



Aalto University
Design Factory

Methods in Early Product Development



Kalevi "Eetu" Ekman

Saurabh Deo

Pekka Pokela

FIFTH EDITION

Product Design and Development



KARL T. ULRICH • STEVEN D. EPPINGER

McGraw-Hill INTERNATIONAL EDITION



SIXTH EDITION

PRODUCT DESIGN AND DEVELOPMENT

Karl T. Ulrich | Steven D. Eppinger

Mc
Graw
Hill
Education

06.09.	Introduction. Processes and organizations.	
08.09.	Managing projects. Opportunity identification.	
13.09.	Identifying customer needs.	Team1
15.09.	Product specifications.	Team2
20.09.	Concept generation.	Team3
22.09.	Concept selection.	Team4
27.10.	Product architecture.	Team5
29.10.	Industrial design.	Team6
04.10.	Design for environment.	Team7
06.10.	Prototyping and testing.	Team8
11.10.	Design of services. Intellectual property rights.	Team9
13.10.	Wings of change.	Team10

Tutoring meetings with Pekka Pokela

Friday	09.09.	15:45 – 16:30
Friday	16.09.	14:30 – 16.30
Monday	19.09.	09:30 – 11:30
Wednesday	21.09.	12:00 – 16:30
Friday	30.09.	14:00 – 16:30

R&D aspects

- Size of the company
- History
- Regulation
- Complexity
- Geographics
- Volumes
- Investments



Powerkiss

pdp

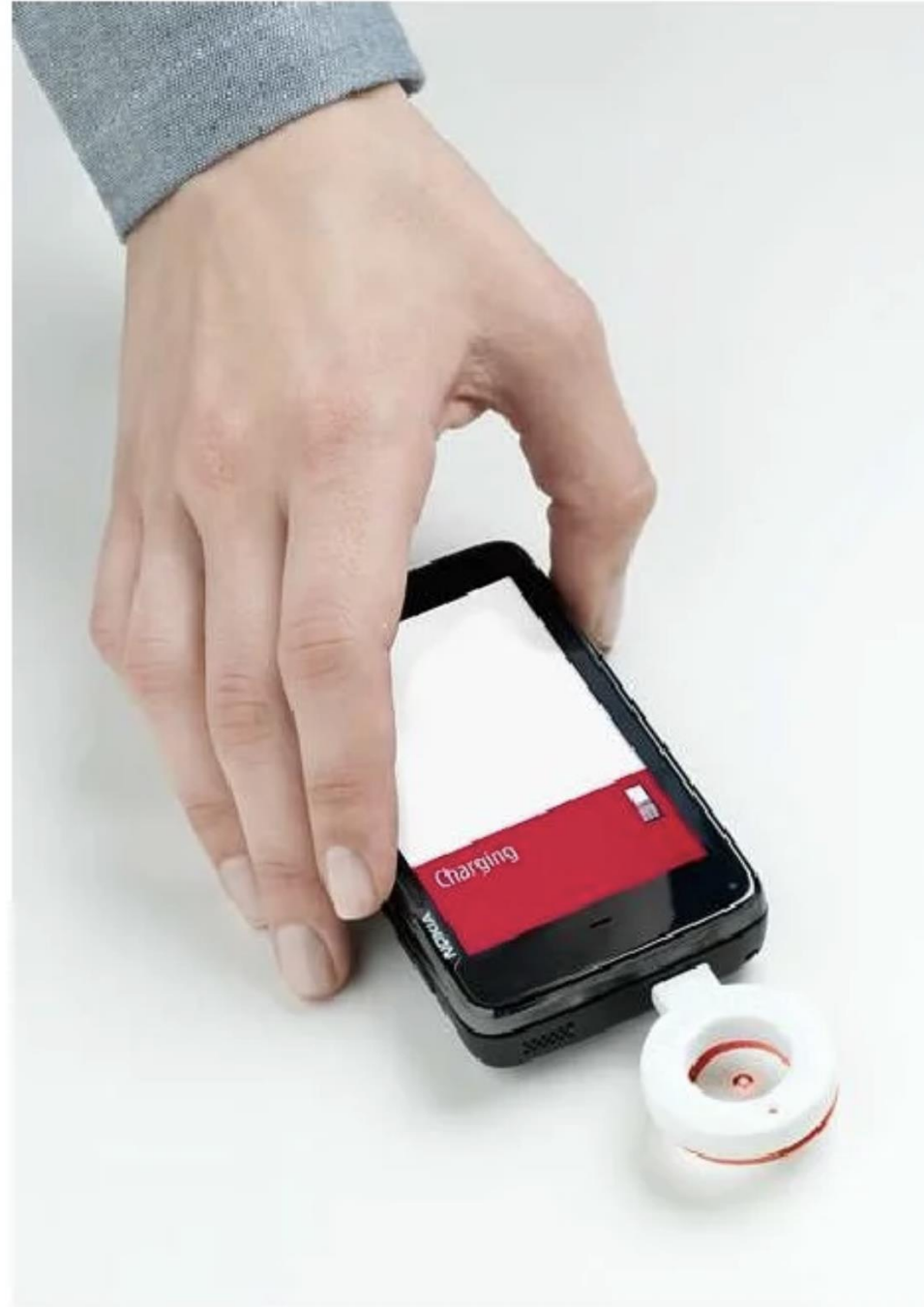
2009-2010

Product Development Project

Showroom
Wireless World 2.0

POWERKISS INTRODUCTIE

Het is nu mogelijk om draadloos uw telefoon, I-Pad, Notebook of ander apparaat op batterijen op te laden.









Portable Measurement Device

Develop the next generation measurement platform for Vaisala environmental measurements – humidity, dewpoint, temperature and CO₂

What are features of an inspirational and state-of-the-art product that stands out from the competition?

How to tolerate harsh conditions and withstand wide operating environments?

How to connect to other Vaisala instruments and end user data collection devices?

Demonstrate the key features, user interface concept and connectivity with a working prototype



Desired skills

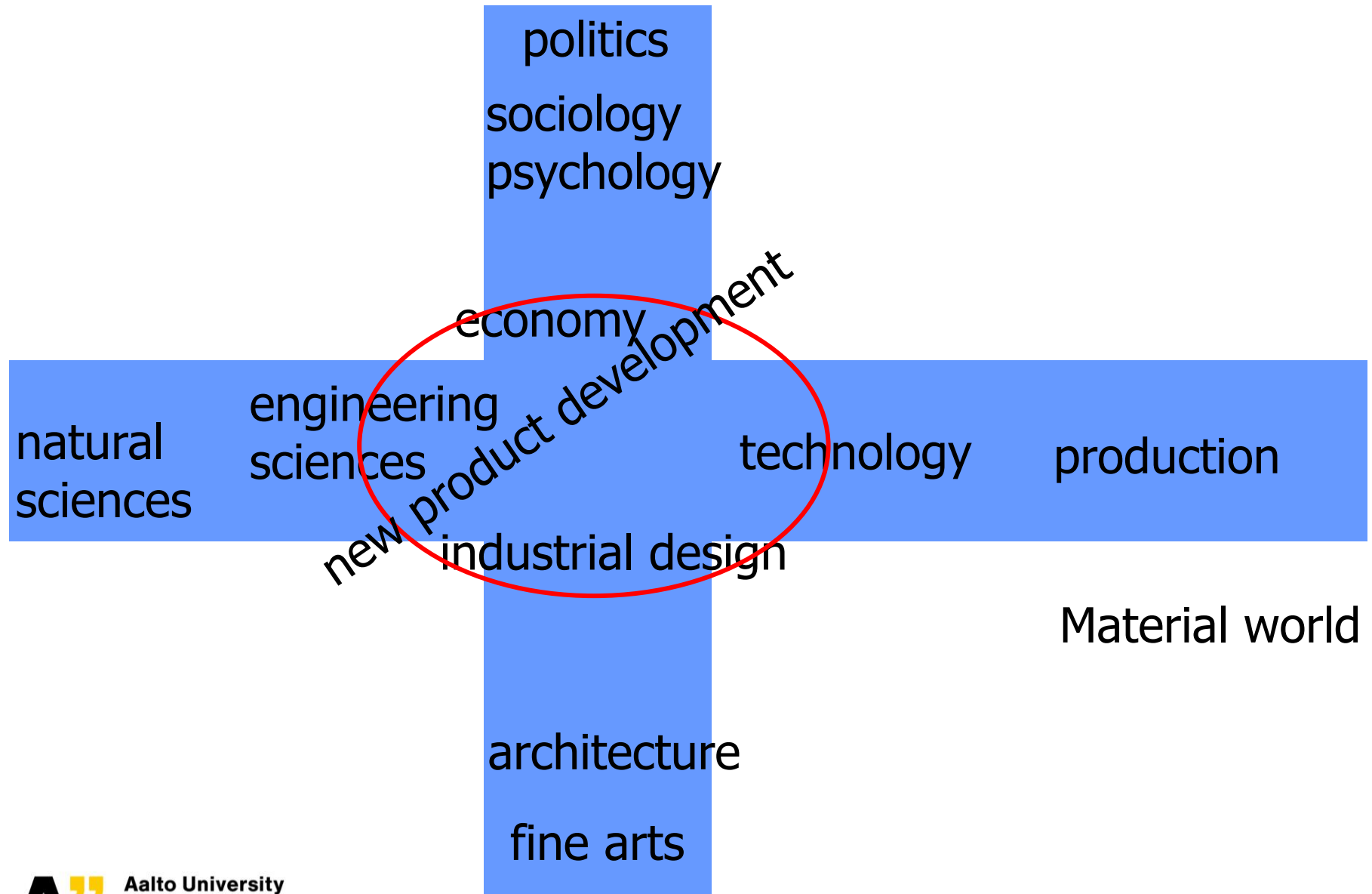
Mechanics design
Software design
Electronics and data comm.
Industrial and UI design

Interest in manufacturability,
simplicity in design and
environmental measurement
technologies



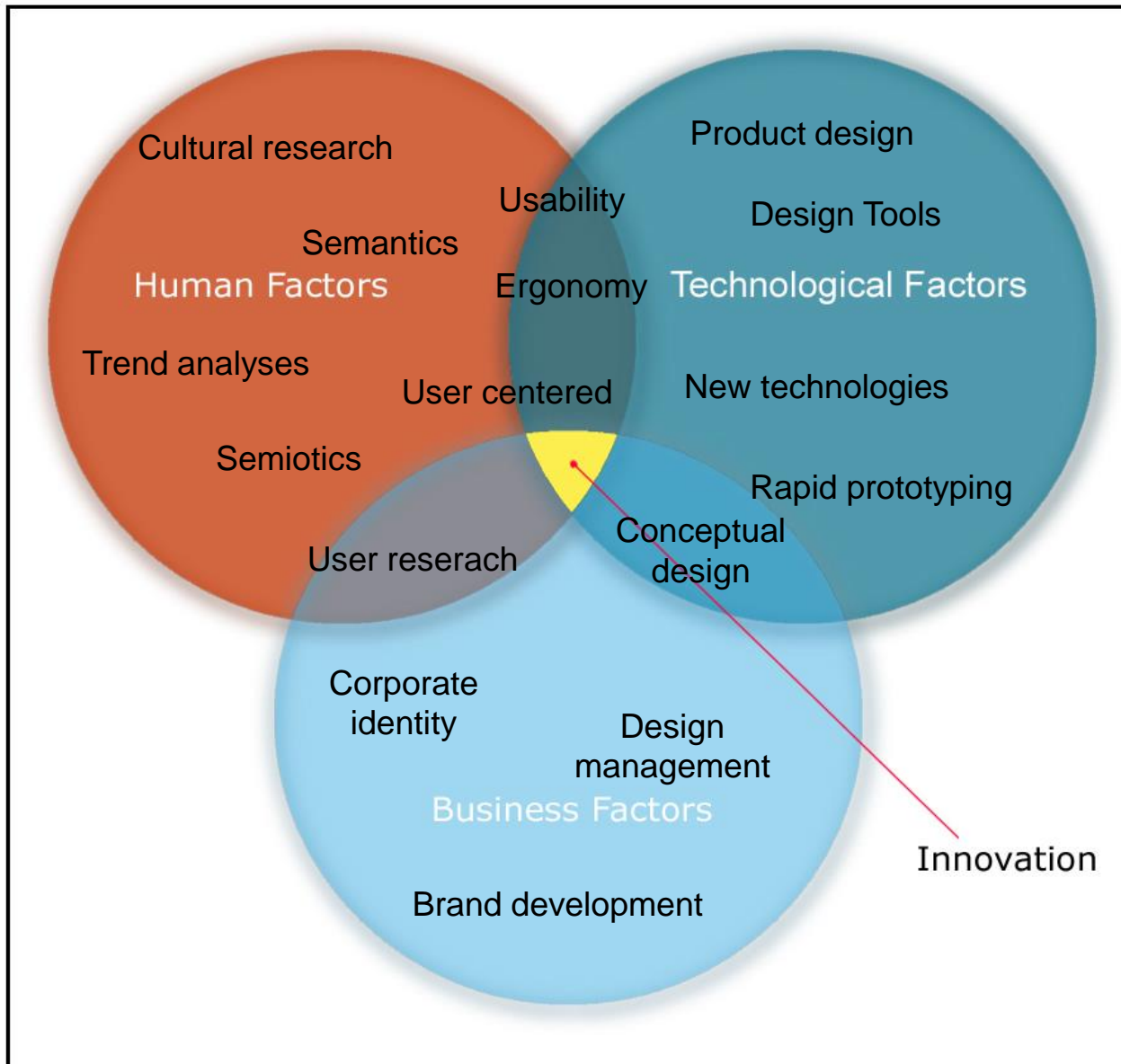
need for processes

Cultural



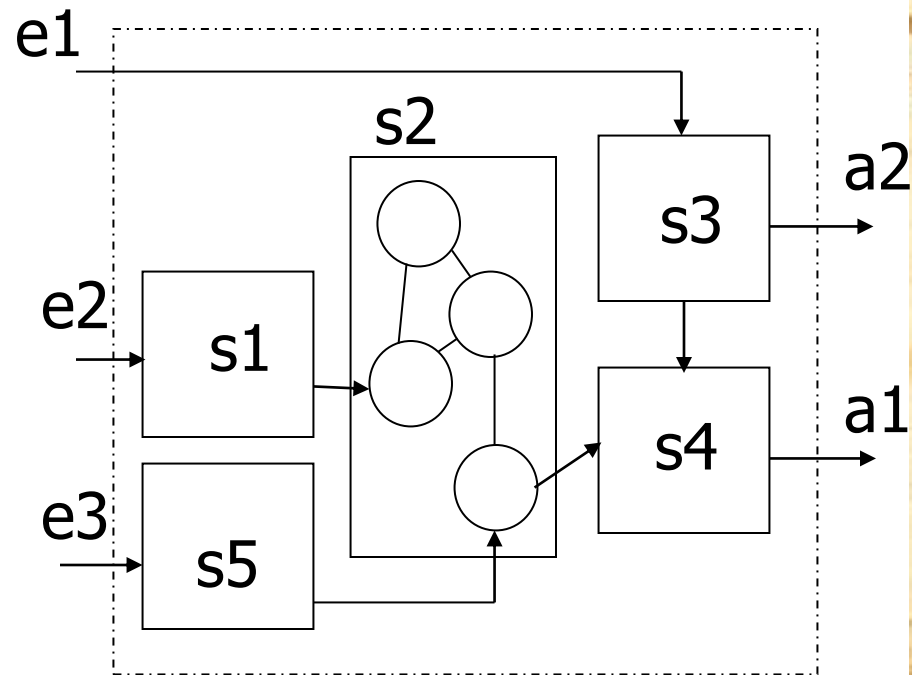
Material world

need for processes



start of methodological design

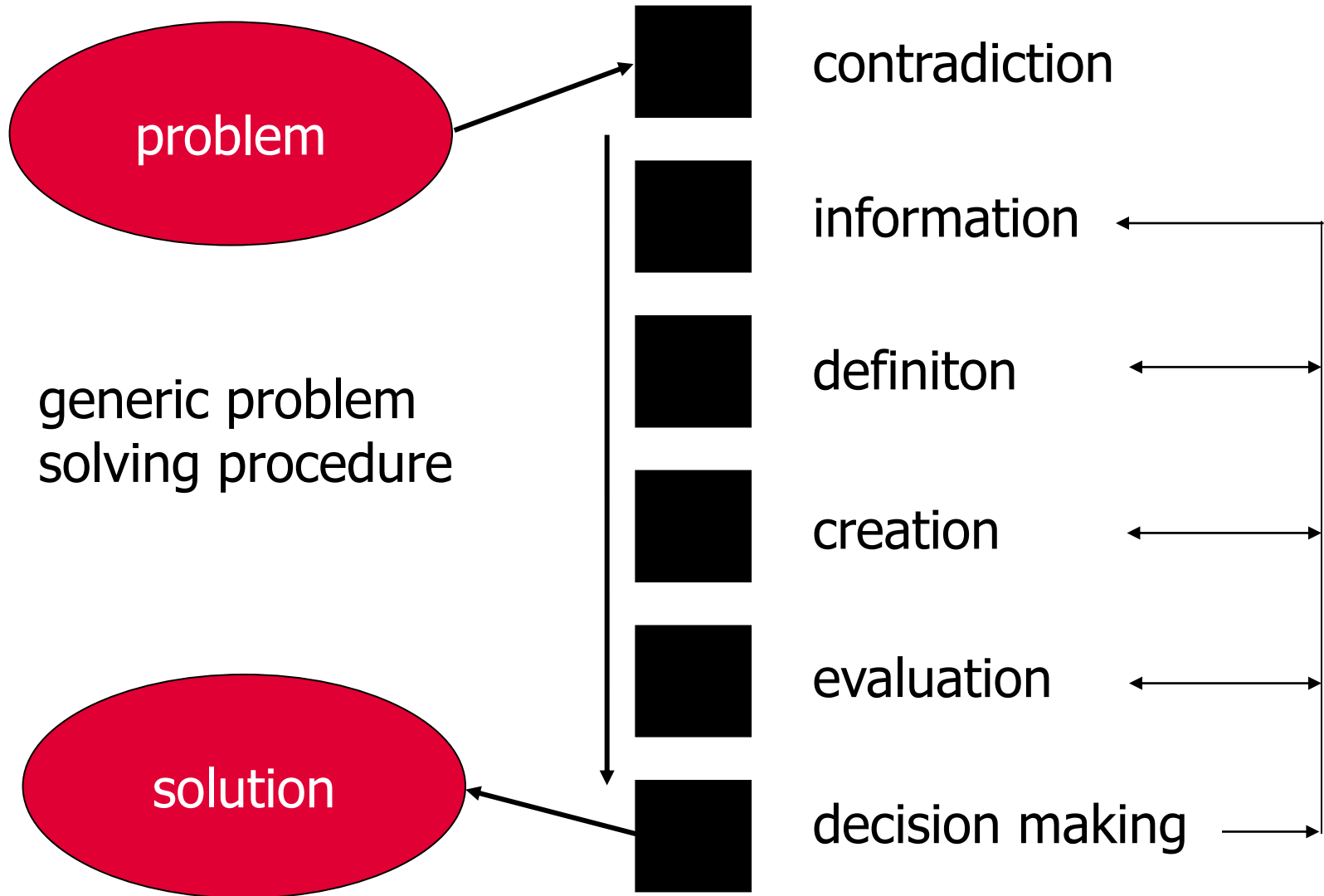
- Leonardo
- Engpass Konstruktion
- Systems approach



need for processes



need for processes



need for processes

good process

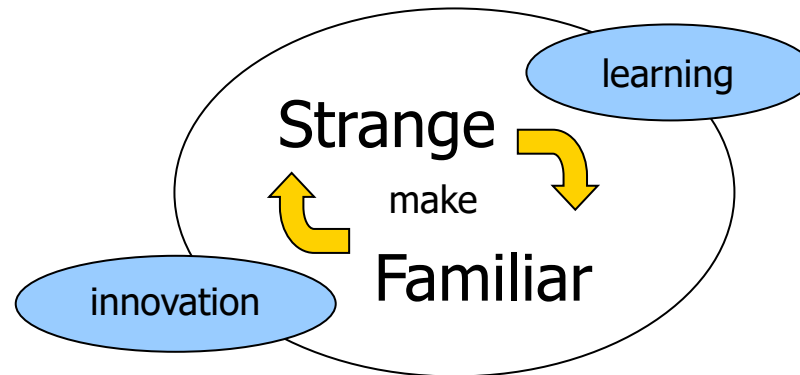
- problem oriented
- promote creativity, inventions, new ideas
- fit to terms, methods and ideas of other sciences
- create solutions which are not precarious
- should be applied easily to similar problems
- should fit to computer aided work
- can be taught and learned
- should follow the principles of work sciences
 - make working easier
 - save time
 - decrease number of mistakes
 - increase interest to work

where do ideas come from

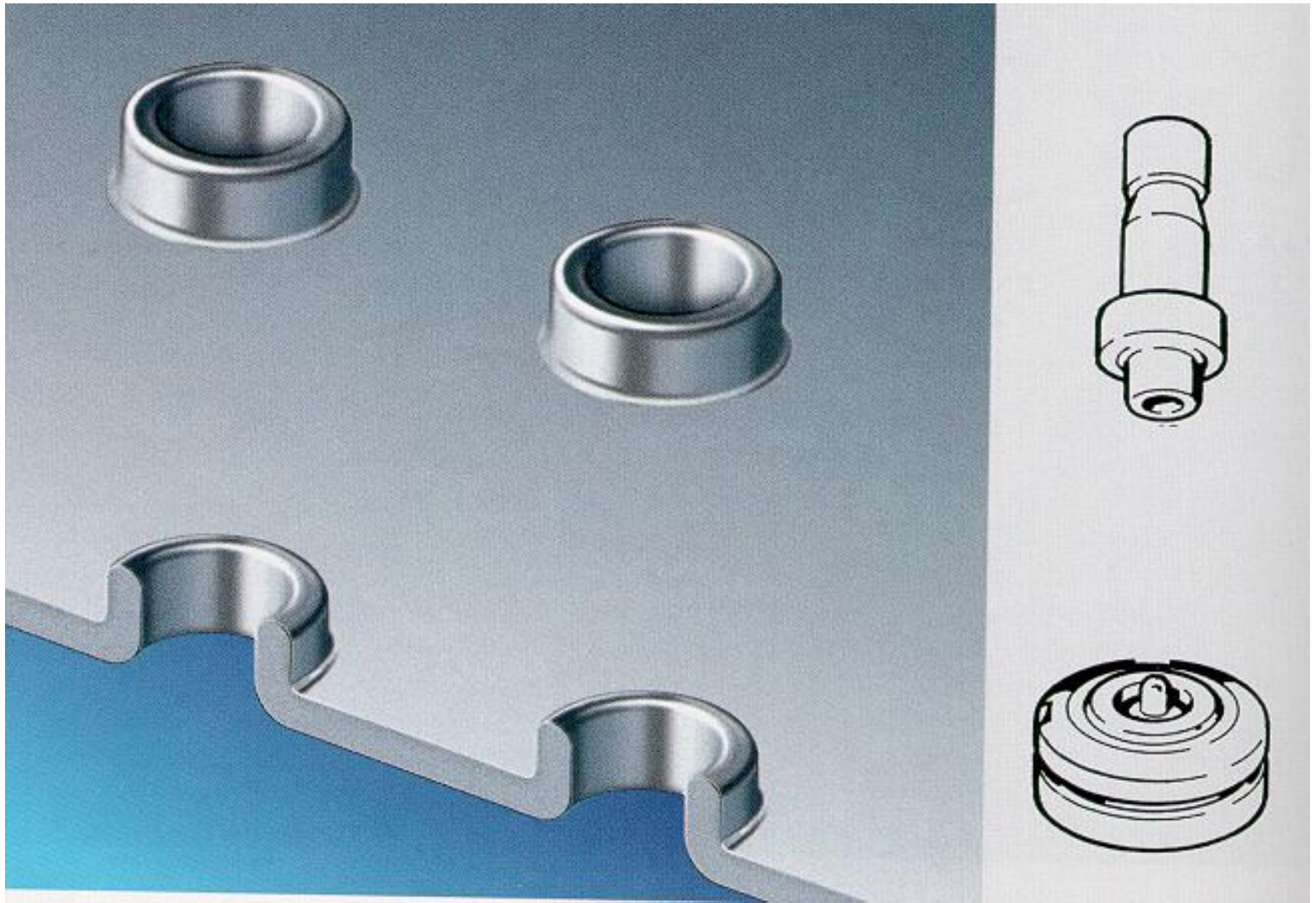
“good players have luck”

“chance favours prepared mind”

“ invention is 1% inspiration and 99% perspiration”



where do ideas come from



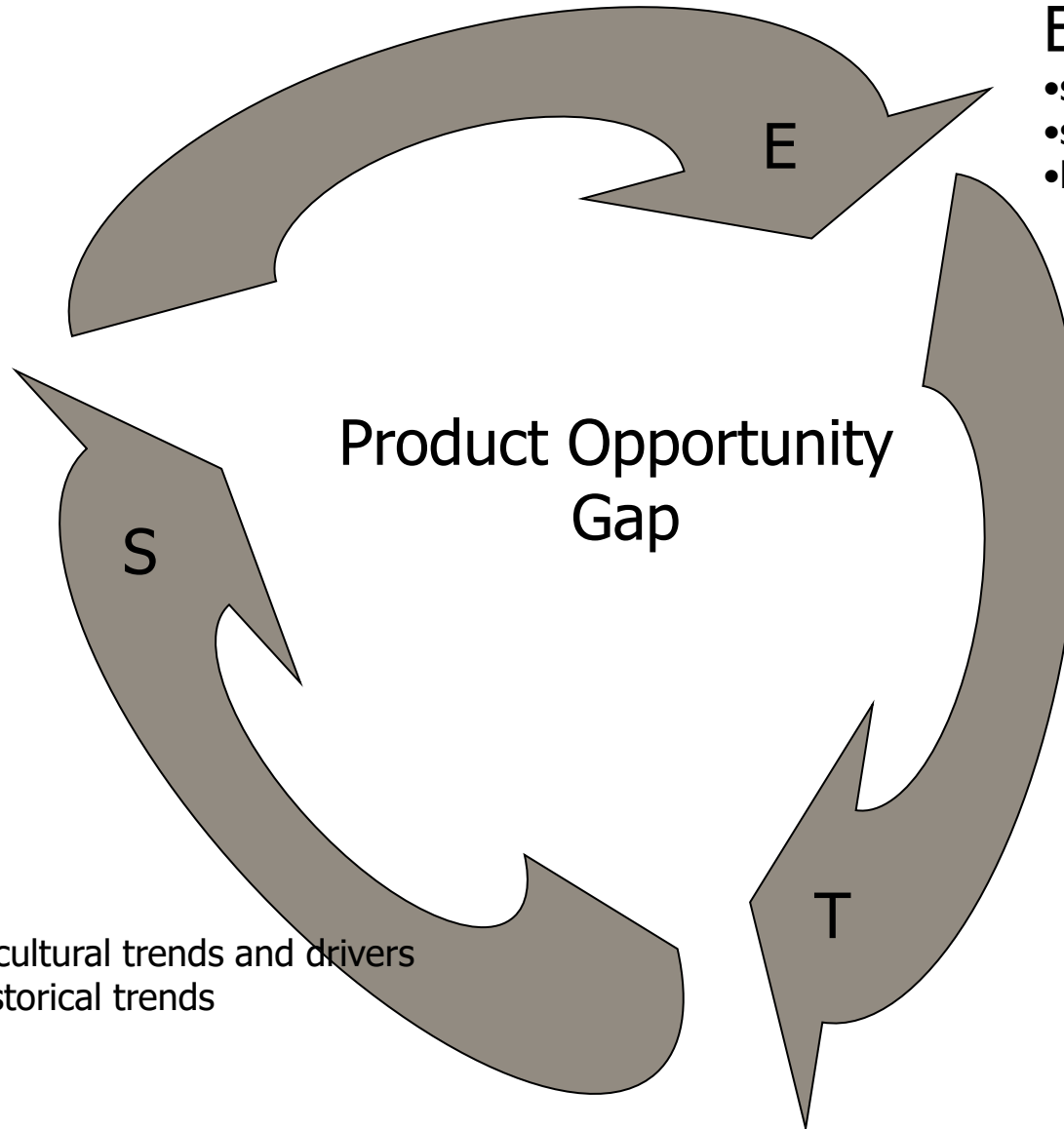
where do ideas come from

nature

- honeycombs / sandwich structures
- velcro tape
- mechanisms
- robots



creating breakthrough products



Economic

- state of the economy
- shift in focus on where to spent
- level of disposable income

Technology

- state-of-the-art technology
- emerging technology
- re-evaluating existing techn.

Social

- social and cultural trends and drivers
- reviving historical trends



THE AXE AND MAN

Charles A. Heavrin





https://m.facebook.com/watch/?v=285724348218210&_rdr



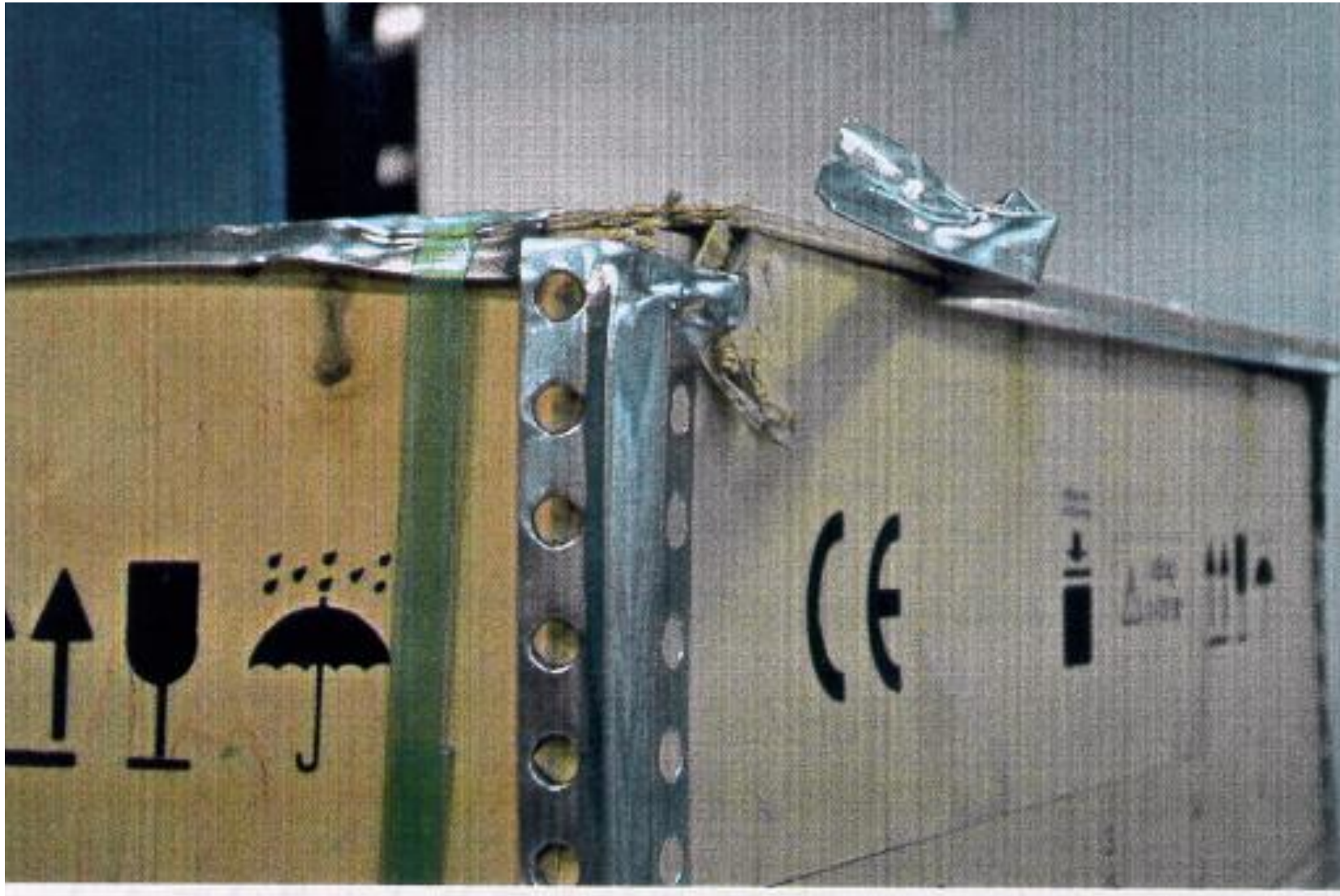


where do ideas come from

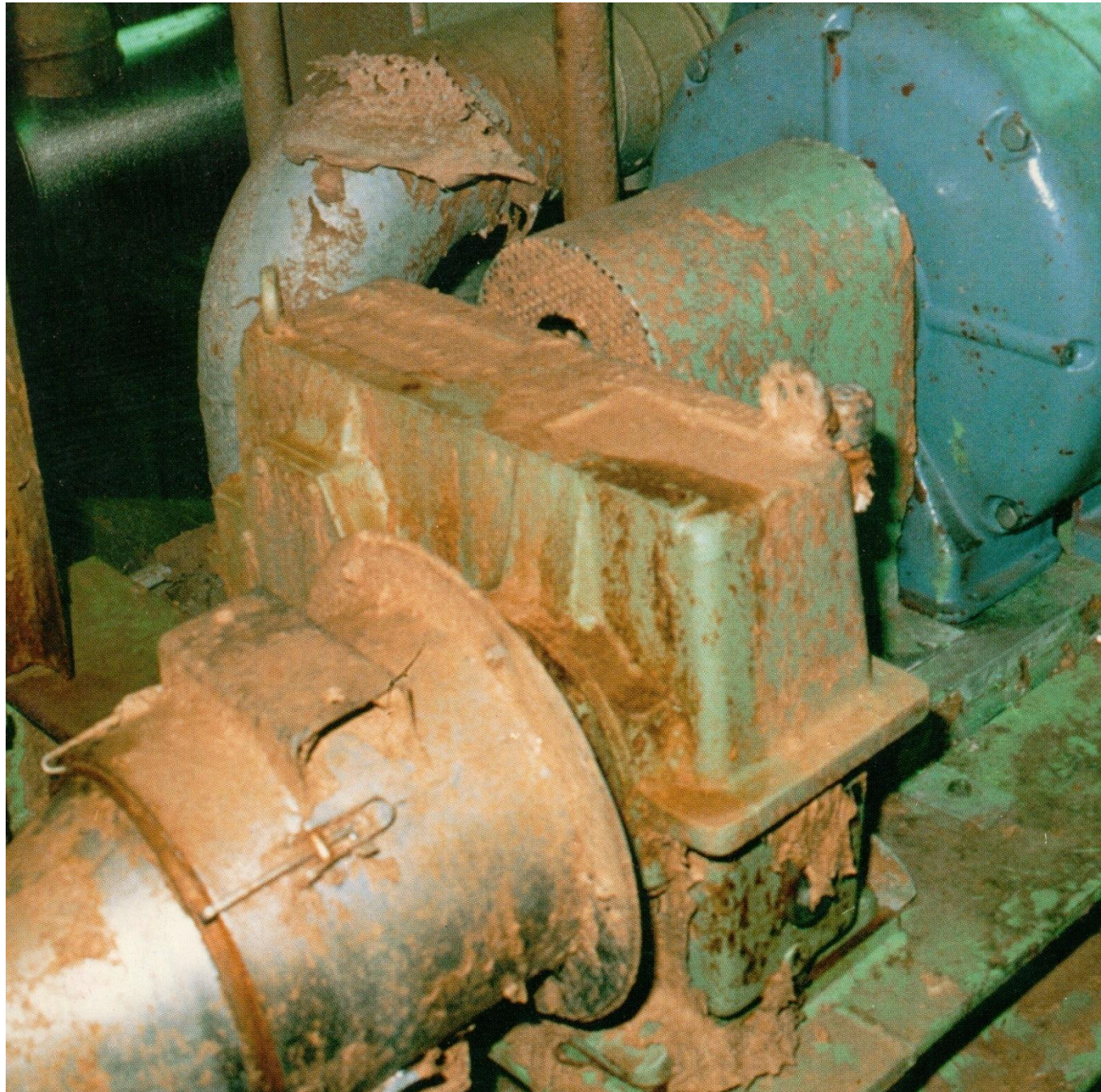


A”

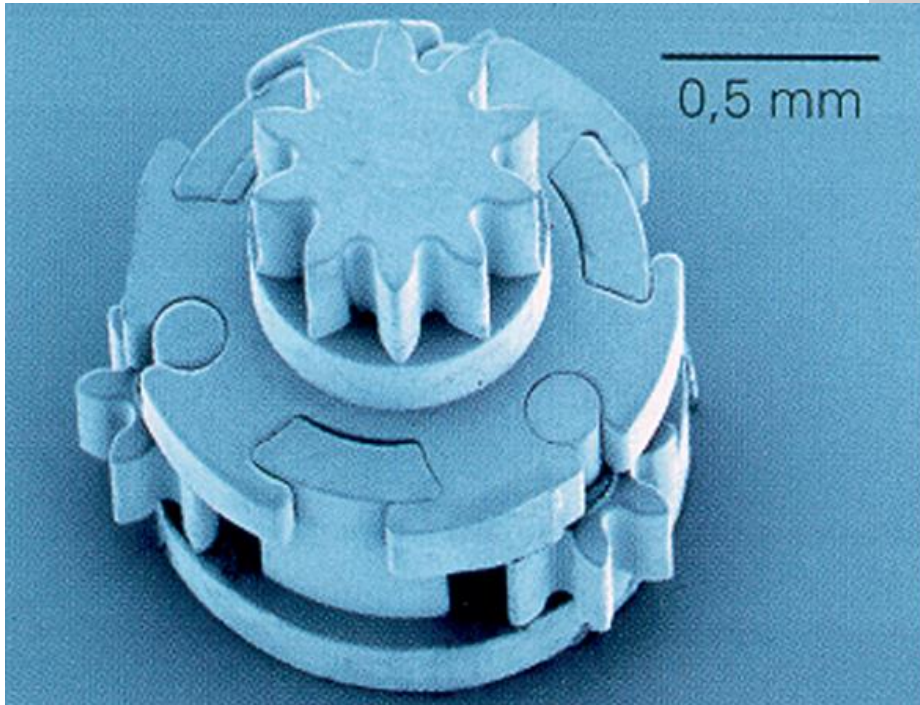
where do ideas come from



where do ideas come from



where do ideas come from



where do ideas come from

