Minnesota as a “Digital State”: Or, How the Nation’s First Computer Industry was Born in a St. Paul Radiator Shop

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Topics tonight

1. Mn *was* Silicon Valley
2. Birth* at St. Paul ‘radiator shop’
3. “Silver mine” (impacts...*)
4. “Gold mine” (consequences*)
5. What to ‘see’ today?

*(of Mn’s pioneering computer industry)*
California’s ‘Silicon Valley’

- Adobe
- Apple
- Cisco
- eBay
- Facebook
- Google
- HP
- Intel
- Oracle
- Yahoo
California’s ‘Silicon Valley’

- Adobe: 1982
- Apple: 1976
- Cisco: 1984
- eBay: 1995
- Facebook: 2004
- Google: 1998
- HP: 1939
- Intel: 1968
- Oracle: 1977
- Yahoo: 1994
MN was Silicon Valley (1950s–1970s)

- ‘stored program’ computer [1950]
- magnetic data storage
- computer industry
- ‘supercomputer’
- ‘first’ WWW
Birth at St. Paul ‘radiator shop’

- Secret crypto built Dayton OH ... to wartime Washington

- John Parker’s St. Paul glider factory

- CSAW to Engineering Research Associates (f. 1946) in ‘radiator shop’
Birth at St. Paul ‘radiator shop’

- St. Paul Midway industrial district (Snelling shops)
- Spray-on magnet alongside 3M
Silver mine: MN’s computer industry

2. Engineering Research Associates [f. 1946]

   Unisys 1986- ➔ 29 spin-offs


5. Honeywell (computing = 1958-91)

6. IBM-Rochester [1956--]
Silver mine: MN computer workforce

MN by mid-1970s . . .

• ... 1.8% of US population
• ... 3.3% of US manufacturing jobs
• ... 12% of US $6B computer sales
• ... 17% of US computer mfg jobs
Why ‘not’ Silicon Valley MN?

✓ Technology & innovation
✓ Computer-center ‘industrial district’
✓ Venture capital #2 [1958-63]
✓ Sales to military + govt + univ labs + ATC
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✧ Less visible in commercial markets
✧ No journalist’s “Silicon Valley” [1971]
✧ Secret work ⇔ public awareness?
Gold mine: longer consequences

- ERA magnetic media ➔ 3M + Imation ➔ IBM’s magnetic drum 650
- Twin Cities ➔ ‘younger, female’ ➔ 62% state’s population
- MECC ➔ Apple Computer
- computing ➔ medical devices [ch.7]
- lessons for high-tech innovation?
CBI from CA to MN 1980

- Computer history research and archiving
- 250 archival collections
- 400 oral histories
- 150,000 photos
- “1 mile” of paper records
- 4 staff + colleagues
- www.cbi.umn.edu

Charles Babbage (1791-1871)
CBI and MN computing
CBI and MN computing
What to see today?

tinyurl.com/sia-misa
US Bank West 7th/Shepard Rd (2013)
“Engineering Research Associates, the forerunner of Sperry’s Minnesota presence, is the acknowledged parent of some 100 Twin Cities computer firms. In commemoration of the 40th anniversary of ERA’s founding, this plaque is placed on the company’s original manufacturing site this 19th day of August 1986” [Bill Geiger, Bob MacDonald, and Jack Nichols]
Control Data Northside plant (1967)
Control Data Northside plant (1973)
Honeywell relay department (c.1930) MHS
Control Data 7801 Computer Ave. (1980s)
Control Data disk drive factory (1972)
Seagate 7801 Computer Ave. (2013)
Control Data now Health Partners (1980s)