Digital State: Industrial Districts and the Emergence of Minnesota’s High Tech Economy

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A. Computing history as local history?
B. Minnesota computing
C. Added value with ‘industrial district’ (images ch 2)
D. Methods + findings
E. Discussion: 2 + 8
A. Computing history as local history?


• Varied origins [c. 1945-50] . . . rise of Silicon Valley [1971]

• glory days of 128 + Mass. ‘miracle’ minicomputers as PCs . . . www

B. Minnesota computing

- computer industry in MN by 1960: (ERA-RR) Univac, Control Data, Honeywell, IBM-Rochester
  - computing (hard- + software)
  - many companies ... networks, engineers, stock, restaurants, VCs
  - economic impact: payroll, taxes, suburban development
B. Minnesota computer industry

- some ‘well known’: Control Data 6600 ‘supercomputer’ + Cray saga
- many ‘unknown’: Control Data OEM, Univac’s NTDS + ‘quality revolution’, IBM’s AS/400, IBM’s BlueGene/L, Internet Gopher/‘surfing’
- military security (‘not ... discussion’)
- R&D model vs. IBM-R ‘DD&M’
Control Data at Minnesota state fair [1969]
C. Added value with ‘industrial district’

- five chapters on ‘anchor firms’
- ‘specialist auxiliaries’ and ‘ancillary industries’ *plus* ‘global enterprise’
- links to e.g. banks, Minneapolis Fed, UMinn, MN jobs + skills + strategy
- ‘districts’ *within* companies (IBM)
- specific *places* (St. Paul’s Midway ➾ + suburbs + CDC’s inner-city + rural)
1500 large wooden gliders made at John Parker’s NAC factory in St. Paul’s Midway [= ERA site]
Engineering Research Associates: Plant #1 (c.1955)
ERA skilled machinist and magnetic drum (c.1955)
ERA + 3M = spray-on magnetic oxide ERA
magnetic drum rotor [c.1955] ancillary industry
ERA engineers: Jack Hill, Arnold Cohen, Frank Mullaney, Bob Perkins, Arnie Hendrickson, Bill Keye
ERA drafting room: total 6 women + 9 men
ERA 1103 rebranded ‘Univac Scientific’ to University of Minnesota [1958]
D. Methods and findings

- **fine-grained analysis**
  - variability + social shaping of T

- **state + firm-level** (n=245) job stats
  - gender + assess MN’s ‘policy’

- **long-term + spatial growth/change**
  - computing’s shaping of MN

- **micro + meso + macro ‘analytical levels’**

- MN as ‘digital state’ = **actor’s concern**