From The History of the Telephone by Herbert N. Casson, Published: 1910

By 1884, . . . , there came to be a group of mechanics and high-school graduates, very young men, mostly, who had no reputations to lose; and who, partly for a living and mainly for a lark, plunged into the difficulties of this new business ... The problem that they dashed at so light-heartedly was much larger than any of them imagined.

All that these young men had received from Bell and Watson was that part of the telephone that we call the receiver. This was practically the sum total of Bell's invention, . . . There were no switchboards of any account, no cables of any value, no wires that were in any sense adequate, no theory of tests or signals, no exchanges, no telephone system of any sort whatever.

As for Bell's first telephone lines, they were as simple as clothes-lines. Each short little wire stood by itself, with one instrument at each end.... But there had now come a time when more than two persons wanted to be in the same conversational group.... Here was the new problem, and a most stupendous one -- how to link together three telephones, or three hundred, or three thousand, or three million, so that any two of them could be joined at a moment's notice.

Announcements

Midterm on Thursday night Sector Extra office hours Wed 1-2:30 Review session Wed. 9PM, TPL 203 Hw 4 returned in lab this week Work in pairs in lab this week Searly due date for lab 6



<u> ????</u> 0

Review

Java:

- Representing collections recursively
- Networking:
 - Network vs. 2 connected machines
 - Multi-machine connectivity through broadcasting (Ethernet)
 - Ethernet's limitation:

efficiency = P/R / (P/R + WT)

The Plan

Today: Switched NetworksWednesday: internetworking





High school dating: Data drawn from Peter S. Bearman, James Moody, and Katherine Stovel, <u>Chains of affection:</u> <u>The structure of adolescent romantic and sexual networks</u>, *American Journal of Sociology* **110**, 44-91 (2004





Internet Mapping Project

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Tuesday, October 27, 2009

Message Switching



Mis-matched Transmission Rates









