Organizations as Machines

162 W
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(many thanks to Paul Dourish for some of this material)

First, why do organizations exist?

To achieve some other goals

– Often, goals that one person or a family unit could not achieve alone

Reminder about metaphors

- Each metaphor suggests a way of thinking
  - none of them is absolutely right!
  - need to see all sides of the issues
  - useful in different circumstances

Think about:

- How these metaphors explain what organizations do
- How they explain how people act in organizations
- How they explain how organizations use information

Basic Idea

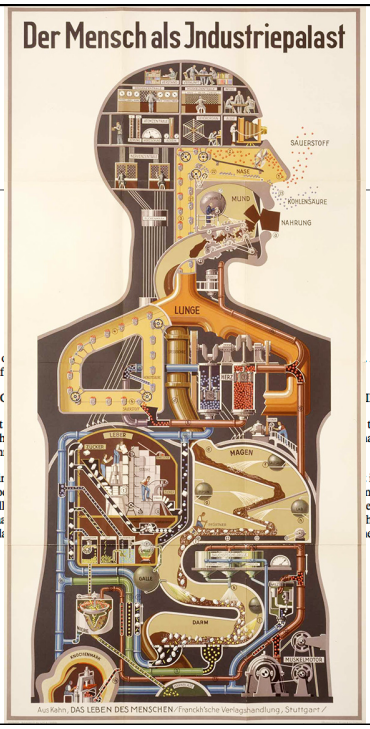
- Organizations are made up of many parts
- Together, they perform work
- Organizations transform *input* into *output*
  - *What's an example?*
- They do this more or less efficiently?
  - What do we mean by efficient?
- Studied and designed through applied science
  - Who remembers the scientific method?

We are vibrating bodies living in an environment, every part
rhythm, timing, and quality by the surrounding vibrational inf

I. THE BODY IS A COMPLEX MACHINE CONSISTIN

Mankind in its search for explanations of the phenomena that
to comprehend the implications of the mechanical nature of th
involve the five senses and the way we perceive vibrations th

The human body is a machine consisting of many different, ir
predetermined relationship to each other. In this sense, the bo
many separately functioning components that are mechanicall
But unlike man-made machines, the various machines that ma
of a transmission system of an automobile are in rigid interrel



All the actions of our lives are controlled in their speed,

IBRATING MACHINES

to confront the fact that the body is a machine. It is necessary
at make up human life, particularly the implications that

its own individual speed, but all function in a specific,
nobiles, tape recorders, or space capsules, which consist of
e body is the most complex of all such compound machines.
h other. The flywheels and cogwheels of a watch or the parts
er, with little allowable tolerance, or they break. Not so the

What does Morgan call organizations that run like machines?

Bureaucracies

Basic Principles

- Structure
- Efficiency and Speed
- Precision
- Measurement
- Regularity and Reliability

- Goal is to be able to repeat exactly:
  - Standardize then optimize
  - Interchangeable parts become key

Machines have parts

- This is Widget #32

- What's significant about this view?

Classical Management Theories

- Emphasize
  - Planning
  - Organization
  - Command
  - Coordination
  - Control
- Leads to specific techniques
  - Management by Objectives (MBO)
  - Planning, Programming, and Budgeting Systems (PPBS)
  - Business Process Reengineering (BPR)

Taylorism

- Frederick Taylor (1911) *Principles of Scientific Management*
- Division of labor
- Performance-based wages
- Led to:
  - Time Studies
  - Tool standardization
  - Instruction cards for workers
  - Task allocation
- Eventually led to Ford's famous assembly line

Taylor's principles

- Shift responsibility for organizing upwards to the "planners"
- Use scientific methods to determine optimal processes
- Select the best person for the job
- Train workers to act efficiently
- Monitor (and improve) over time

Is Taylor a hero or villain?

Herb Simon

- "Renaissance man"
  - Computer science, cognitive science, psychology, economics…
- Rational model of organizations
  - Formal goals
  - Operations to achieve them
  - Evaluation of costs and benefits

"Bounded rationality"

- Most people are only partly rational
  - What else are they?
- Planning as *satisficing*
  - No one has perfect knowledge
  - Continual process of adjustment and replanning

Machine approach can be very effective in certain situations.

When?

Effective when:

- Parameters are known (task AND environment)
  - Fast Food
  - Automated Production
- One wishes to produce the exact same thing every time & precision is key
  - Safety Critical Activities
- The human parts behave as designed
  - Military training
  - "Hamburger U"

Weaknesses

BUT….

- Assumptions of homogeneity
- Encourages a "mindless" attitude
- Hard for people to feel involved
- Difficult to innovate/change
- Not suitable for all kinds of work (like?)

Information and Systems

- Enforcing standardization
- Conveying information through the organization
- Monitoring and measuring performance
- Maximizing efficiency

Example: UCI

- Break into pairs or small groups
- Answer:
  - How is UCI organized structurally?
  - What are the formal processes?
  - How is standardization achieved?
  - How do information systems support them?
- We'll come back together to discuss

Discussion this Friday

- Introduction to the five writing forms:
  - project overview
  - case study
  - progress report
  - research paper
  - executive summary
- More detail on project overviews

Upcoming

- Monday: Lofland Chapters 1-3
- Wednesday: Lofland Chapter 4 & 5

- Next week:
  1. Find your field site and get access.
  2. Go there and take as many notes as you can on broad ideas.
  3. What systems are being used? Where are they located? Who has access? What seemed easy or hard?

Let's talk field sites

- Ideas for potential sites

- Issues with and strategies for gaining access