Wicked Problems

It's not your grandfather's complexity

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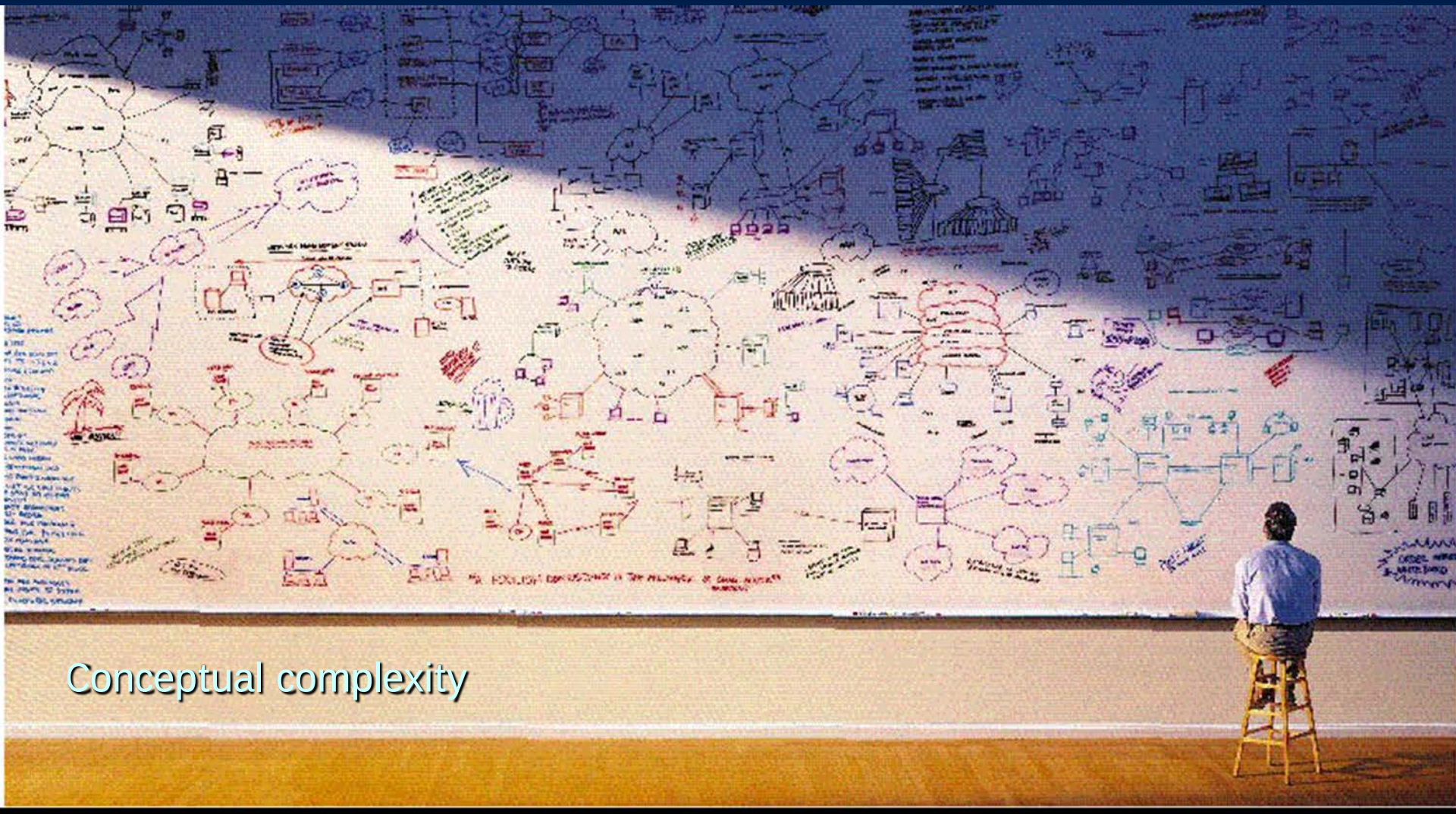
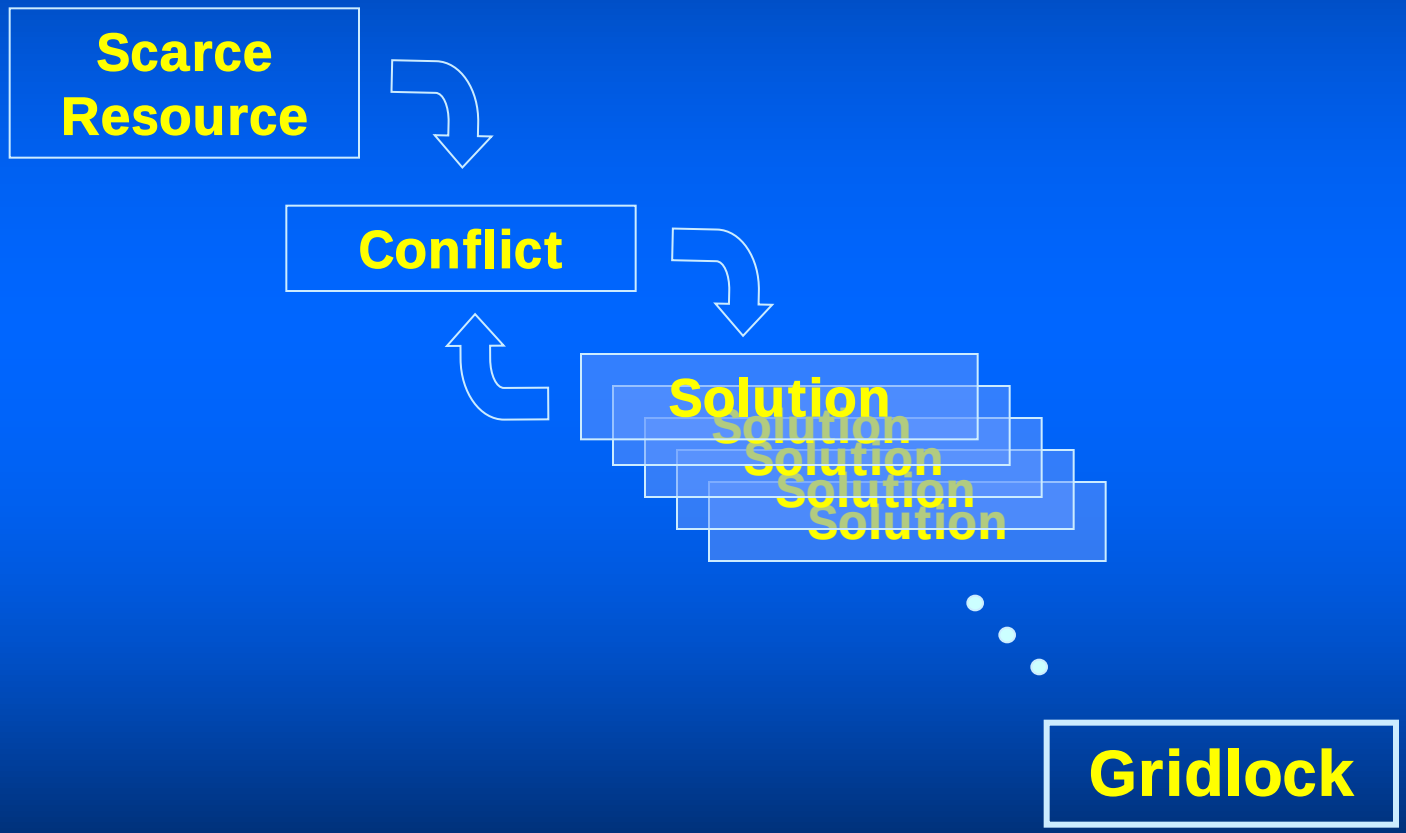


Social Complexity - Gridlock

How do problems get wicked?



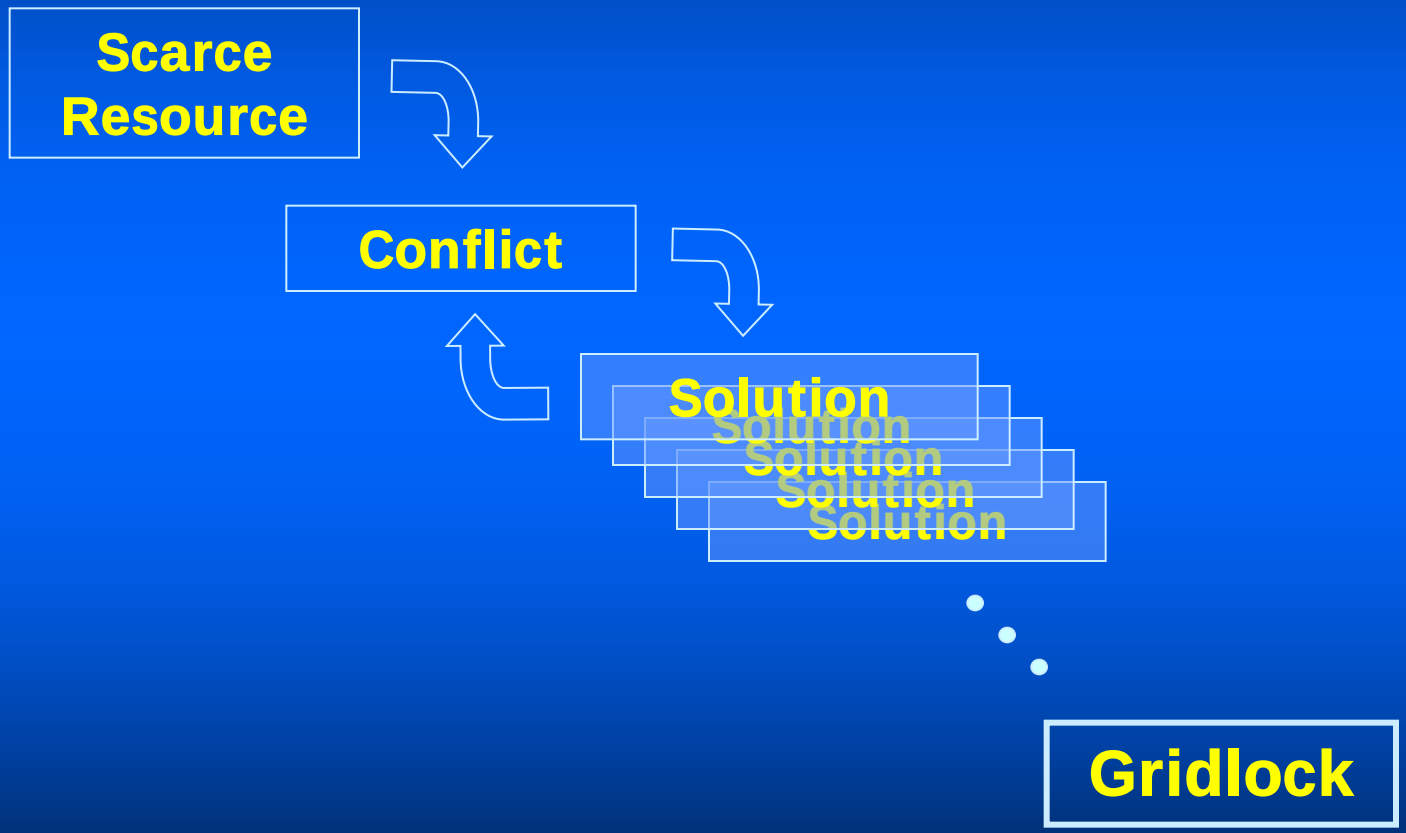
Common responses to a wicked problem

- Despair: What's the point of coming to work?
- Denial: It's not really a problem.
- Avoidance: It's not in our scope/charter.
- Engineering: We've already got the answer.
- Apathy and indifference

Common approaches to wicked problems: “tame”

- Redefine the problem as tame
- Refocus on a smaller, related tame problem
- Narrow the allowed solution options
- Exclude difficult stakeholders
- Outsource the problem-solving process

The ‘natural’ approach to solving problems is unsustainable



Horst Rittel

"Wicked" reflects Rittel's concern with ethics.

"[It is unethical] for the planner to treat a wicked problem as though it were a tame one, or to tame a wicked problem prematurely, or to refuse to recognize the inherent wickedness of social problems." *

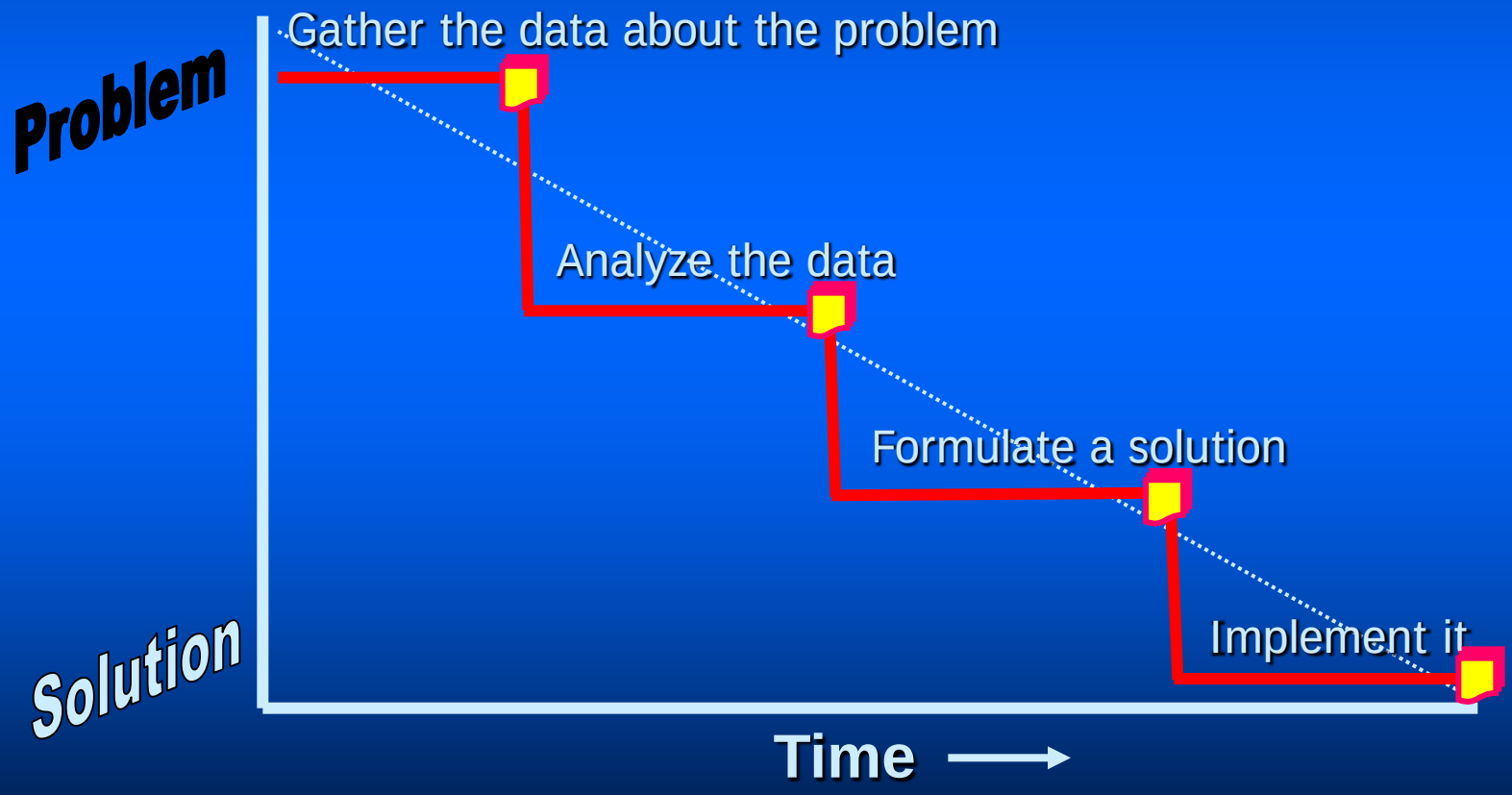
* Rittel & Webber, "Dilemmas in a General Theory of Planning", 1973

Gridlock

Wicked Problem characteristics

1. *Each potential solution illuminates new aspects of the wicked problem.*
2. *Wicked problems have no stopping rule.*
3. *Solutions to wicked problems are not right or wrong.*
4. *Every wicked problem is essentially unique and novel.*
5. *Every solution to a wicked problem is a "one-shot operation" .*
6. *Wicked problems have no given alternative solutions.*

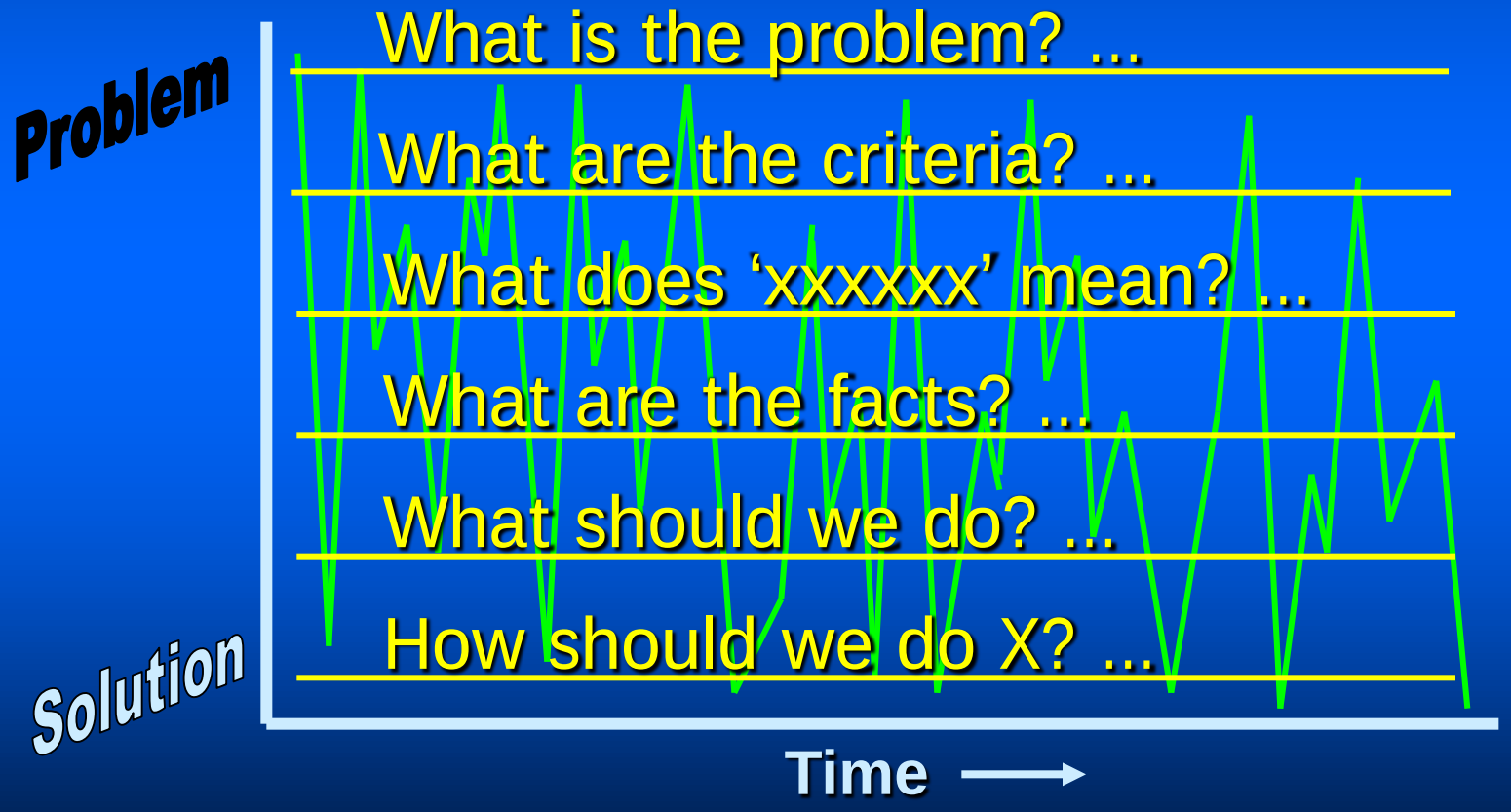
Projects are planned as a linear process ...



… but learning is *non-linear.*

Guindon, R. (1990) "Designing the Design Process: Exploiting Opportunistic Thoughts", *Human-Computer Interaction*, Vol. 5, pp. 305-344.

Non-linear cognition means jumping around between issues

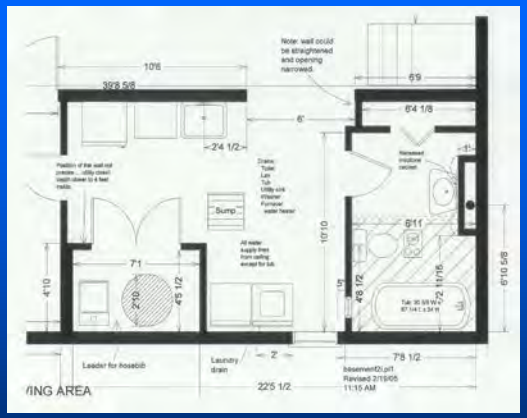


Wicked Problem Deliberation

A metaphor

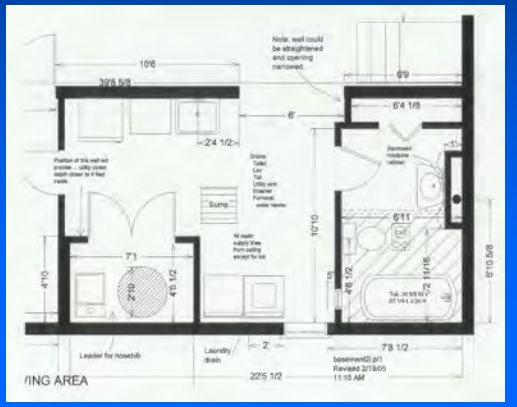
- A building has **surface structure** (walls, floors, doors, etc.) and **deep structure** (load bearing walls, wiring, plumbing, etc).

- Inhabitants interact with the surface structure, while architects and craftspeople interact with the deep structure.



A Metaphor about Representing Deliberation

- The surface structure of policy issues: articles, speeches, debates, editorials, blogs, etc.
- But most of us have never seen policy deep structure
- Surface structure is familiar and comfortable ... but also over-simplified & polarized.
- Deep structure is dense & complex, but also robust and comprehensive.

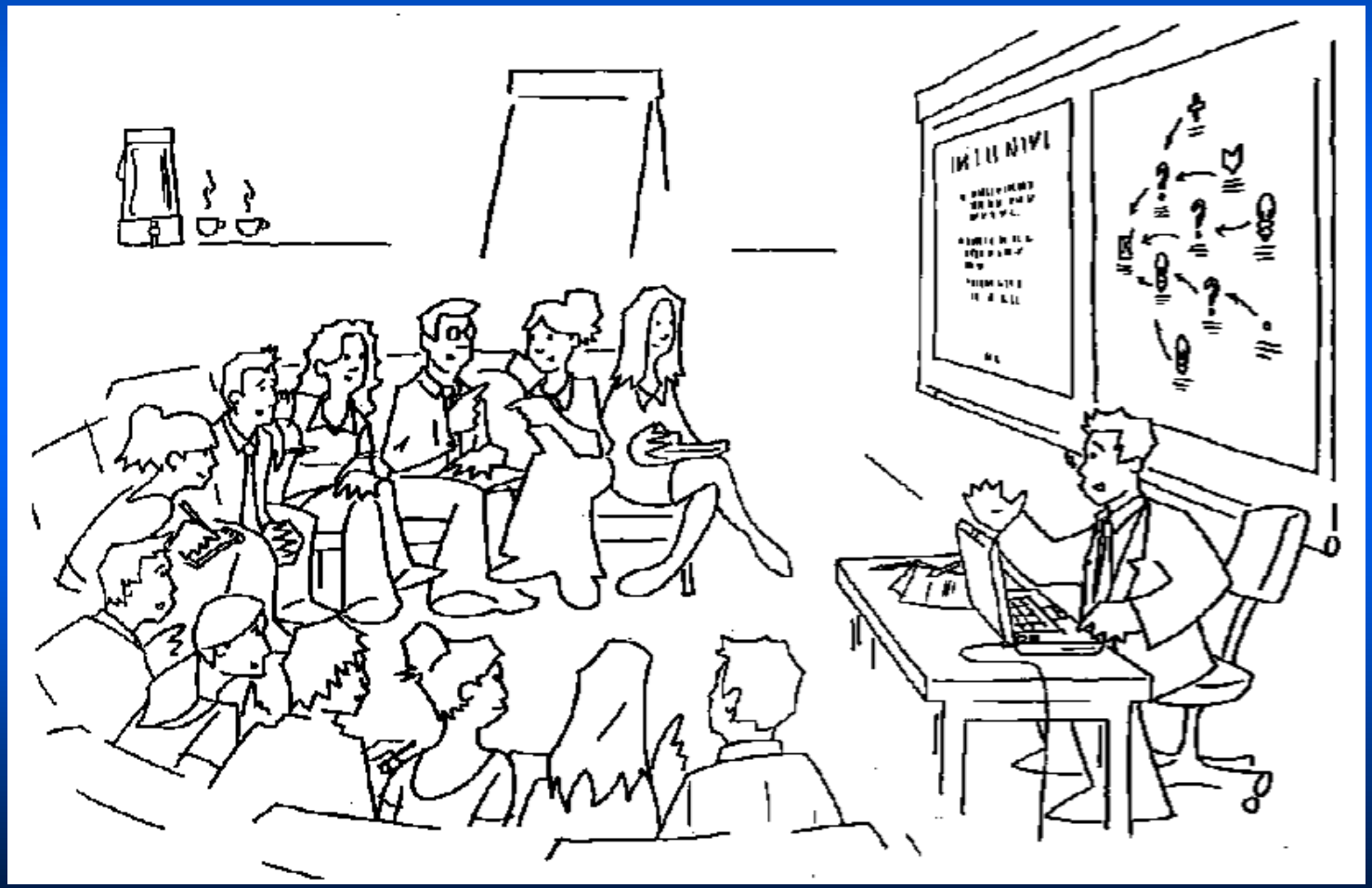


Building deep structure

Policy deep structure

Dialogue & Issue Mapping

Getting at Deep Structure



End

Taming Wicked Problems

Wicked Problems	How to Tame the Problem:
1. *Each potential solution illuminates new aspects of the wicked problem.*	*Lock down the problem definition (prohibit changes).*
2. *Wicked problems have no stopping rule.*	*Assert that the problem is solved (or deny it ever existed)*
3. *Solutions to wicked problems are not right or wrong.*	*Specify objective parameters to measure the success of the solution*
4. *Every wicked problem is essentially unique and novel.*	*Cast the problem as 'just like' a previous, solved problem*
5. *Every solution to a wicked problem is a "one-shot operation" .*	*Avoid the wicked problem – focus on related tame problems*
6. *Wicked problems have no given alternative solutions.*	*Simplify the options to a binary choice between polar opposites*

Identifying a problem as wicked

- Wickedness is usually concealed
  - Taming the problem is familiar and expedient
- Failing project, or previous failures at same objective
- Blame
- Open debate about what the "real issue" is
  - Views range from "There's no problem" to "It's too late! Disaster is certain!"
- Polarization: battle lines drawn, right/wrong, win/lose, experts disagree
- Scope: no one owns the problem, no one has authority to address it
  - Crosses all boundaries, affects all parts

Value of the Notion 'Wicked Problem'

- Compassion: names the pain in organizations
- Freedom: beyond blaming, avoiding, & denying
  - "It's not that we (or they) are incompetent … the problem is wicked!!"
- Prescriptive
  - Fail fast (go deep, but don't get stuck there)
  - Success is measured in ownership, not in getting 'the right answer'
- Cautionary
  - Watch out for taming tactics
  - Mind the social complexity, esp. politics, power struggles, pocket veto, sabotage

How to approach a wicked problem?

- Elements of an approach that works
  - Engage highest possible leadership commitment
  - Recognize the “Symmetry of Ignorance”
  - Design for wide involvement & participation
  - Set expectations for learning, iteration, ‘failure’
  - Nurture relationships (trust, respect, humor)
  - Action research (“The purpose of action is to learn more about the problem.”)
  - Create & manage group memory of issues, decisions

IBIS:
The Deep Structure of Conversation

- The basic elements of design conversations:
  - Questions
  - Ideas (possible answers)
  - Arguments
    - Pros for and Cons against Ideas
- Robust representation of design process
  - Allows for inconsistent facts, incompatible options, contradictory points of view
- Preserves context of action items and decisions

A simple example

- Imagine a meeting of climate scientists
  - After a few minutes of discussion:

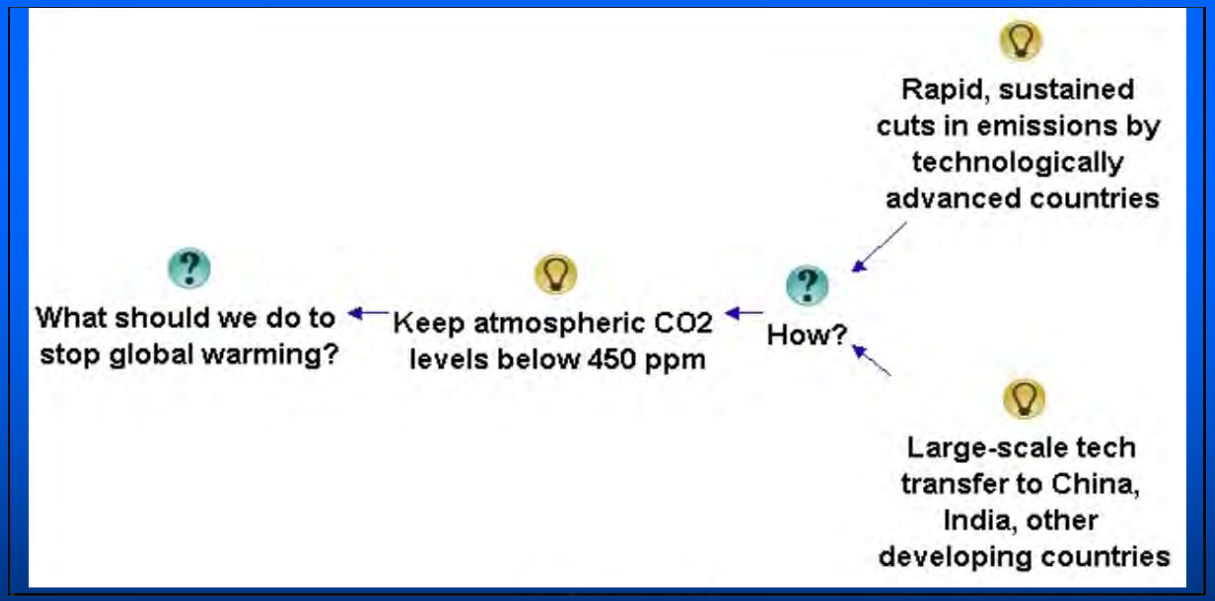


Figure 1

A simple example (2)

- Then, "Both of those courses will be ruinous to the global economy. Besides, we don't even know if there *is* global warming!"

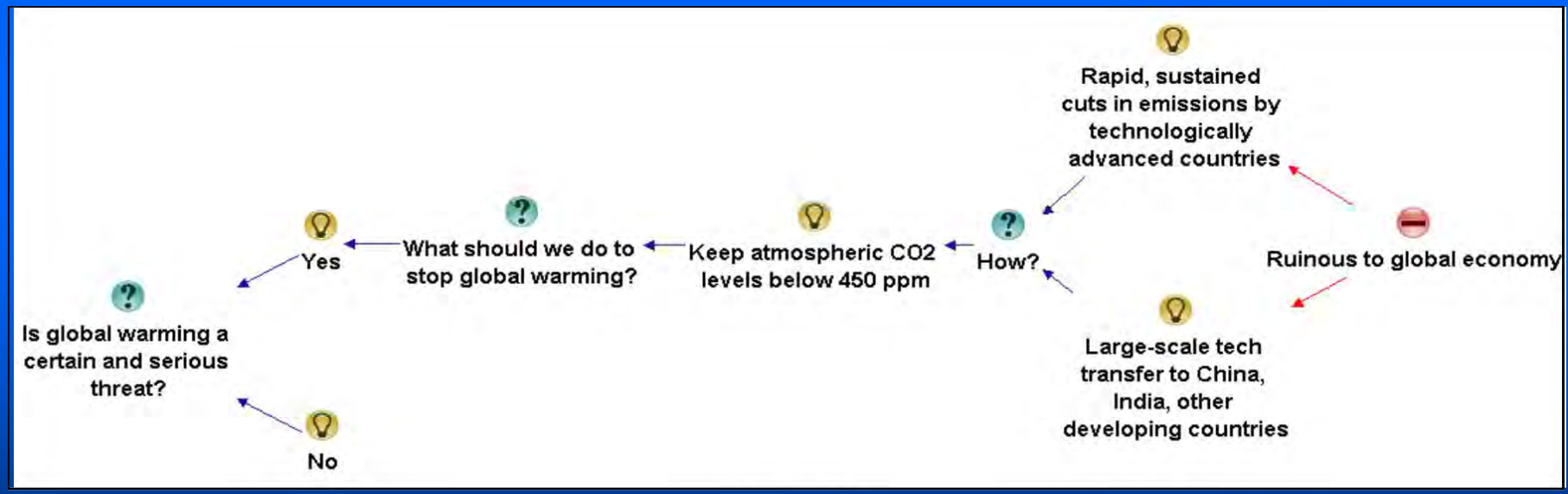
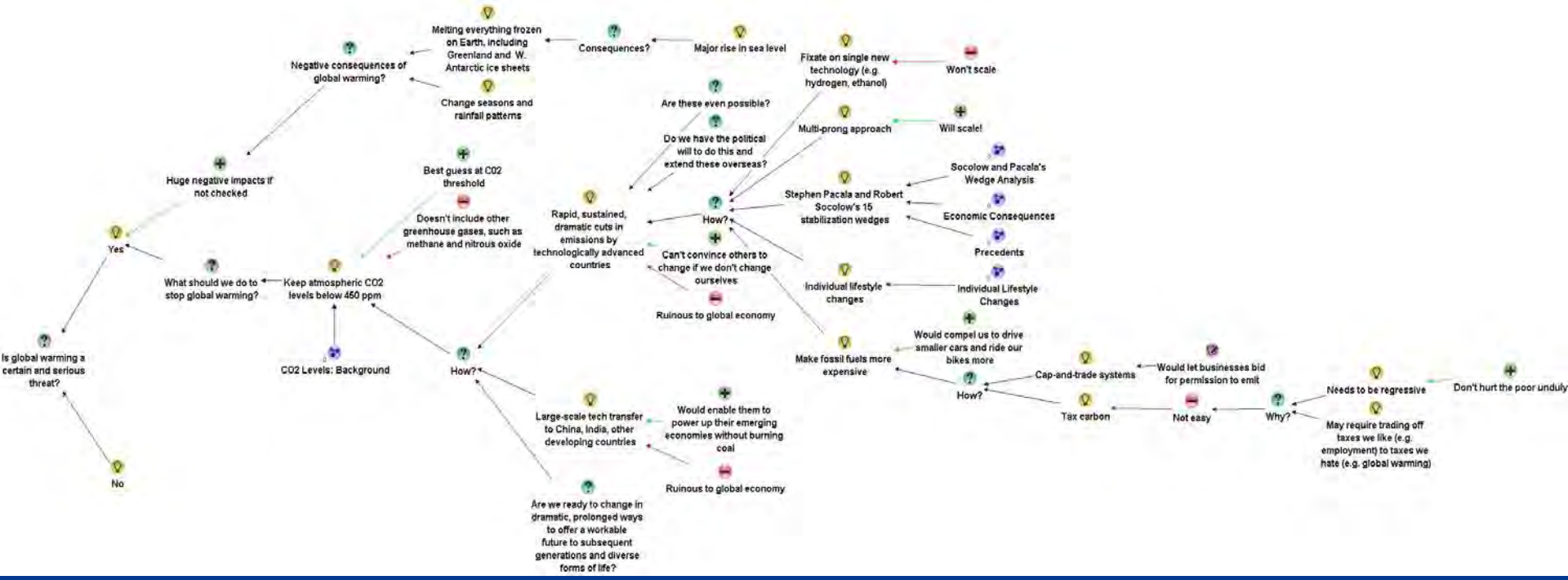


Figure 2

A simple example (3)

- After another 4 hours of discussion:



A simple example (4)

- After 2 days of discussion and parallel entry of some reference documents: