Investigating Cyberculture

SOCS 316

"Cyberspace"

cybernetics

– coined 1948 by U.S. mathematician Norbert Wiener (1894-1964) from Gk. *kubernetes* "steersman," perhaps based on 1830s Fr. *cybernétique* "the art of governing." *Cyberspace* coined by science fiction writer William Gibson (best known for *"Neuromancer"*) and used by him in a short story published in 1982.

"The future offers very little hope for those who expect that our new mechanical slaves will offer us a world in which we may rest from thinking. Help us they may, but at the cost of supreme demands upon our honesty and our intelligence." [Norbert Weiner, "God and Golem, Inc.," 1964] .

Investigating Cyberculture

SOCS 316

"Culture"

culture

- 1440, "the tilling of land," from L. *cultura,* from pp. stem of *colere* "tend, guard, cultivate, till" (see *cult*). Meaning "the intellectual side of civilization" is from 1805; that of "collective customs and achievements of a people" is from 1867. *Culture shock* first recorded 1940.

A Brief History of the Internet: The Precursors I

"Computers," so to speak, have been around for thousands of years. So have networks (social networks, that is). It's only recently that they have come together so forcefully, altering social life as we knew it basically overnight.

From the earliest abacus to the jacquard loom that led to punch card technology, computers that became permanently networked emerged in the 1960s. (click here for interactive abacus)

A Brief History of the Internet: The Precursors II

Computers were an integral part of World War II. Their adoption as military technology created the first steps into computer networking, creating the first vestiges of the Internet in the late 1960s.

Technology development and the dependence on computers in both academic and business institutions in the 1980s increased public awareness and access to computers generally, and the networks grew slowly until…

1991, when Tim Berners-Lee introduced HTML, the World Wide Web (WWW), and Mosaic (which became Netscape Navigator). The rest is history.

A Brief History of the Internet: The Timeline

1958: **ARPA**, the *Advanced Research Projects Agency*, is created by the U.S. Defense Department in response to the 1957 Sputnik launch.

1962: **IPTO**, the Information processing Techniques Office, a branch of ARPA, creates the ARPANET under the leadership of **Joseph Licklider (MIT)**, a minor program designed to stimulate research in interactive computing.

A Brief History of the Internet

1969:   The **ARPANET** utilizes **"packet switching"** technology developed in part by **Paul Baran** of the RAND Corporation. The **first 4 nodes in the network link UCLA, UCSB, Stanford, and Univ. of Utah.**

1972-4:   The **network expands to 15 nodes**, and standardization of communication protocols ensues – **TCP**, or "transmission control protocol", is developed and by 1978 the **IP (inter-networking protocol)** is added by **Vint Cerf of Stanford**, creating the network standard used today, TCP/IP. In 1974, the **UNIX operating system** is released by Bell labs, and used widely at universities. This begins the **"open source movement"**.

A Brief History of the Internet

1977-78: U. Chicago students **Christensen and Suess create MODEM software**, and in 1978 they create the Computer **Bulletin Board System (BBS)**, modeled after office bulletin boards used for public messaging.

1981-83: From the first BBS idea sprouted the **USENET**, a message system for the ARPA network, IBMs version, **BITNET**, used widely on college campuses and a private BBS, **FIDONET** (Tom Jennings), still widely used today (with 3 million subscribers).

A Brief History of the Internet

1983-88: **MILNET**, the **military branch of the internet**, splits off from ARPA-INTERNET for security purposes. In 1984, the **National Science Foundation** starts **NSFNET**, and by 1990 it replaces the obsolete ARPANET using the same "backbone" infrastructure.

1990: The Internet goes private, with a number of Internet Service Providers (ISPs) being created by business enterprises, most notably AOL (America Online).

A Brief History of the Internet

1991: Working at CERN, a high-energy physics lab in Switzerland, **Tim Berners-Lee creates the World Wide Web**, which utilizes
- Hypertext Markup Language (html),
- Hypertext Transport Protocol (http), and
- URLs (Uniform Resource Locators).

1993- : **MOSAIC**, the first "web browser", is created at the Univ. of Illinois, which later becomes **Netscape Navigator**. Microsoft enters the market late in 1995 with their **Internet Explorer** browser.

1/1 2000: The Y2k bug destroys all computers worldwide. ?

A Brief History of the Internet

2001:   Personal computing takes it's next step with the development of "**Web 2.0**" applications focused on **ubiquitous computing** and **social networking**. *Google* begins to dominate the world of search engines.

2004:   **Facebook** is created by Mark Zuckerberg at Harvard University. By 2011 it is the most widely viewed webpage (700 million users) on the 'net, eclipsing the Google page.

.

2010:   "**Cloud computing" and the tablet market** begins to change the model for personal computing.

2015 →   ???? What's next ????

A Brief History of the Internet: The Culture

Castells points out that **the culture of the Internet has always been *libertarian***, prizing **freedom** over military **security** and market **control**.

Even the DoD ARPANET users originally used their systems for informal communication, exchanging messages about birthday greetings and using the network for "marijuana procurement" (Castells, Chp 1)

The influence of the 1960s counterculture on the development of modern computing is demonstrated further by Fred Turner in his book "From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism" (2004).