

# Human Rights in Internet Design History

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IETF 100

# It started as a joke . . .

- Designing the Internet will . . . "secure the rights of life, liberty, and the pursuit of happiness for ourselves and our posterity, . . . oops" (Vint Cerf, RFC 442, p. 1)

.... but quickly became very real

- “Network topology is a complicated political and economic question .... “ (Alex McKenzie, RFC 613)

# The Context

- Today's transformation in law-state-society relations equivalent to those that took place several hundred years ago when the international system of states was formed
  - growing tension between geopolitical & “network political” citizenship
- As the informational state evolves, it is becoming less certain of its identity
  - eg, in cybersecurity, “emanations” of the state

- The right NOT to know
  - a new policy principle
    - for individuals – the right to be forgotten
    - for states – when applying international laws of war to cybersecurity & cyberwarfare, withdrawal from requirement that states should know what is flowing through their networks
  - are there other new policy principles emerging?

- Identifying the legal subject is difficult in the digital environment
  - bots?
  - who/what is the legal subject when it comes to autonomous networks such as WikiLeaks?

- As legal systems developed for different types of technologies converge, it is the most repressive features of each that dominate
  - US example – 3 different legal “systems”
    - print & oral communication – First Amendment & related constitutional principles & law
    - broadcasting regulation
    - telecommunications regulation
  - Ithiel de Sola Pool was right
    - seminal: *Technologies of Freedom*, 1983

- We are having this conversation during a period in which human rights are under extreme & intensifying threat
- And the “facts” – information – are less & less pertinent to human rights
  - ex: FBI given right to surveil without any info
  - ex: evidence-averse policy-making

# The Research

- US National Science Foundation funded analysis of treatment of law, policy, & politics within the first 40 years of the RFCs (1969-2009)
- Coverage
  - comprehensive inductive analysis of first decade
    - over 70 variables
  - sampled analysis of entire corpus

# Policy Issues Show Up Early

- 1970 - security
- 1971 - privacy, commercialization of the network, possibility of malicious environment, access to network in rural areas, internationalization
- 1972 - environmental & energy problems
- 1973 - need for user authentication, spam

# Policy-Making

- Announce positions
  - RFC 2458 – defines Internet telephony
  - RFC 2804 – wiretapping outside scope
- Address general legal issues
  - fraud
  - privacy (over 12%)
- Address Internet-specific legal issues
  - spam
  - viruses

- Respond to US law
  - RFC 799 – direct connection paths may not be possible under existing regulations
  - RFC 4869 – cryptographic interface to comply with national security specifications
- Respond to laws of other countries
  - RFC 101 – Canadian govt Internet goals
  - RFC 3837 – service providers subject to multiple, perhaps unknown, jurisdictions

# Policy Analysis

- Technical background for network neutrality debate
  - outsiders ask for “fairness” without realizing architects agree but difficulties operationally
- RFC 4096 – spam law from Congress can’t work for technical reasons
- Support for critics
  - little on disability (only 2 RFCs), elderly (0)
- Evidence that counters critics
  - active ongoing discussion of language issues

# Implicit Policy Analysis

- Technical analysis that introduces conceptual dimensions of a policy issue not yet evident in political & legal discourse
  - ex: privacy and the multiple, evolving technical triggers provided by cookies
  - here more nuance in technical thinking than in legal thinking so far

# Policy-Making

- Defining the policy subject
- Developing decision-making procedures
- Establishing implementation programs
- Venue for conflicts & conflict resolution

# Political Analysis

- Over 3 dozen RFCs discuss citizenship
  - including exploration of concept of net citizenship and what it means operationally
- Over 70 RFCs discuss jurisdiction
  - jurisdictional issues confound essentially all net-related policy-making
  - but Internet domain & geopolitical borders may not be the same

# Early Attitudes toward Users

- Goal is to expand usage, BUT
  - new users have new demands
  - new users create new problems
- Expect users to be heterogeneous
  - but most familiar with selves as users
  - "naive" social science re users
- User practices as source of design problems
- User groups influence some design decisions

# Early Distinctions among Types of Users

- Benign vs. malicious
  - "malicious," "pathologic," "illegal," "hostile"
  - by 1973, networked already brought down by both insiders & outsider hacker high school students
- Technical insider vs. technical outsider
  - programmers vs. non-programmers
  - those in design community vs. those outside
  - USING vs USER groups

- Human vs. daemon users
  - daemons = computer processes or software programs (later, also other protocol levels)
  - design weighted towards daemons
  - when take humans into account
    - often grudging
    - but often expands range of functions usefully
    - bemused by human preferences
  - "Can't stop" humans from acting (RFC 555)

# Uses

- Expect uses throughout social life (Robert Kahn, RFC 371)
- Use creepage
- Tech innovations bring new uses
- Government uses
  - military + e-government, criminal justice, weather, air traffic control, education, etc.
- Commercial uses
  - health care, e-commerce, intra-corporate, leisure uses

# Early Social Design Criteria/ Policy Principles

- Principles from the first decade
  - user democracy
  - technological democracy
  - telepresent distant & distributed computing
  - privacy as key concern
- Human rights implicated
  - freedom of expression
  - access to information
  - privacy

# Compared to Today?

- Privacy still the most discussed human rights issue
- Internet widely recognized as fundamentally important for human rights such as freedom of expression
- Formation of HRPC to be lauded

- The rights of concern to the design community are socio-technical, not just social
  - seen in US law since 1980s
    - eg, making decisions that preference the needs of a network over the needs of society
  - robot law
  - of deep concern from a human rights perspective
  - for Internet architects the “material” is code – which really means **the medium you work in is complexity itself**

- But code is not law
  - yes, extremely important structurally
  - but variance within autonomous systems
  - & can be changed/affected by lots of different kinds of entities (eg, middleboxes)
  - & politics still matter

- Unfortunately, law is not law either
  - interpretation, implementation, uses of evidence all matter
  - can get completely different outcomes from the same legal texts & systems
  - the law can also change very quickly

- Important to take human rights concerns into account during design process
  - but a bottomless pit – with each innovation, new issues
  - & whether or not information leakage matters depends on the political environment
- Cross-training of legal & technical communities essential

- As we move towards a political environment in which rights are bounded by autonomous systems rather than states the role of Internet architects becomes ever-more important politically

# Publications

- Braman, Sandra. (2017). Internet histories: The view from the design process, *Internet Histories*.
- Braman, Sandra. (2016). Instability and Internet design, *Internet Policy*, 5(3), DOI: 10.14763/2016.3.429.
- Braman, Sandra. (2014). The geopolitical and the network political: Internet designers and governance, *International Journal of Media and Cultural Politics*, 9(2), 277-296.
- Braman, Sandra. (2013). Laying the path: Governance in early Internet design, *Info: The Journal of Policy, Regulation, and Strategy for Telecommunications, Information and Media*, 15(6), 63-83.

- Braman, Sandra. (2012). Internationalization of the Internet by design: The first decade, Global Media and Communication, 8(1), 27-45.
- Braman, Sandra. (2012). Privacy by design: Networked computing, 1969-1979, New Media & Society, 14(5), 798-814.
- Braman, Sandra. (2011). The framing years: Policy fundamentals in the Internet design process, 1969-1979, The Information Society, 27(5), 295-310.
- Braman, Sandra. (2010). The interpenetration of technical and legal decision-making for the Internet, Information, Communication, & Society, 13(3), 309-324.

# for more information ....

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- full texts of many publications at
  - people.tamu.edu/~braman
  - RFC-related pieces:  
<http://people.tamu.edu/~braman/html/topicinternetdesign.html>
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