How to Innovate within a Large Organization?

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Problem:

- **You live in an organization.**
- **You <u>love</u> innovation, but your organization <u>hates</u> innovation.**

What can you do?

Example:
Organization = Technion
You = Undergraduate Student

● **(In general) You are *not expected* to innovate:**

➢ Study material is "pure scientific truth"

➢ Exercises train you to perform "procedures"

➢ In exams, there is a "correct answer"

More Examples?

The basic mismatch:

Organization   Vs.   Innovation

- **Stability**

- **Predictability**

- **Low risk**

- **Firm commitments**

- **Efficiency**

- **Size and inertia**

- **Groups resist change**

- **People know their jobs**

Still, Innovation happens sometimes in organizations….

- Why?

- When?

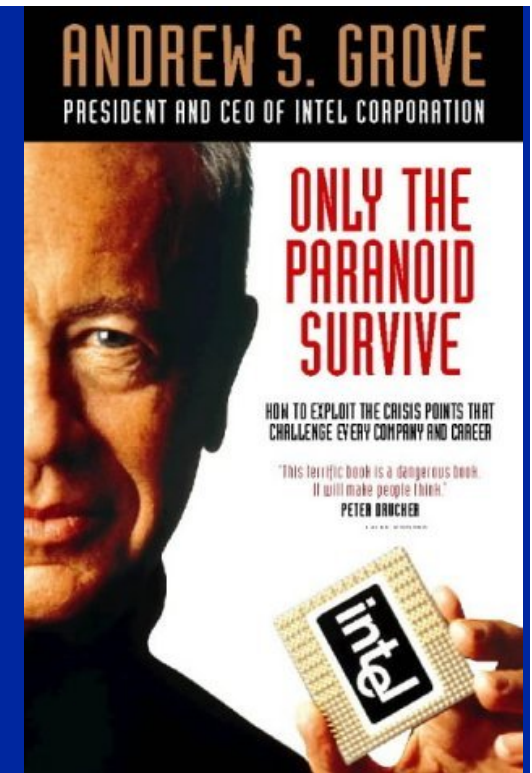# What Good Organizations Do to Foster Innovation?

- **"Double bind"**
  - Required: Regular job assignments
  - Expected: Innovation
- **Success and promotion: by innovation!**
- **Organizational culture**
  - Innovation is admired
  - Problems of the organization shared by all members
  - Leadership and influence expected at all levels
  - Intensive internal communication

What can the <u>individual</u> do?

- **Join a good organization**

- **Be ready to live with the "double bind"**

- **Understand the culture**

- **Find partners**

- **Influence**

- **Remember that technology is not everything**

Intel as an Example: Secrets of continued success at Intel

- **Structured strategic planning cycle**
- **Paranoia**
  - Kill your own technology … or someone else will
- **Focus on execution**
  - Best ideas are not sufficient
  - Ideas evolve to strategies and execution roadmaps
- **Cultural Values and Practices to encourage risk-taking and organizational learning**

ANDREW S. GROVE
PRESIDENT AND CEO OF INTEL CORPORATION

ONLY THE PARANOID SURVIVE

HOW TO EXPLOIT THE CRISIS POINTS THAT CHALLENGE EVERY COMPANY AND CAREER

"This terrific book is a dangerous book. It will make people think."
PETER DRUCKER

Success and failure stories:
The RISC vs. CISC war at Intel

- "To get under the management radar screen that guarded our compatibility dogma, the engineers and technical managers who believed in RISC camouflaged their efforts and advocated their chip as an auxiliary one that would work with the 486" .
  [Andy Grove, "Only the paranoid survive", 1996]

- **This RISC processor was introduced in parallel with 486.**

Lesson: Initial camouflage can work!

Pentium™ Architecture

- **"Don't kill the golden goose" - a message sent by Israeli engineers in the midst of RISC/CISC debates at Intel**

- **They proposed technical elements for Pentium™ design, combining RISC and CISC techniques**

- **Had to convince management that both high performance and compatibility were possible**

**Lesson: Open debate is important
for influence from below**

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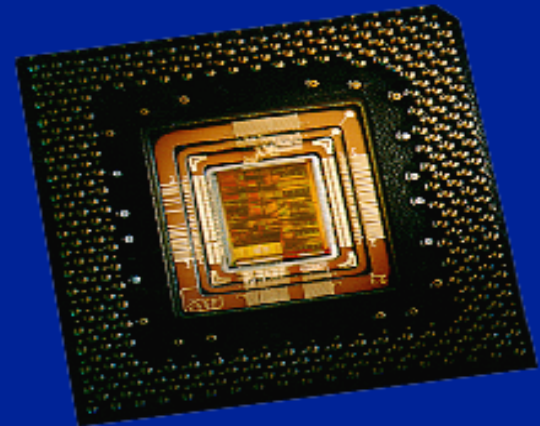
The Role of Management

- In a large organization, innovation happens "despite management"….

- But <u>managers work hard</u> to enable and apply people's creativity!