

CYBER POLITICS AND POLICIES: CHAPTER ONE

A brief History of the Internet

AT THE END OF THIS CHAPTER, STUDENTS WILL BE ABLE TO:

Describe the four major phases associated with the growth of the internet and the major technological, political and economic developments associated with each

Define significant terms associated with the growth of the internet

Describe in basic terms the technical specifications of the internet, as well as what unique facets distinguish it from other technologies

Describe key political issues which have arisen in the growth of the internet and describe the ways in which technological closure has begun to occur in regards to these issues.

RAPID GROWTH OF INTERNET

Commercial use since 1994 (25 years)

Penetration rates today: 95 percent North America; 36 percent Asia

Global marketplace: half of all global users purchased something online

Credited with aiding revolutions in Africa, Eastern Europe, former Soviet Union

DEBATES TODAY

- Is internet a space of CONFLICT or COOPERATION?
- Is it a “domain” for fighting?
- WHO controls the internet? No central hegemon.
- Should it be controlled by states or other non-state entities?
- Is it a self-regulating entity or does it need to be steered/shaped and if so, by whom?

THIS COURSE:

“technology studies/technology policy”: MANY of the debates about who controls a technology, how a technology develops, what it should be are not **UNIQUE** to the internet. Questions that can be asked about many technologies.

Notion that a technology has both civilian and military uses. Idea that states are **DEPENDENT** on a technology – not new, not unique.

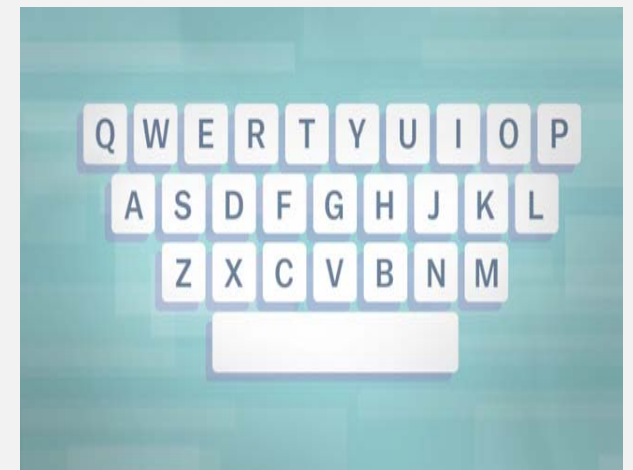
BIG QUESTION: Does technology make us (individuals, societies, states, militaries) do things? Or do we do things **WITH** technology?

4 PERIODS OF INTERNET DEVELOPMENT

- **Period One: The Infancy of the internet: 1963 – 1984.**
(From MILITARY ORIGINS to civilian use)
- **Period Two, The Period of Growth and Early Regulation: 1984 until 2000.**
(Development of E-commerce, civilian e-mail, online education)
- **Phase Three: Securitization of Cyberspace and Growth of Internet Governance: 2001- until 2012** (“Digital Battlespace”, online radicalization)
- **Phase Four: The Era of Surveillance and Big Data: 2013 to present** (Snowden Revelations, NSA, You are the Product)

PHASE ONE: INFANCY (1963-1984)

- **path dependence** : Early Design Decisions may have long-lasting effects on the DEVELOPMENT, USE, CONSTRAINTS associated with a technology
- View that US Military involvement in internet's development meant that it was American in character
- Suspicion by other nations about US motives in developing Internet



DID THE US KNOW WHAT IT HAD CREATED?

- US Military wanted a 'back up' system for military communications – never envisioned e-commerce, YouTube, Instagram influencers, etc.
- DARPA was attempting to solve a specific problem – how to share files among US Defense Contractors
- **Social Construction of Technology:** Users may make unusual decisions about how to utilize technology, NOT in line with original DESIGNERS' Intent; Technology 'becomes' what users make it to be.

INTERNET'S CREATION DEPENDDED ON MULTIPLE TECHNOLOGICAL BREAKTHROUGHS

- Packet Switching
- E-mail
- Asymmetric Cryptography

STOP AND DISCUSS:

- What advantages did the US have due to FIRST MOVER ADVANTAGE?
- How did development of internet in US give US a leading role technologically, economically, politically?
- Is it inevitable that US interests will/would dominate in 'cyberspace'?
- Is the internet "American" today? In what ways? Why or why not?

PHASE TWO: GROWTH AND REGULATION (1984-2000)

Key Actors

- International Telecommunications Union (ITU)
- ICANN (Internet corporation for the assignment of network names)
- Amazon, Google
- World Intellectual Property Organization (WIPO)
- Internet Society

KEY TERMS

- Off-shoring
- Intellectual Property
- Social Media ('the daily me')
- Blogging

KEY DATES

- 1988: China begins to build “GREAT FIREWALL”
- 1999: Y2K problem
- 1999: Napster (peer to peer networking, file sharing)
- 2000: I love you Virus
- 2000: US releases first Cybersecurity Strategy

PHASE THREE: THE MILITARIZATION OF CYBERSPACE (2000-2012)

Key Terms

Dark Web

Attribution Problem

information warfare -- the dangers presented by US dependency on information capabilities as a function of logistics in the conduct of warfare

KEY ACTORS

- US Cybercommand
- EU: Budapest Convention on Cybercrime
- Facebook, Twitter
- Shanghai Cooperation Organization

STOP AND DISCUSS

- In what ways are analogies to real-world events (like Pearl Harbor) useful in understanding the dangers posed by the advent of internet technology?
- How does describing a “cyber 911” detract from or harm our understanding of the issues which states face in cyberspace?

KEY DATES

- 2001: Creation of Shanghai Cooperation Organization
- 2003: First World Summit on the Information Society sponsored by UN
- 2004: Creation of Facebook
- 2004: Budapest Convention on Cybercrime
- 2006: establishment of Wikileaks, Twitter
- 2007: Russia-Estonia Cyberwar
- 2009: first Bitcoins mined; creation of US Cybercommand

STOP AND DISCUSS

- As we look at Phase Three, we see that there are diverse sets of actors involved in designing and developing cyberspace – private corporations, states, coalitions of states, international organizations?
- Was it inevitable that the internet would become a space not controlled solely by states?
- Was it inevitable that the development of the internet would lead to a waning of state power?
- What do you think?

PHASE FOUR: SURVEILLANCE AND BIG DATA (2008-PRESENT)

KEY IDEAS:

Polarization

Surveillance/Differential Surveillance

Algorithms/prediction

Big Data

KEY DATES:

- 2008: Snowden Scandal
- 2013: Publication of Tallinn Manual
- 2014: Right to be Forgotten legislation is adopted in Europe
- 2016: Russia is accused of social media hacking to affect US election