Technology, Work and Organizations

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Organization Studies of Technology & Work

Sociology of Automation

Materialists
Determinists
Focus on Work
Methods: Field observations, interviews and survey research.


1950s  1960s  1970s  1980s  1990s onward
Blauner’s Inverted U

- Alienation
- Centralization
- Skill
- Craft Production

Mass Manufacturing

Continuous Process

Extent of Automation

Energy Source → Transformation → Transport → Control
Organization Studies of Technology & Work

Sociology of Automation

Socio-Technical Systems

Materialists
Volunteerists
Focus on Work & Organization Structure
Methods: Field observations, interviews and survey research


1950s 1960s 1970s 1980s 1990s onward
Organization Studies of Technology & Work

1950s  1960s  1970s  1980s  1990s onward

Sociology of Automation

Socio-Technical Systems

Materialists
Determinists
Focus on Work
Methods: Historical case studies.

Deskilling Theory


Greenbaum. *In the Name of Efficiency*. 1979.
Braverman’s view of Blauner
Organization Studies of Technology

- Sociology of Automation
- Socio-Technical Systems
- Deskilling Theory
- Chicago School (Kling)
- Ethnomethodology (Suchman)
- Constructionists
- Structurationists
- Focus on Work
- Methods: Ethnography, Historical case studies.
- Social Construction of Use

1950s 1960s 1970s 1980s 1990s onward
## Perspectives on the Social Construction of Technology

<table>
<thead>
<tr>
<th>Aspect of Implementation</th>
<th>Perception</th>
<th>Interpretation</th>
<th>Appropriation</th>
<th>Enactment</th>
<th>Alignment</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Adoption</td>
<td>Use</td>
<td>Use</td>
<td>Use</td>
<td>Adaptation</td>
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<tr>
<td>What is constructed</td>
<td>Attitudes, Beliefs and Values</td>
<td>Schemas and Frames</td>
<td>Patterns of deviation and conformity</td>
<td>Work Practices</td>
<td>Roles and Relationships</td>
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<td>Construction Process</td>
<td>Social Influence</td>
<td>Transference</td>
<td>Intra-group interaction</td>
<td>Situated Improvisations</td>
<td>Inter-group interaction</td>
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</tbody>
</table>
Barley’s Law of Technological Change

You almost never get just what you expect and most of the time you don’t even get that.

Corollary:
However, you will get something.
First and Second Order Effects

• First Order Effects
  – Economic
  – Quick
  – Utilitarian
  – Relatively predictable

• Second Order Effects
  – Socio-cultural
  – Slow but pervasive
  – Critical but not utilitarian
  – Hard to predict
Reverberation Model of Technological Change
Flow of Information and Technical Assistance in a Radiology Department
Technician's Work at the Empirical Interface: The Epistemic Core

<table>
<thead>
<tr>
<th>Material Entities</th>
<th>Empirical Interface</th>
<th>Representations</th>
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<tbody>
<tr>
<td>Biological Systems</td>
<td>Technologies</td>
<td>Data</td>
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<tr>
<td>Physical Systems</td>
<td>Techniques</td>
<td>Test Results</td>
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<tr>
<td>Mechanical Systems</td>
<td>Knowledge</td>
<td>Images</td>
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</table>

Transformation

Caretaking
Distribution of Knowledge When Techs are Buffers

Technician’s Knowledge

Contextual Understanding

Theoretical Understanding

Professional’s Knowledge
Distribution of Knowledge in IT

Technician’s Knowledge

User’s Knowledge

Contextual Understanding

Theoretical

Hazy understanding, bordering on ignorance
Typical Notions of the Distribution of Technical Knowledge

- Professional’s Knowledge
- Technician’s Knowledge
Computer people… don’t have the requisite capacity for judgment.
Buy this Book!!!!
Freedom to Work.....

when you want!!!

how you want!!!

where you want!!!
Informants’ Source of Retirement Funds

<table>
<thead>
<tr>
<th>Source</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>None</td>
<td>45%</td>
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<td>20%</td>
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<tr>
<td>401K</td>
<td>12%</td>
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<tr>
<td>SEP</td>
<td>8%</td>
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<tr>
<td>Kough</td>
<td>2%</td>
</tr>
<tr>
<td>Former Employer</td>
<td>12%</td>
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</table>
Proportion of Articles that Mention Key Themes

- Energy and Air Pollution
- Flexibility Work & Family
- Telecommuters as a Market
Some Unanticipated 2\textsuperscript{nd} Order Effects of an Information Infrastructure

- Employers have been able to appropriate portions of our and up to three additional weeks of our time per year, usually without compensation.
- Costs of employment are being shifted onto workers in a fashion that undermines the U.S. system of social welfare.
- The industrial culture of status seems to be reestablishing itself within the technical labor force, especially with respect to technicians.
References


