - doesn't promise perfect everything including a fully encrypted Internet
- These properties should be maintained even if the censorship resistance system is partially compromised

# Blocking with technology

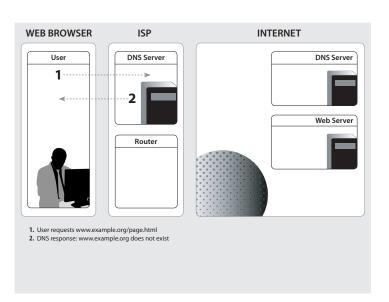
- When a country's government controls international connectivity, they can block requests for banned websites and destinations
- There are a number of different approaches (DNS blocking, IP address blocking, etc.)
- Software may be produced in-country, but often is an adapted commercial product
- These companies not only make the software, but provide a continuously updated list of websites to be blocked

# Normal web browsing

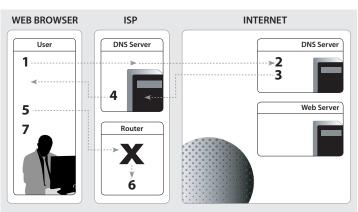


- 1. User requests www.example.org/page.html
- 2. DNS lookup for www.example.org
- 3. Lookup response: www.example.org is 192.0.2.166
- 4. www.example.org is 192.0.2.166
- 5. Get web page: www.example.org/page.html at 192.0.2.166
- 6. Here is www.example.org/page.html

# **DNS** tampering



# IP blocking



- 1. User requests www.example.org/page.html
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- 4. www.example.org is 192.0.2.166
- 5. Get web page: www.example.org/page.html at 192.0.2.166
- 6. Router drops all packets to 192.0.2.166
- 7. Browser concludes that www.example.org is inaccessible

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  - Easy and cheap to implement
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- Hybrid blocking IP based redirection to proxy
  - Tricky to get right, but cheap
  - Has some vulnerabilities
  - Blocks at webpage level low over-blocking

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- Ordinary people
  - To avoid personal information being sold to marketers
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- Human rights workers
  - To publicize abuses and protect themselves from surveillance
  - Blogging about controversial subjects

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  - Blogging about controversial subjects
- Businesses
  - To observe their competition and build anonymous collaborations

## Anonymous communication

- People have to hide in a crowd of other people ("anonymity loves company")
- The goal of the system is to make all users look as similar as possible, to give a bigger crowd
- Hide who is communicating with whom
- Layered encryption and random delays hide correlation between input traffic and output traffic

Based on technology developed in the Onion Routing project



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- Now designed to resist censorship too (hides whether someone is using the system at all)



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- Centralized directory authorities publish a list of all servers;
  client doesn't trust the network by design



# Tor hides communication patterns by relaying data through volunteer servers

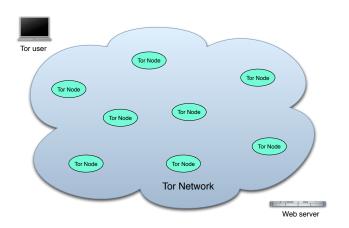


Diagram: Robert Watson

# Tor hides communication patterns by relaying data through volunteer servers

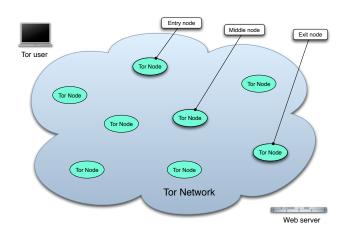


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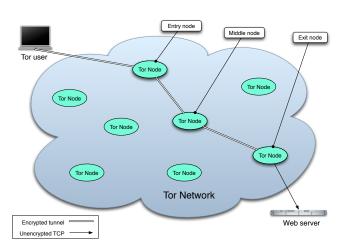


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#### Tor hidden services allow censorship resistant services

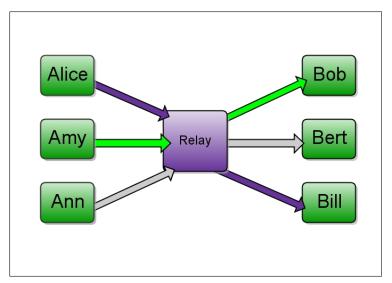


Country index

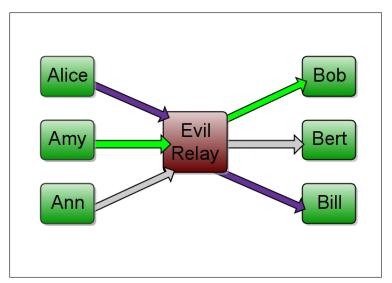
Known in the services as Joint Services Protocol 440 (JSP 440), it was published

monitoring of certain websites, including Wikileaks itself.

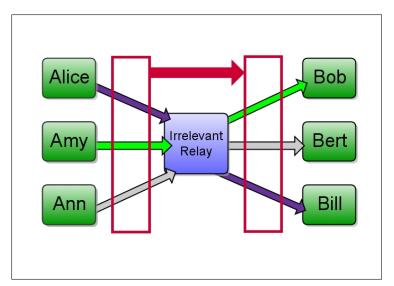
## How is Tor different from other systems?



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## Limitations of censorship resistance

- Censorship resistance is thought controversial especially by the censors
- There is something for everyone to like, and something for everyone to dislike, going on with censorship resistance systems
- Bad people do use them to do bad things (for many different definitions of bad people)
- It is impossible to block bad uses, even if we could come up with a common definition of bad content
- The systems are not perfect, so it is possible some people will be caught

#### Conclusions

- The Internet and centralisation can both improve and harm freedom of speech
- Slogans regarding the borderless nature and inherent freedoms of the Internet are frequently wrong
- Technical details matter: how a system is implemented can make a radical difference
- Technologies can be used to resist censorship and improve privacy
- However, policies must be changed too and pressure is needed on legislators



#### One Version of the Future

I'd like to change the design of the Internet by introducing regulation—Internet passports, Internet police and international agreement—about following Internet standards. And if some countries don't agree with or don't pay attention to the agreement, just cut them off.

— Eugene Kaspersky, Co-Founder & CEO of Kaspersky Labs

#### A better version of the future

#### Internet Access as a Human Right

We think it's something you cannot live without in modern society. Like banking services or water or electricity, you need an Internet connection

Laura Vilkkonen, Ministry of Transport and Communications,
 Finland

#### Tor Project's Mission

We remain committed to defending online privacy and anonymity as a human right.

#### How to get there

- Increased funding of research and development for privacy, circumvention, and anti-censorship technologies
- Policy and Legal frameworks for free access, free speech, and anonymity

#### Credits

- Thank you to Steven J. Murdoch, http://www.cl.cam.ac.uk/users/sjm217/, for the research and basis for this presentation.
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