

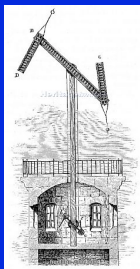
# Unimaginable but True: the regulatory status of the Internet

Scott Bradner

9/28/12

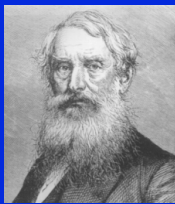
Nye - 1

## Long Distance Communication – P1

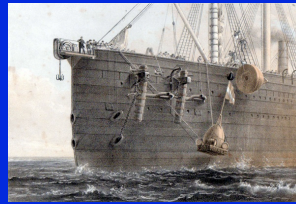


1793

WHAT HATH GOD WROUGHT



1844



1858

1875 – 650,000 miles

Nye - 2

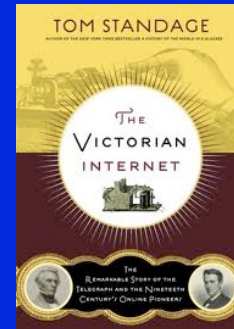
## Telegraph System Architecture

state-owned or state-licensed providers  
confined to a state

approved services

revenue source for state

bilateral interconnect agreements



Nye - 3

## Telegraph Regulations



1865 – 20 European governments gathered in Paris  
International Telegraph Conference ->  
International Telegraph Convention (ITC) ->  
International Telegraph Union (ITU)

Nye - 4

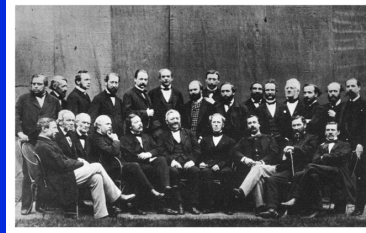
## International Telegraph Convention

technical standards  
tariffs & settlements  
retention requirement  
complaint process

...

aims included protecting state & morality

requirement to be able to stop messages that  
“may appear *dangerous to the safety of the State* or which would be contrary to the laws of the country, *public order* or *morality*”



Delegates at the first International Telecommunication Union Plenipotentiary Conference

Nye - 5

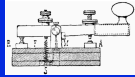
## Communications Governance V1

governance by governments  
empowered state regulators  
more than just technology  
also protect state, money & morality  
Westphalian ideal?

Nye - 6

# ITU

International Telegraph Union -> International Telecommunication Union



1865



1885



1906



1934



1949

because ITU “covered all forms of wireline and wireless communication”

Nye - 7

## Telephone System Architecture

state-owned or state-licensed providers  
confined to a state  
approved services  
significant revenue source for states  
decade long planning cycles  
circuit-based “intelligent network”  
QoS & security guaranteed  
interconnection under ITU rules

Nye - 8



# Internet Protocol & Internet - 1983

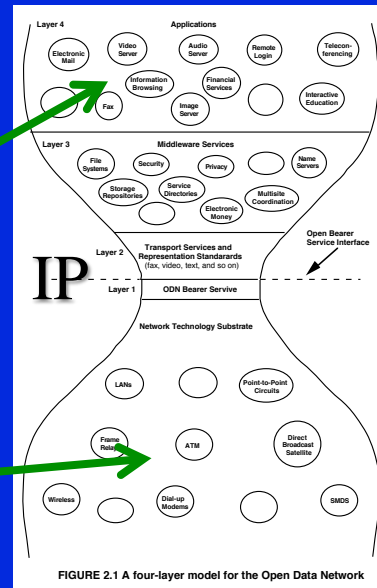
0-level goal: run over  
existing transport networks

applications

IP is a “best-effort”  
“common bearer service”

“stupid network” &  
“end-to-end”

transports



From: Realizing the  
Information Future

Nye - 9

# Internet Regulation

what Internet regulation?

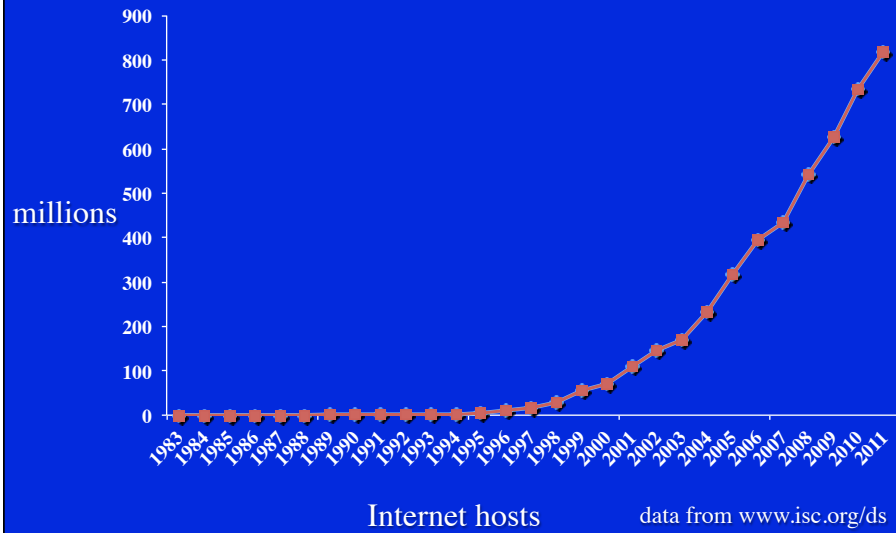
in the U.S., the FCC refrained  
telephone companies ignored Internet  
overlay, not new, network

“experts”: does not/cannot work



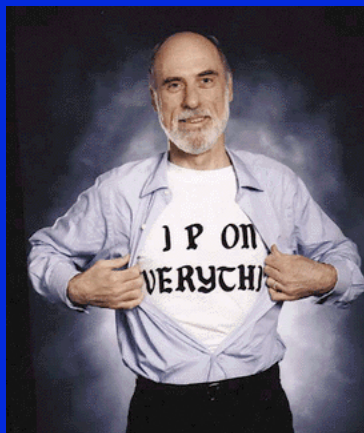
Nye - 10

## Internet Success



Nye - 11

## What Happened?



and vice-versa

Nye - 12

## No Regulation???

inconceivable  
& senseless

e.g.

.iq



also - .rw (Rwanda) – 7 year effort  
12 September 2101

coordination, not regulation

but that is the way it is

Nye - 13

## Internet: The Mother of Revolution

the revolution that enables revolutions

telecommunications

news

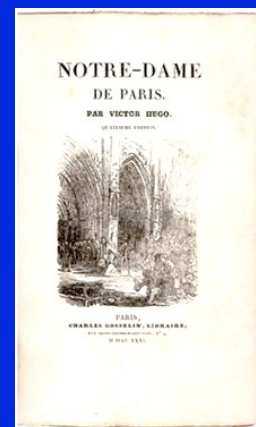
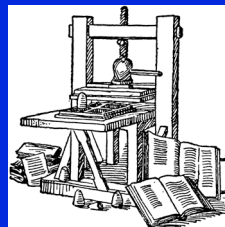
social interaction

content industry

business

society

memory



but no international regulation

Nye - 14

## Some Example Issues

- ◆ peering relationships
  - telephone - peering requirements defined in regulations
  - Internet - big ISPs refuse to peer with small ISPs
    - local peering points are voluntary - no mandate
- ◆ international settlements
  - telephone - caller pays terminating carrier
  - Internet – customer pays local ISP
- ◆ quality of service
  - telephone - service must meet specific quality
  - Internet - best effort service

Nye - 15

## Another Example



Innocence of Muslims



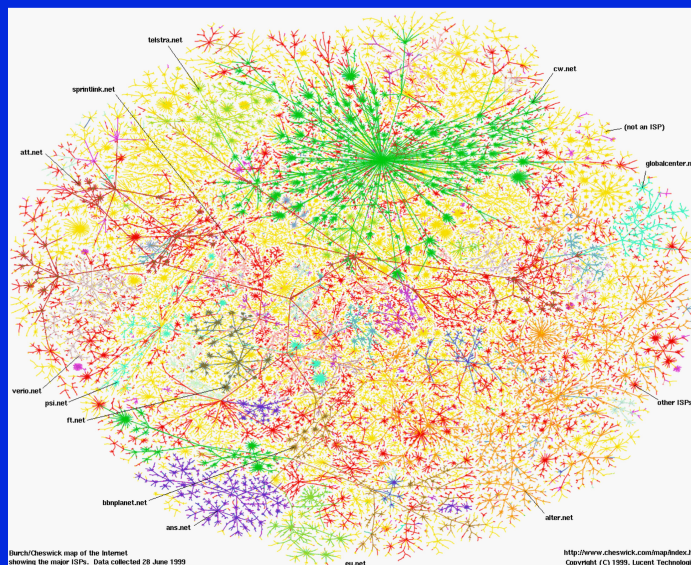
Nye - 16

## Internet Architecture

generally state-boundary agnostic  
no service approval/permission needed  
chaotic innovation  
at most, a mixed tax situation  
packet-based “stupid network”  
no QoS or security guarantees

Nye - 17

## The Architecture of the Internet



Nye - 18

## Innovation Is Too Good To Last

The Internet is now too important to leave to the people that know what they are doing.



*“Regulating internet to correct the excesses and abuses that arise from the total absence of rules is a **moral imperative**”*

Nye - 19

## Too Good To Last, contd.



*“One of these is establishing international control over the Internet using the monitoring and supervisory capabilities of the International Telecommunication Union (ITU). If we are going to talk about the democratisation of international relations, I think a critical sphere is **information exchange** and **global control over such exchange**. This is certainly a priority on the international agenda.”*

Nye - 20



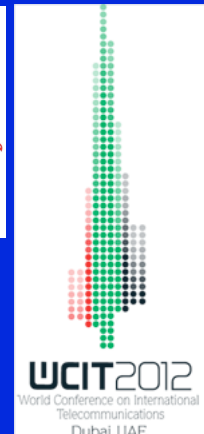
## One Solution - Isolation

- ◆ e.g., Egypt during the Arab Spring
- ◆ report that Iran is creating their own detached “Internet” for implementation this year

Nye - 21

## ITU Wakes Up

note: there will be no ITU relevant without an Internet involvement



self asserting authority!

Nye - 22



## ITU Involvement in the Internet

- ◆ from a 3 September 2012 speech
  - “ITU-T standards form bedrock on which all electronic communications take place”
  - “The fiber optic networks that carry the vast majority of global communications interoperate because of standards agreed between ITU Member States and Sector Members.”
  - “The growth of the Internet has been in no small part a result of globally agreed ITU-T standards for Internet access – firstly with modems and now via broadband.”



Nye - 23

## Core Differentiator



multi-stakeholder



VS



government-controlled



Nye - 24

## ITU “Feature”

- ◆ Taiwan does not exist  
there is no telephone country  
code for Taiwan



Nye - 25

## New ITRs

### 2012 World Conference on International Telecommunications (WCIT)

Dubai, December 2012  
to revise International  
Telecommunication  
Regulations (ITRs)  
government only  
majority vote



Nye - 26

## 1988 ITRs

**Article 1:** Purpose

**Article 2:** Definitions

**Article 3:** Right to communicate at good technical quality; countries to coordinate their infrastructure

**Article 4:** International telecom services to be made available to the public

**Article 5:** Priority to be given to emergency communications

**Article 6:** Charges for services, and accounting rates between carriers

**Article 7:** Suspension of services when “dangerous for national security, or contrary to national laws, public order or decency.”

**Article 8:** ITU to gather and circulate information on suspended services

**Article 9:** Special arrangements not affecting all countries

**Article 10:** Entry into force; reservations

ITU

Nye - 27

## WCIT – Proposals (more likely ones)

- ◆ expand ITU scope to cover:
  - IP networks, including traffic transiting a country, and Internet exchanges, peering agreements, QoS requirements
  - processing of received information
  - spam, malware and child protection (i.e. into content)
- ◆ require all traffic terminating in or transiting a country be subject to settlements
- ◆ require networks to provide traffic origin identification

Nye - 28

## WCIT – Proposals, contd.

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- ◆ permit countries to know where all of its traffic has been or will be routed
- ◆ permit interfering with communications whose purpose is to interfere with internal affairs or undermining the sovereignty, national security, territorial integrity and public safety of other states or divulge information of a sensitive nature

Nye - 29

## Westphalian WCIT

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empower states

force a state-based Internet architecture

with the ITU as the cop on the beat

Nye - 30

## ITU's Toure Says

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- ◆ we are not talking about expanding to cover the Internet  
because the Internet is already in our scope
- ◆ we are not talking about managing the Internet  
because that will be done at WSIS+10
- ◆ there will be no votes – everyone must agree

Nye - 31

## Play it Again, Sam

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When thou hast done, thou hast not done,  
For I have more. - John Donne

Nye - 32

