Technology, Dissent, and Authoritarianism

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Tor

TorProject.org
The Promise of the Internet Yesterday

- Dumb Network
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- Unfettered communications
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- User traffic is most important
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- Users have access to a wide open, uncontrolled Internet
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- User traffic is most important
- Users have access to a wide open, uncontrolled Internet
- The best networks should win the most customers
The Reality of the Internet Today

Value-add services by telecom providers

▶ video streaming
▶ image hosting
▶ shared wifi access

Tiered access (charge by protocols)
Constrained access (charge by byte)
Gaming (want lower latency? pay more)

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Git’yer internet here!
Mobile Internet
Resisting Internet Censorship

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But what if people are too afraid to do this?
Censorship is in the routers

If You Can See It
You Can Monetize It

Evolved DPI – See what’s flowing through your network
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), and Interception Modernisation Programme (UK)
- 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
Lawful Intercept

Lawful Interception (LI) describes the lawfully authorized interception and monitoring of telecommunications pursuant to an order of a government body, to obtain the forensics necessary for pursuing wrongdoers. LI has existed from the times of shortrange telegraphy to todays worldspanning Next-Generation Networks (NGNs).
A back door describes a way to access a computer system or network that bypasses all security mechanisms. Anyone with knowledge of this backdoor can control all access and surveil all communications transmitting across the system.
Meanwhile.....
Tor usage in volatile times

Directly connecting Egyptian Tor users

The Tor Project - https://metrics.torproject.org/
Tor usage in volatile times

Directly connecting Libyan Tor users

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Directly connecting Tunisian Tor users

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Directly connecting Iranian Tor users

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Directly connecting Yemeni Tor users

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Consequences

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- Egypt still developing a government
The seed is planted