Part I:
Wicked Problems

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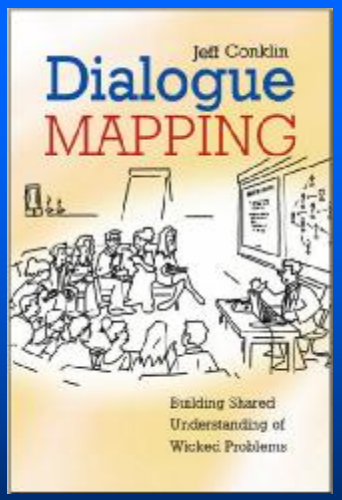


Outline

- Part 1: Wicked Problems
  - What are Wicked Problems?
    - Why are they so elusive?
  - How to identify a wicked problem
  - How to approach a wicked problem
  - Why is the concept important?
- Part II: Dialogue Mapping
  - Why it is so well suited to wicked problems

A few examples

- Global warming, global infectious diseases, terrorism, biodiversity and ecosystem losses, ...
- Social security system, reforming immigration policy, ...
- Violence in schools, teen pregnancy, teen suicide, traffic congestion, affordable housing...
- Whether to shift operations overseas, how to get warring divisions to work together, whether and how to go into a new market, ...

High Noon: 20 Global Problems, 20 Years to Solve Them
by J.F. Rischard

Plan B 2.0: Rescuing a Planet Under Stress and a Civilization in Trouble
by Lester R. Brown

What is a wicked problem?

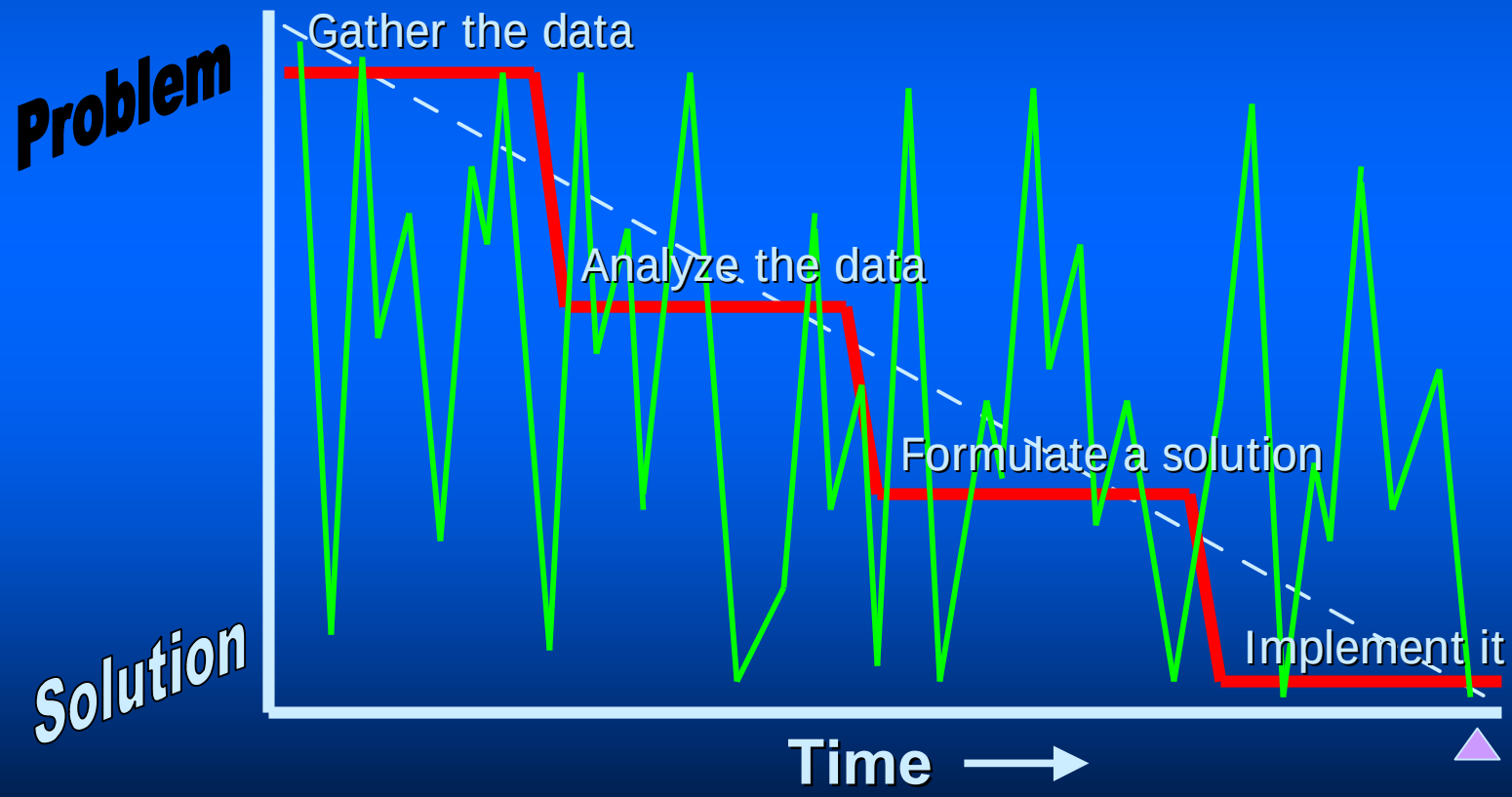
- Horst Rittel
  - "Second Generation Design Methods", 1972
    - "First generation methods seem to start once all the truly difficult questions have been dealt with."
  - "Dilemmas in a general theory of planning", 1973
- Related concepts
  - Ill-structured problems (Ian Mitroff)
  - Messes (Russell Ackoff)
  - Social messes (Robert Horn)

Traditional Project Process

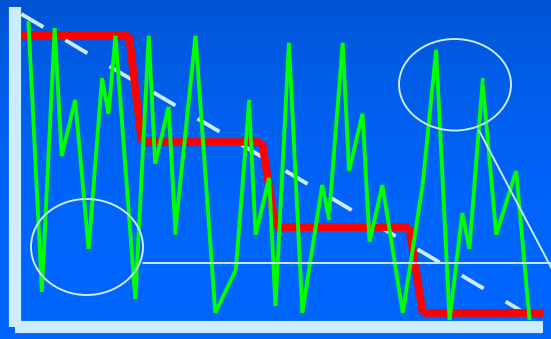
All projects proceed through a sequence of steps or phases, e.g.

- Problem Definition, Requirements Gathering, Requirements Analysis, Functional Specification, High-level Design, etc. (traditional waterfall)
- Perception, Definition, Analysis, Generation of Alternatives, Evaluation, Decision Making (Straus, 2002)

How We Humans Actually Approach Novel Problems



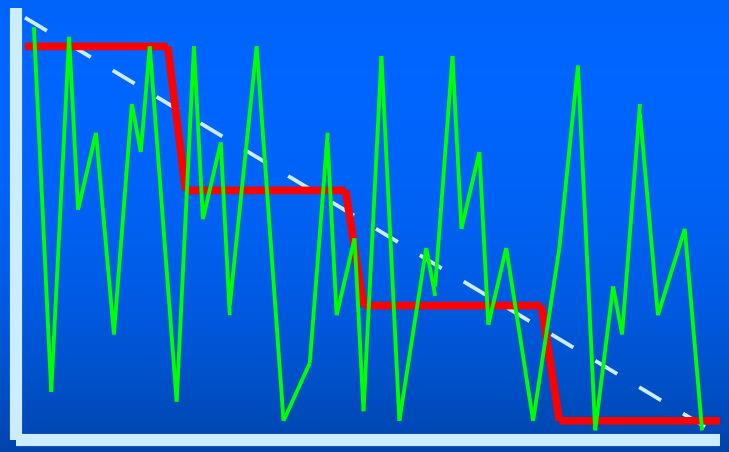
How We Humans Actually Approach Novel Problems



- Problem solving is *Opportunity-Driven*
- Early attempts at solutions
  - Experiments
  - Prototypes
  - Hunches
- Late efforts to understand the real problem

Characteristics of "Wicked" Problems

Versus "Tame Problems"



- Every solution exposes new aspects of the problem
- Many stakeholders
- Changing constraints
  - $$, schedule, players
- Stop…when you run out of resources

Tame problems

- The problem is well-defined and stable
  - Including criteria for success
- The stakeholders all understand and agree on that problem definition
  - Including that stakeholders all have essentially the same values and interests
- Work focuses on finding the right solution

Reflection

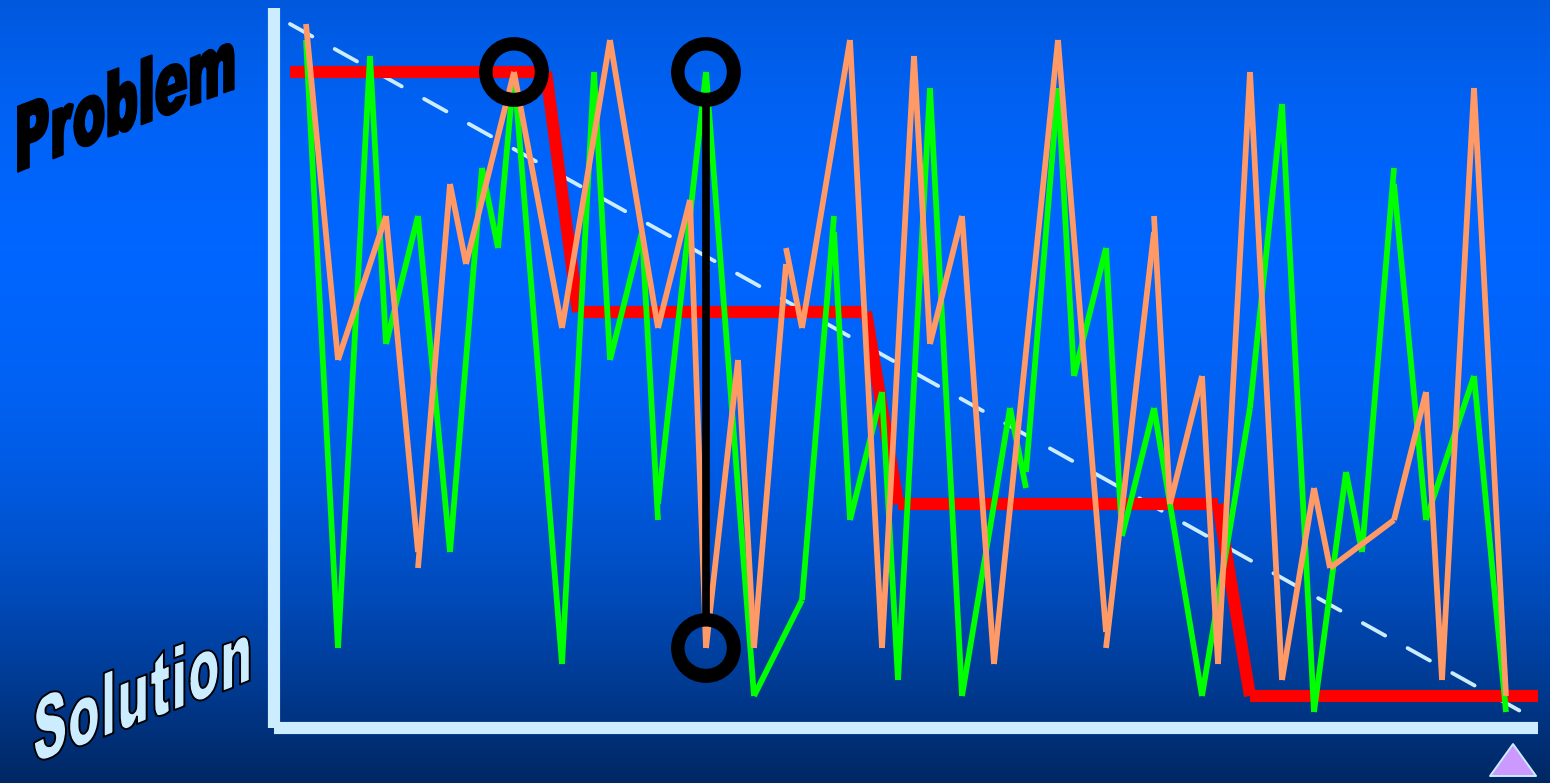
- Take a moment to recall a project that you've been associated with that either failed or did not meet expectations.

- Why did it fail or come up short?
- What did you learn from the experience?

"Social Complexity"

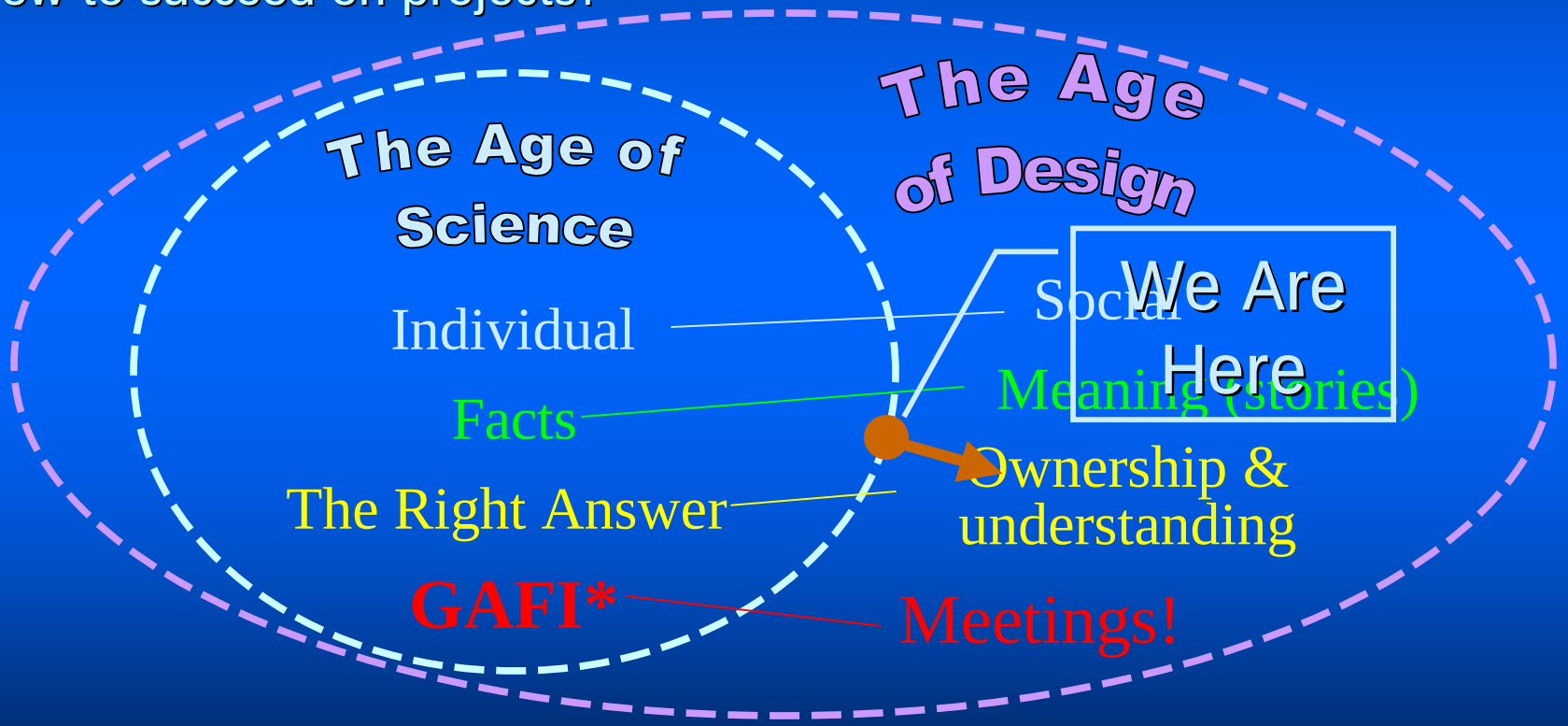
- The number and diversity of stakeholders (players with a stake in the outcome)
- Kinds of stakeholder diversity:
  - Individual differences in character and learning style
  - Professional differences in expertise and language use
  - Different organizations and departments represented ("stove pipes")
  - Differences in role and authority
- Each additional stakeholder increases the challenge of building shared understanding

A simple example of social complexity



Where are the headlines about problem wickedness?

How to succeed on projects?



* Gather data, Analyze it, Formulate solution, Implement it

How to identify a wicked problem

- Wickedness is usually hidden (initially)
  - Denial, taming, engineering mind
- Failing project, or previous failures at same objective
- Open debate about what the “real issue” is
- Polarization: battle lines drawn, right/wrong, win/lose, experts disagree

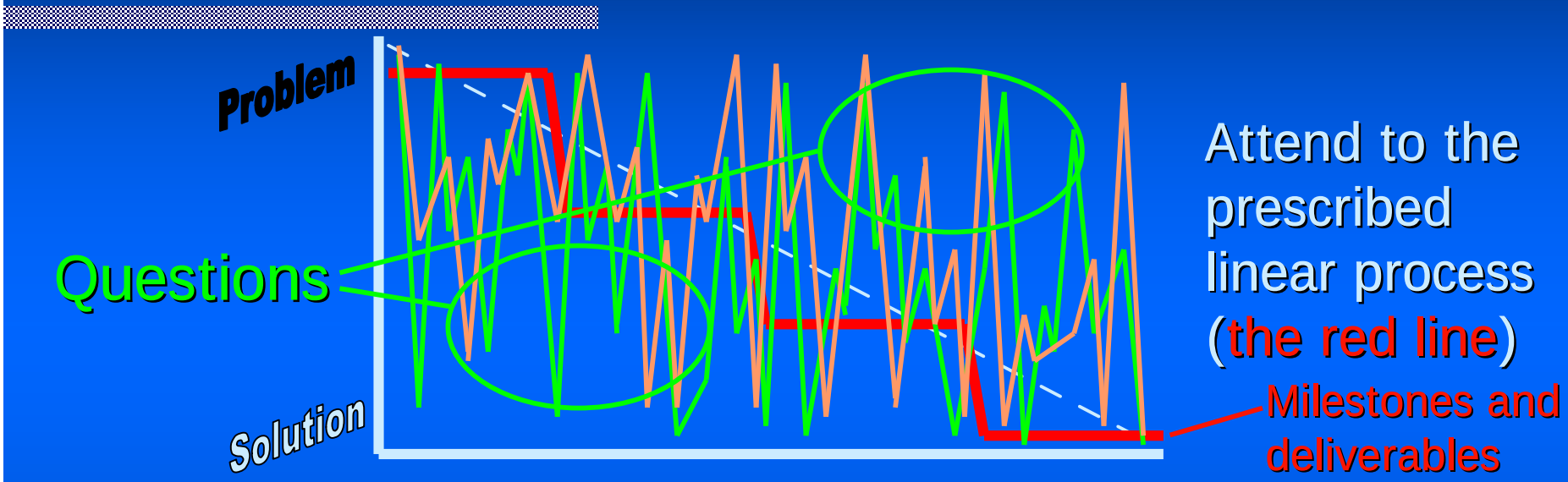
How to approach a wicked problem?

- Approaches that don't work
  - Denial: What wicked problem?
  - Avoidance: Can't tackle that right now!
  - Engineering: We've got the right answer!
  - Taming the problem
    - Freeze the problem definition
    - Narrow the options
    - Exclude stakeholders
    - Refocus on a smaller, related tame problem
    - Focus on areas of agreement

How to approach a wicked problem?

- Elements of an approach that works
  - Wide involvement/participation
  - Build robust shared understanding ... about the problem and potential solutions
  - Authentic dialogue
    - Honesty, transparency, listening
  - Relationship
    - Trust, respect
  - Effective, detailed group memory

How to approach a wicked problem?



Attend to the non-linear process (the jagged line).

- Track and manage the informal knowledge ... the questions (issues) and the conversations about them

Why is the concept of "wickedness" important?

- Because of the context it creates for learning and collaboration
  - Wicked problems cause fragmentation and "organizational pain"
  - People instinctively revert to denial, hiding, and blame ... or taming the problem
  - "It's not that *we're* incompetent, the problem is wicked!"
  - Opens door for "soft" non-linear approaches

Part II:
Dialogue Mapping

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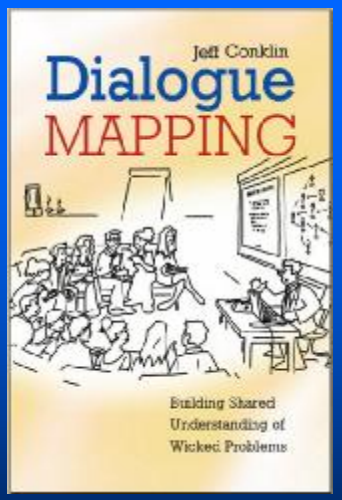
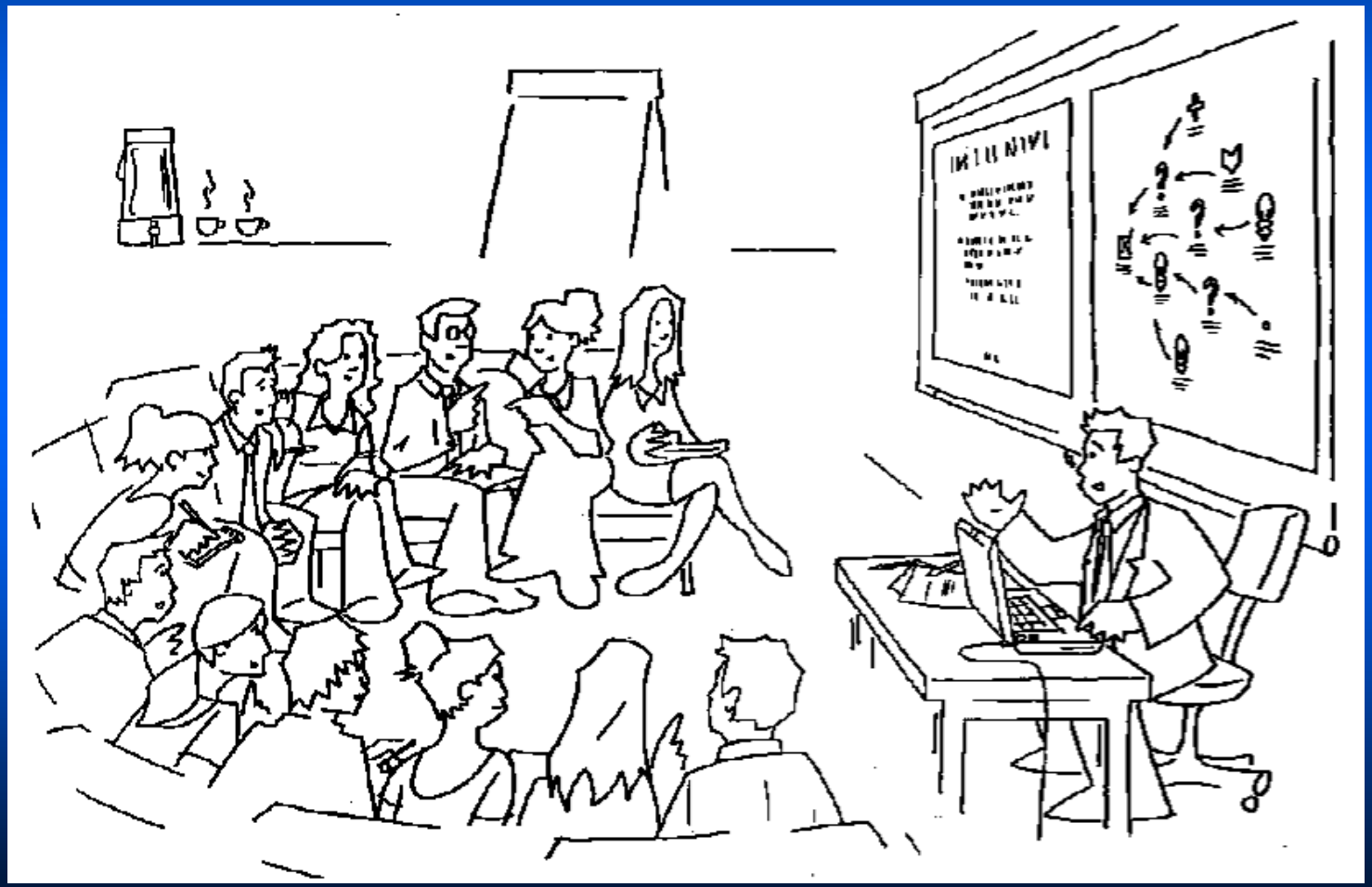
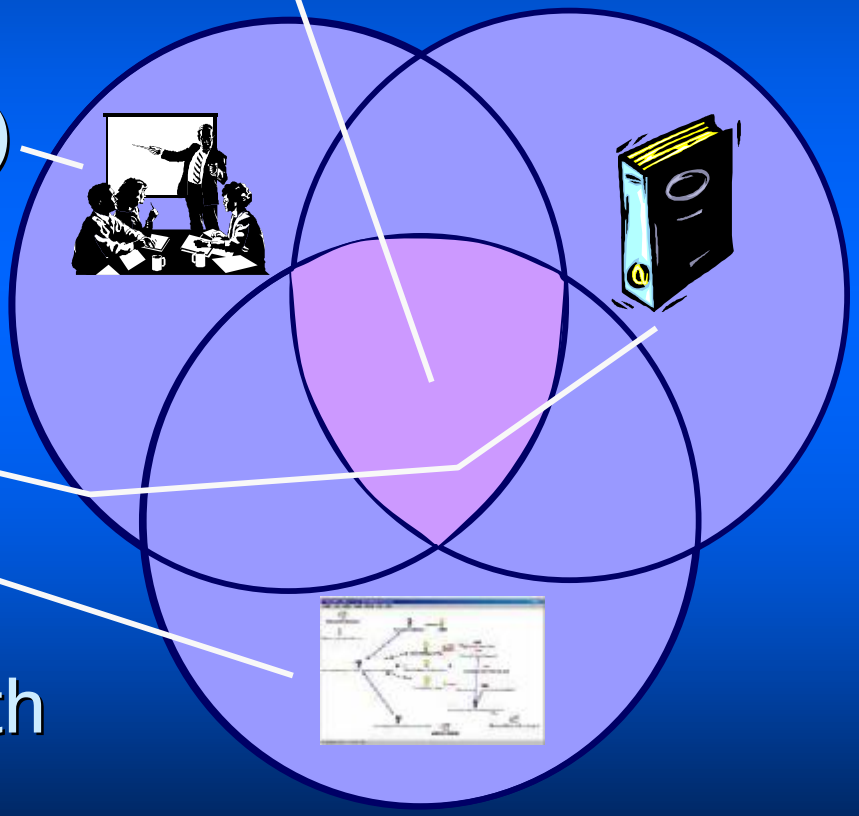


What is dialogue mapping?



The "Secret Sauce" of Dialogue Mapping

- Facilitation and mapping (listening!)
- Issue Based Information System (questions!)
- Shared Display (interactive shared focus integrated with group memory!)



Why is dialogue mapping's *facilitation approach* suited to wicked problems?

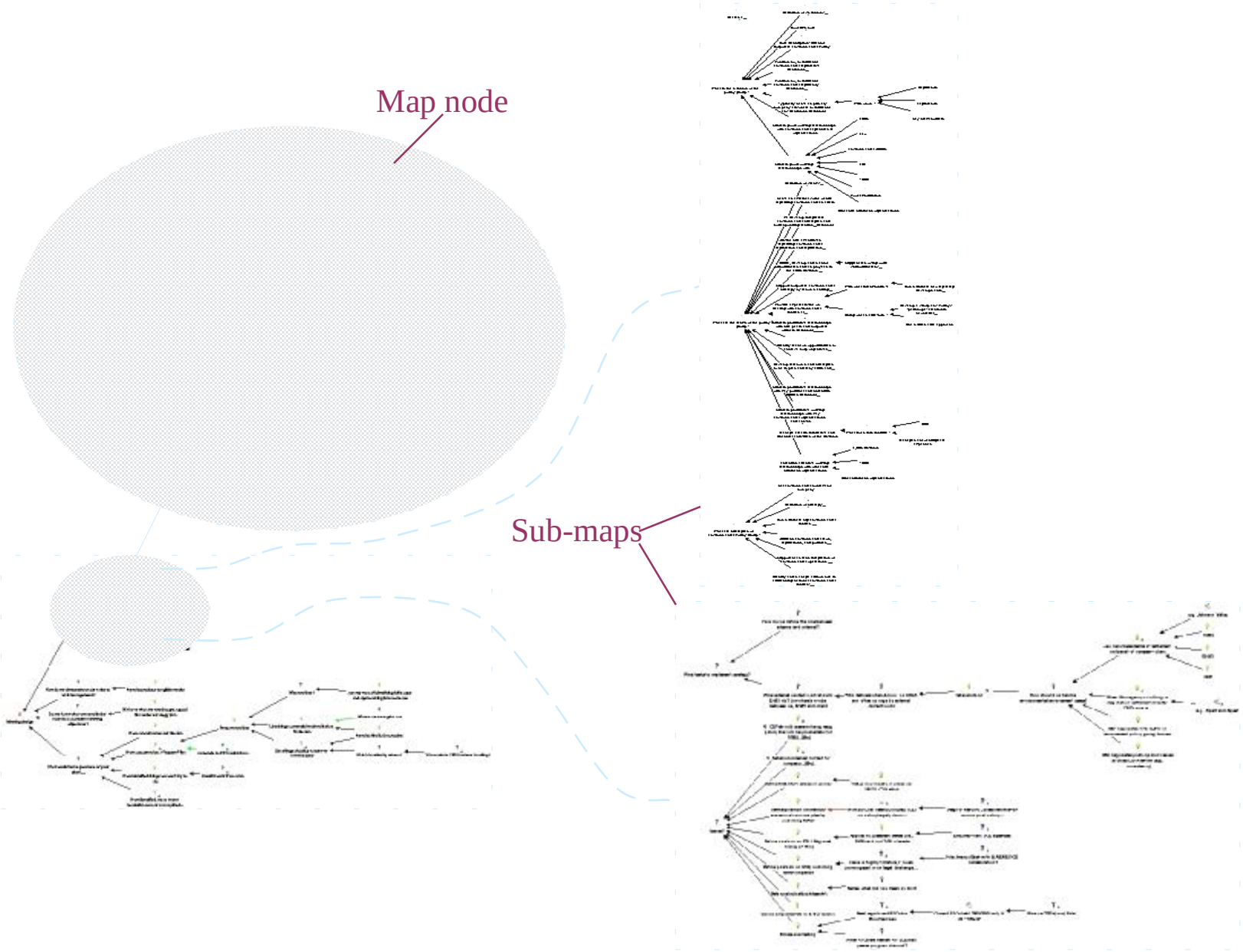
- It's not about 'crowd control' – difficult personalities, undiscussable issues, and debate are welcome
  - It's authentic dialogue about the mess – not superficial agreement, not voting or brainstorming
- It follows the group energy in an 'opportunity-driven' way – there are no steps or sequence, just questions
- It is a 'meta-method' – integrates with all other methods and tools

Why is dialogue mapping's *IBIS grammar* suited to wicked problems?

- Questions, possible answers, pros and cons ... the basics of design thinking
  - The notation is simple, so you can focus on listening
  - Any comment or issue fits inside the proper question
  - IBIS supports clear, rigorous, explicit argumentation
  - Questions/inquiry keeps opening the dialogue up
- IBIS map captures all points of view, building deep & broad shared understanding about the mess
  - It's not about logic or structure – it's about what people are saying

Why is dialogue mapping's *shared display* suited to wicked problems?

- The hypertext map extends in all directions without limit



Why is dialogue mapping's *shared display* suited to wicked problems?

- The hypertext map extends in all directions without limit
  - Shared display nurtures shared understanding ("something in the middle")
  - The map of the mess (not "consensus") is the product
  - Points of view in the display are depersonalized
- Creates detailed group memory of issues, assumptions, decisions and their rationale, supporting and related data, etc.

IBIS:
The Deep Structure of Conversation

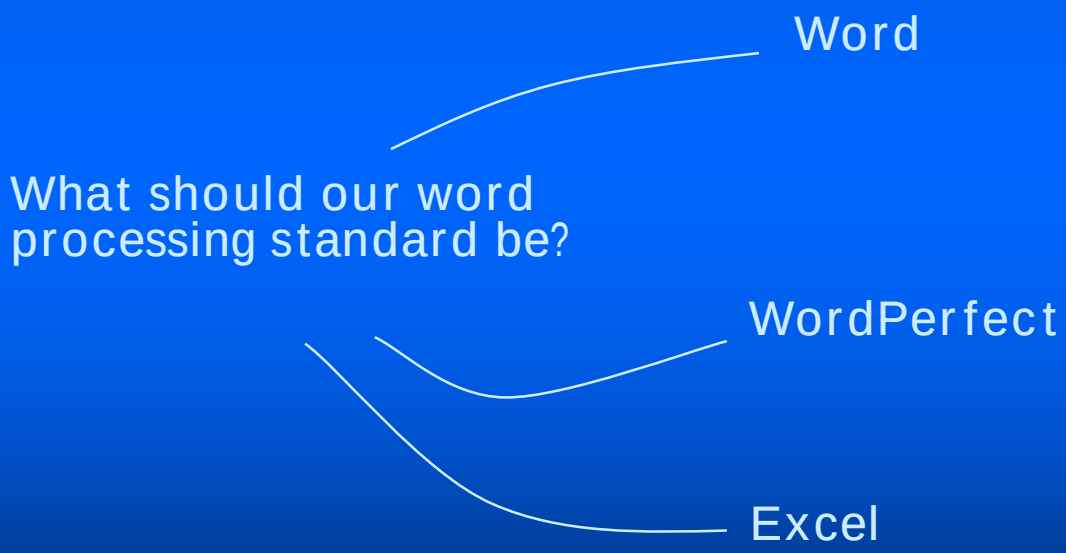
- The basic elements of design conversations:
  - Questions
  - Ideas (possible answers)
  - Arguments
    - Pros for and Cons against Ideas
- Map grows to follow group energy, with questions as the links

The Fundamentals of IBIS

Question: A topic or problem to be explored and answered.

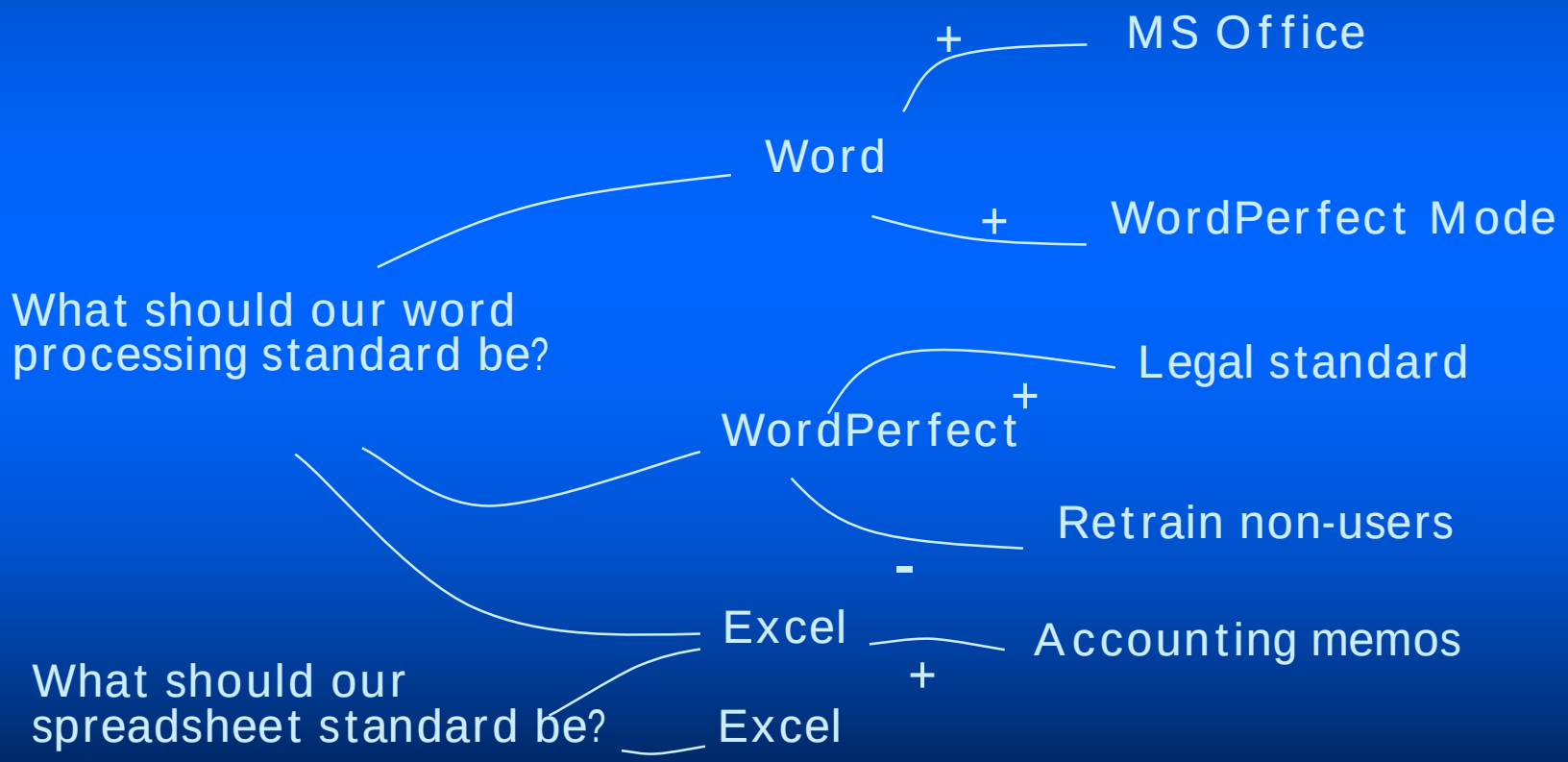
What should our word processing standard be?

Idea:
A possible answer or solution to the question



Argument: A statement for or against an idea (aka Pro or Con, Plus or Minus)

Finding hidden questions



Lunch Location Exercise

"I'm in the mood for ribs, so let's have lunch at Bub's Barbeque."

"Dave is a vegetarian, so I think we should go to the Tofu Palace instead."

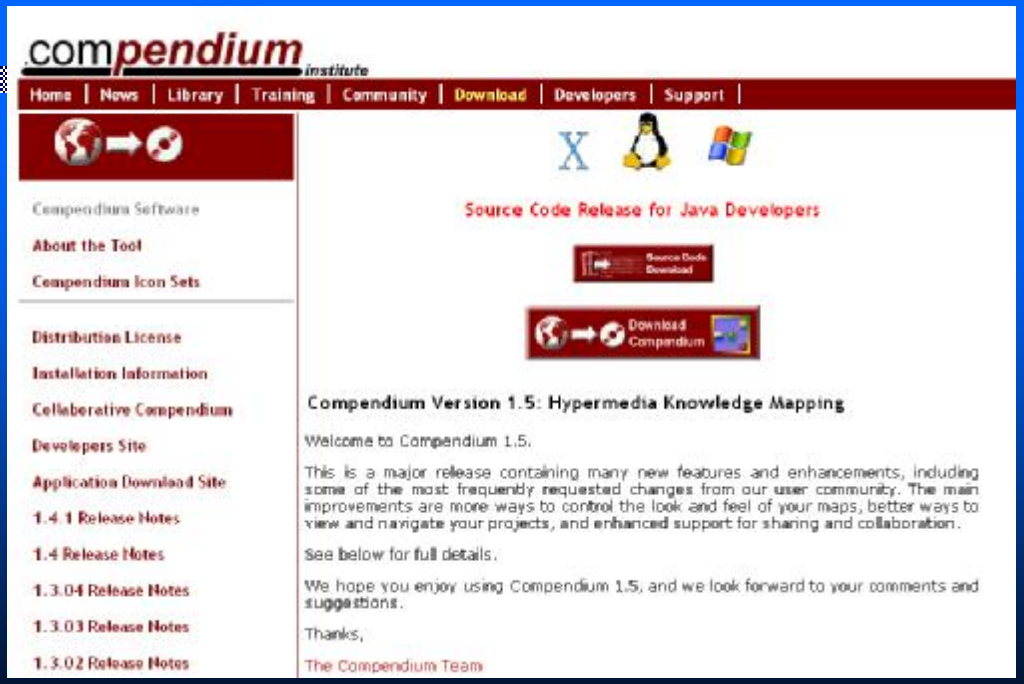
"They have a great salad bar at Mama Mia's."

"Yeah, and I can get a good burger there too. Let's go."

Compendium Demo

Compendium is free and Open Source

Download from CompendiumInstitute.org



Further information go to ...

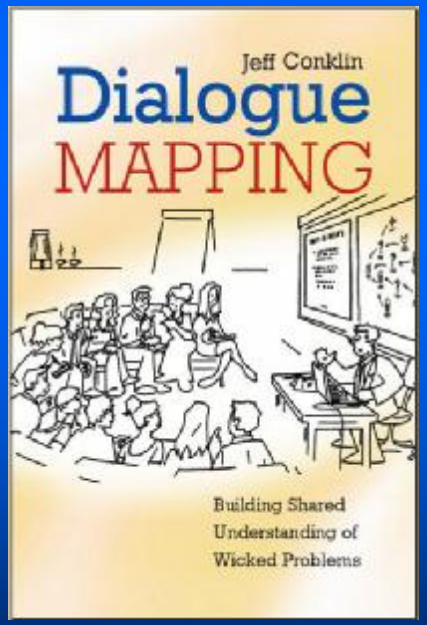
http://cognexus.org

Buy the book

Download *Compendium*

White papers on our website:

- "Wicked Problems and Social Complexity"
- "The Age of Design"
- "Designing Organizational Memory"



Part III (optional): Organizational Memory

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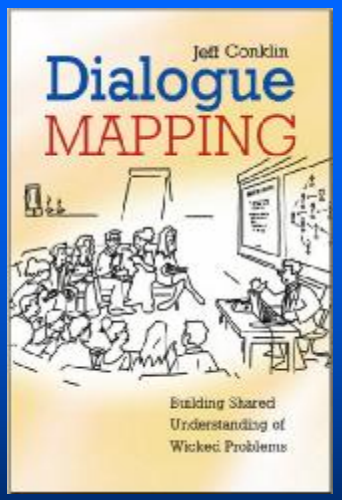


Why KM and OM have failed

Why KM and OM have failed

- Knowledge exists in two forms
  - Formal/explicit – particles (documents)
  - Informal/implicit – waves (conversations)
- IT systems only store particles
- Next step: representations of waves (as particles)

Nature's Pattern for Memory

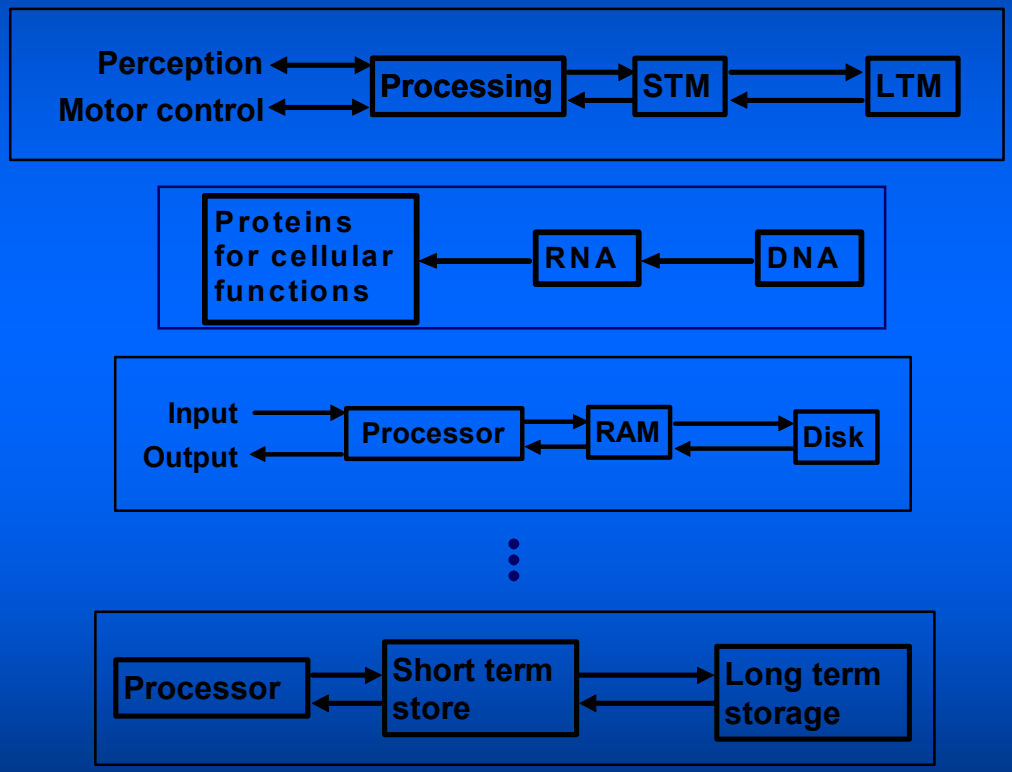
Cognition

Cells

Computers

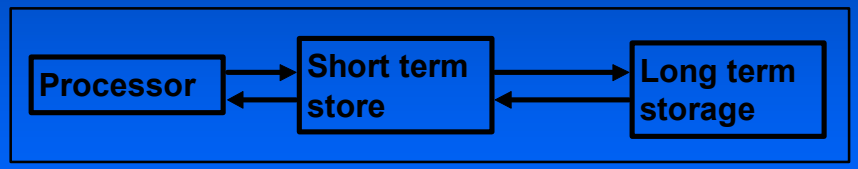
⋮

Pattern

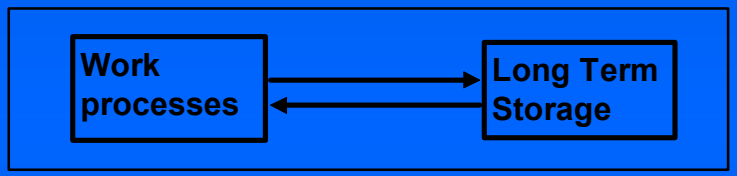


Organizational/group memory needs to follow the pattern

Pattern



KM/OM model



Natural approach