the 29th Lunteren Conference

15 January 2004

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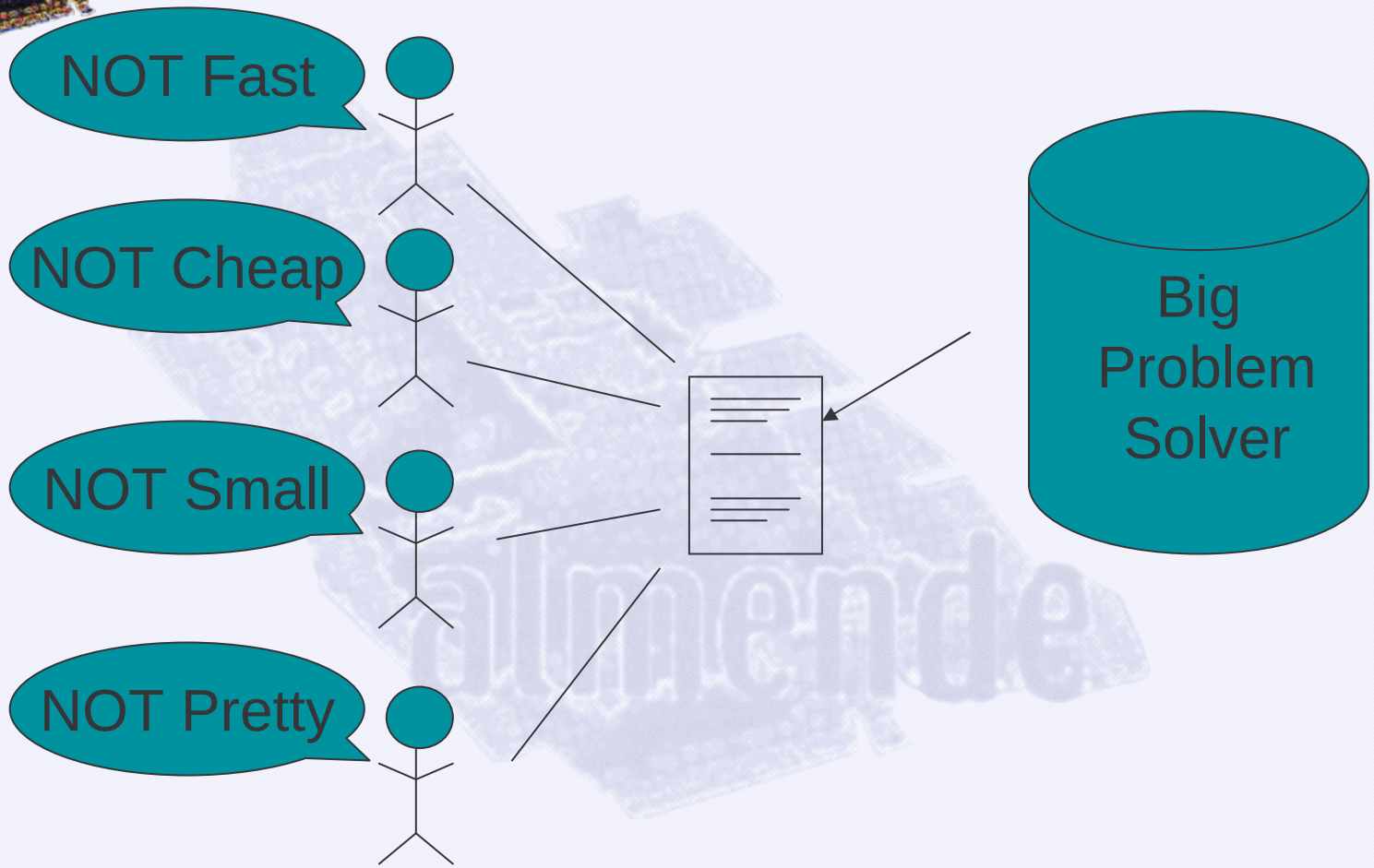
Critical aspects regarding deployment of OR applications in real life

In theory, practice and theory are the same, in practice however...

Overview

- Perspective and “optimal”
- Modelling
- Volatility of solutions
- Cost dynamics
- Centralism versus distribution
- Development and dependancies
- Evolution and feedback
- Agents and negociated solutions

Perspective and “optimal”



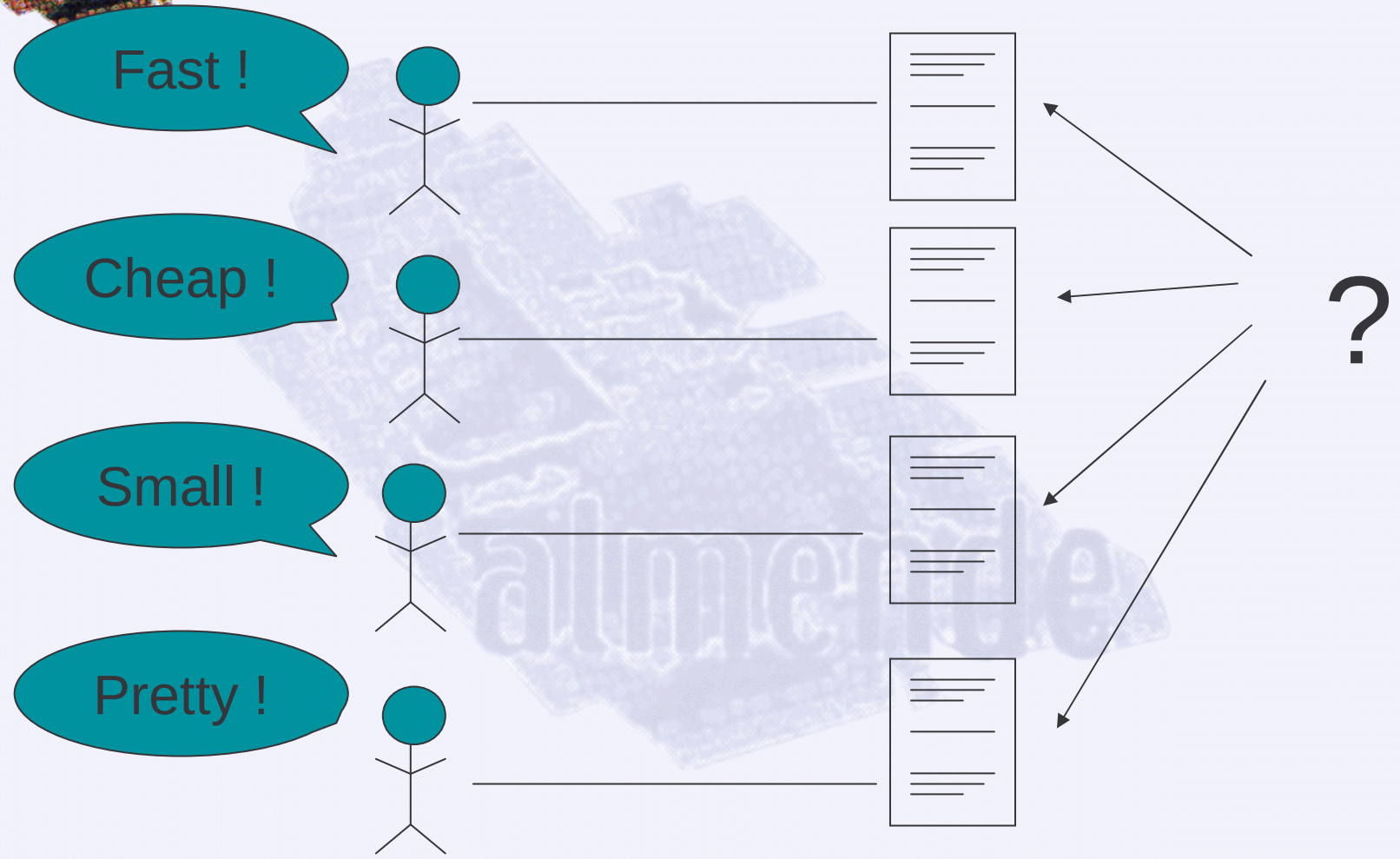
Perspective and “optimal”

- “We always did much better by hand”
- “I don’t care what they say upstairs”
- “Free goodies”

or Real versus Virtual cost

Optimal is difficult to define

Perspective and “optimal”



Modelling

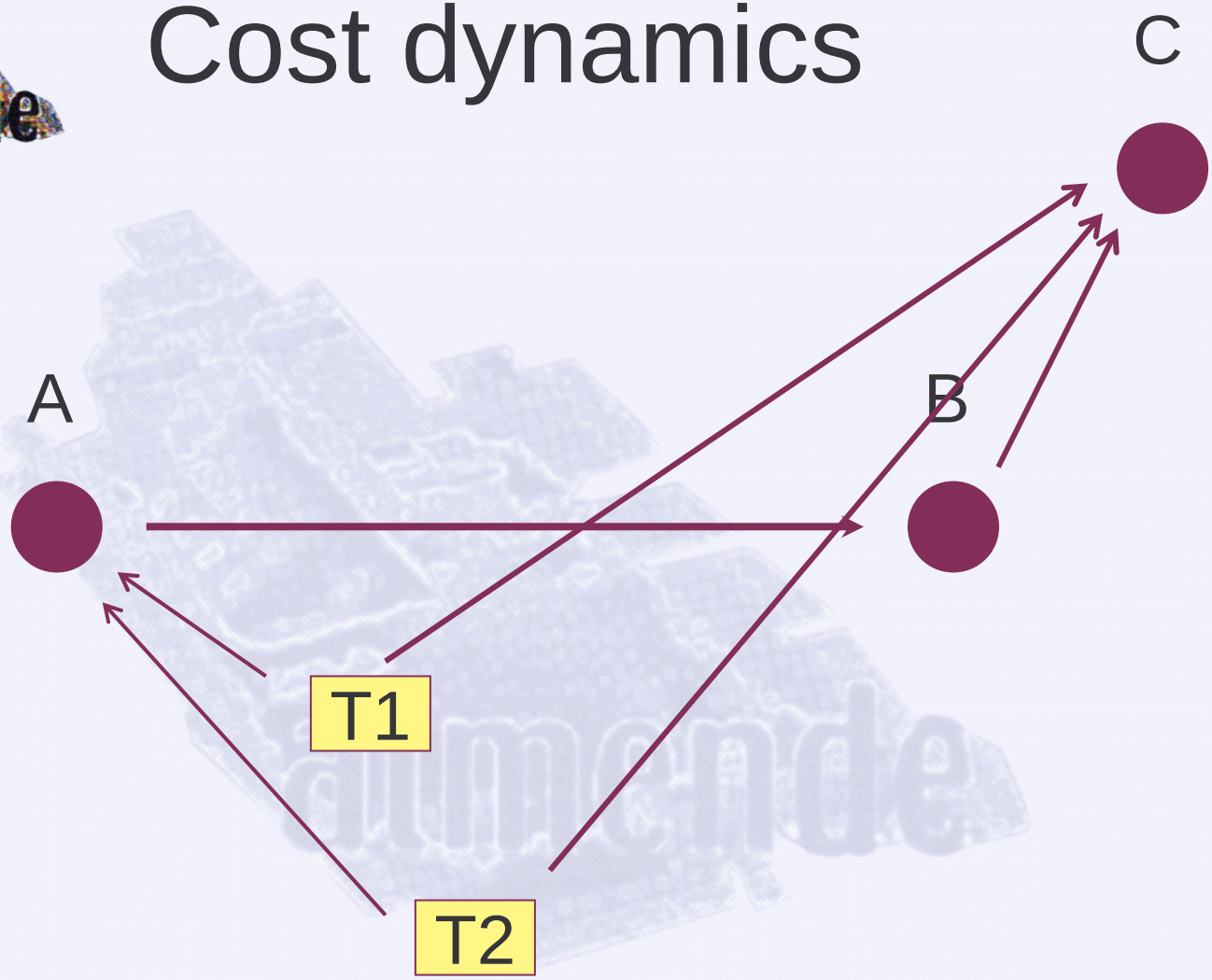
- Snapshot
  - Gather data : Compute solution
- Large scale
  - Strive for completeness
- “Cost” central
  - Quality equals cost
- Static
  - All constraints and their impact are only changed when the quality of the output has degraded beyond usability

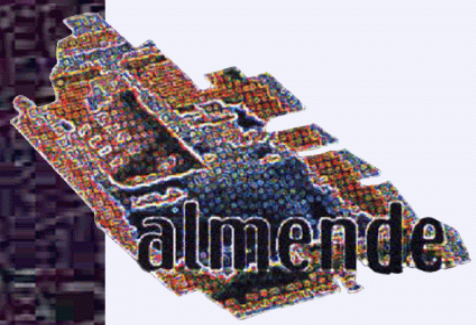
Volatility of solutions

(Problems...)

- Chain effects
- Appreciation & Execution
- New input
- Opportunity
- Quality

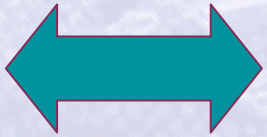
Cost dynamics





Centralism versus distribution

- All dimensions in single set of equations
- Less accurate
- Dinosaur

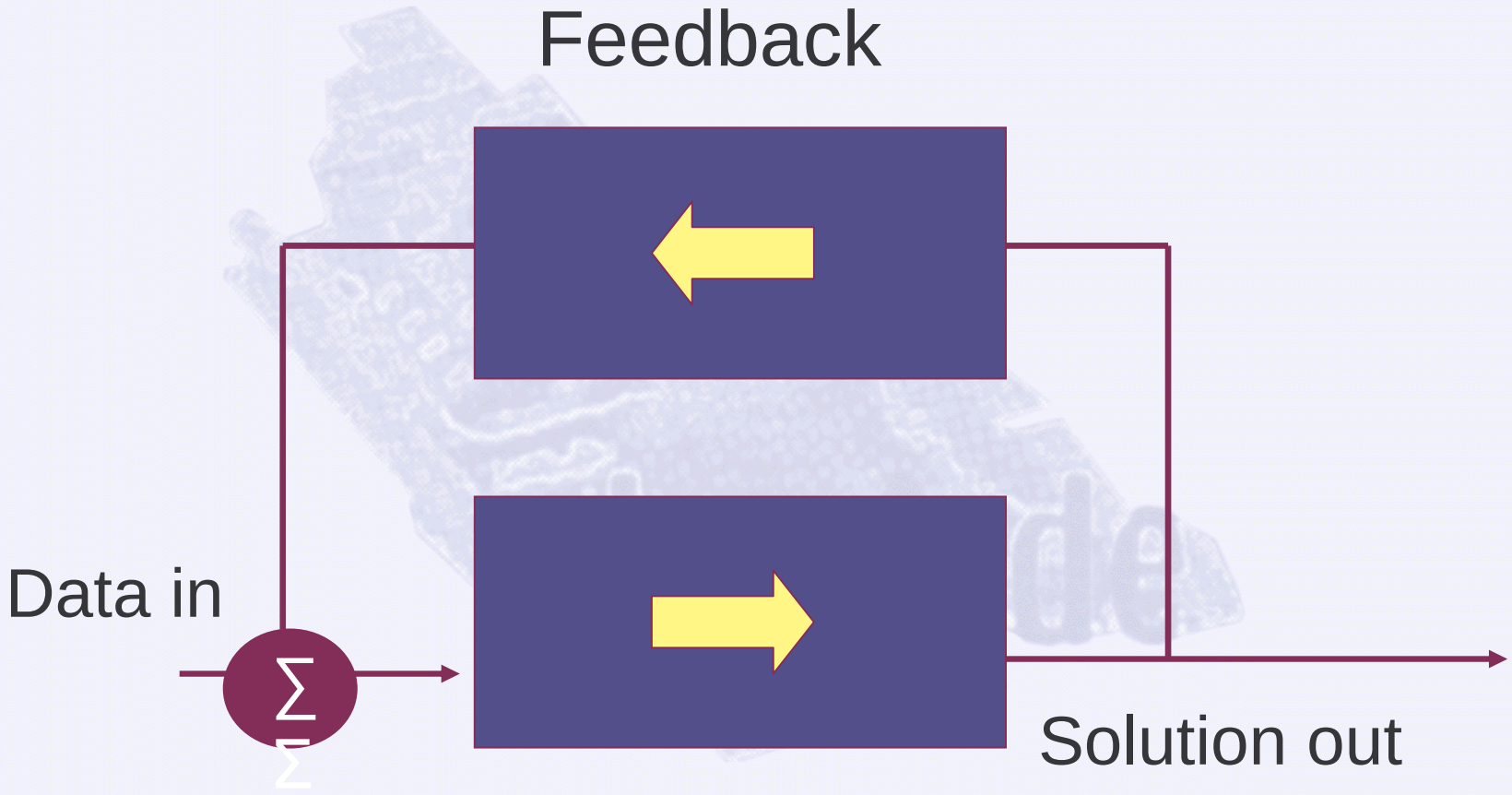


- Partial model
- Lower complexity
- Verifyable

Development and dependencies

- Maintenance
- Adaptation to organizational changes
- Localization
- Scalability
- Embedding and interfacing

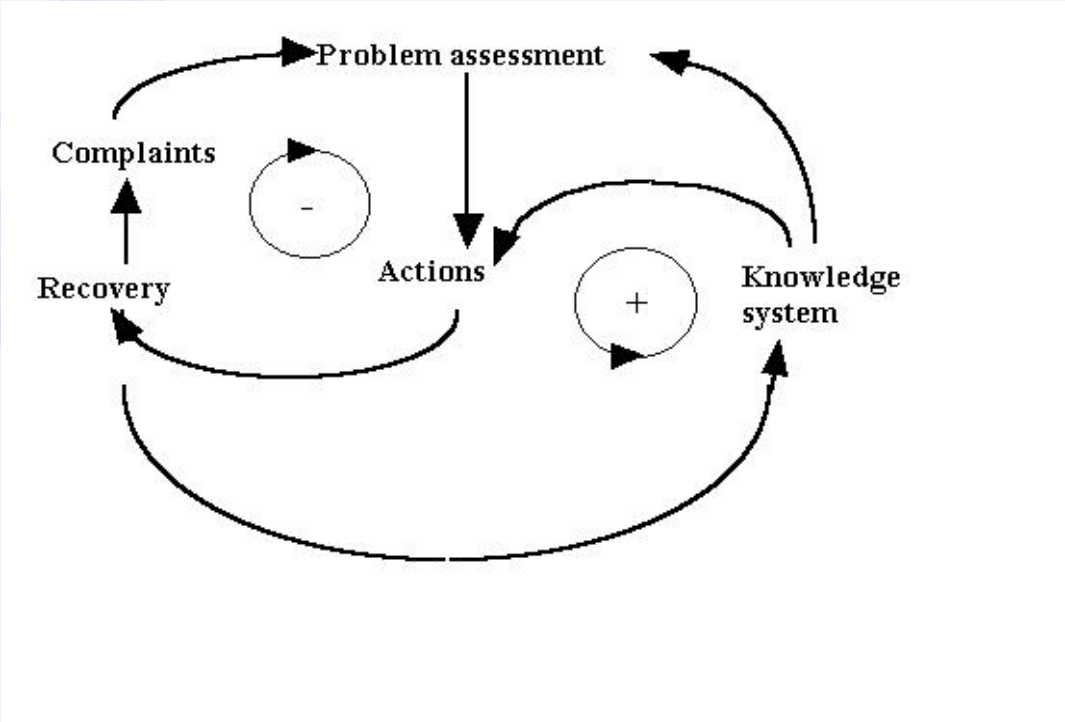
System = HUMAN + (Software + Hardware)


Feedback
Data in
Solution out

Modelling +

- Event controlled
- Role based
- Goal oriented
- Adaptive

Evolution and feedback



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Agent Modelling

- Interchangeable roles
  (for humans) and agents
- Event handling by (re)negociation
- Inherently scalable
- Potentially robust
  (by added redundancy)

Any sufficiently advanced technology is indistinguishable from magic

Arthur C. Clarke

almende