MetaProg*
Quality in Software

The Cynefin Framework
Making Sense of Agile

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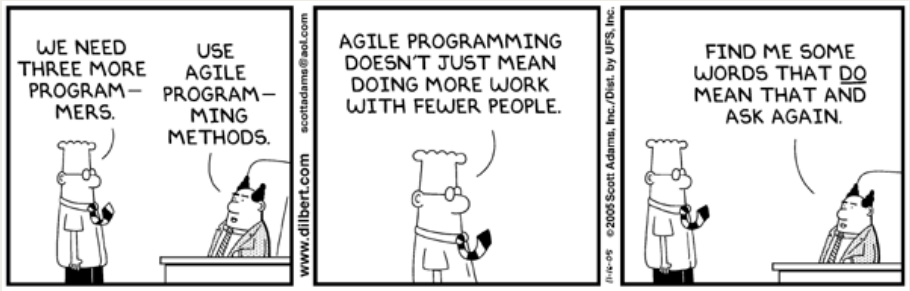

„Traditional scientific method has always been at the very best 20-20 hindsight. It‘s good for seeing where you‘ve been. It‘s good for testing the truth of what you think you know, but it can‘t tell you where you ought to go.“

Robert Pirsig,
Zen and the Art of Motorcycle Maintenance (1974)

Managing increasing complexity

- The art of management and leadership is having an array of approaches and knowing when to use which approach.
- One tool for analysis is called Sense-Making.
- Sense-Making is a pre-hypothesis technique which differs from categorization:
  - In categorizing, you have a “chest of drawers” in which you place phenomenological perceptions
  - In Sense-Making, you become the carpenter, and build the chest yourself.

Cynefin

"The name Cynefin is a Welsh word whose literal translation into English as habitat or place fails to do it justice. It is more properly understood as the place of our multiple belongings; the sense that we all, individually and collectively, have many roots: cultural, religious, geographic, tribal etc. We can never be fully aware of the nature of those belongings, but they profoundly influence what we are. The name seeks to remind us that all human interactions are strongly influenced and frequently determined by the patterns of our multiple experiences, both through the direct influence of personal experience and through collective experience expressed as stories "

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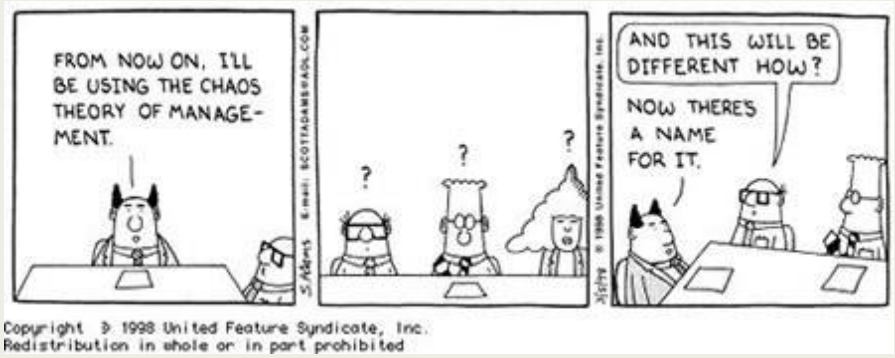
The Cynefin Framework

- The Cynefin framework consists of three parts:
  - Multi-ontological Sense-Making
  - Narrative
  - Social Network analysis and Stimulation



The Three Aspects of Sense-Making

- The way things are (ontology)
  - Ordered: predictable relationships between Cause & Effect
  - Complex: C & E retrospectively coherent
  - Chaotic: No C & E at system level
- The way we perceive things (phenomenology)
  - Information processing
  - Pattern processing
  - Ideological patterning
- The way we know things (epistemology)
  - Explicit: document databases etc.
  - Narrative: necessary ambiguity & resonance
  - Experiential: how do you ride a bike?

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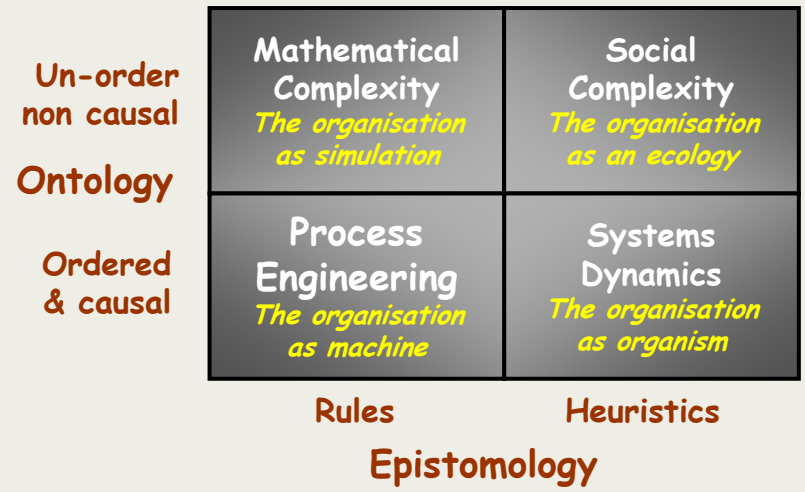
The Landscape of Management



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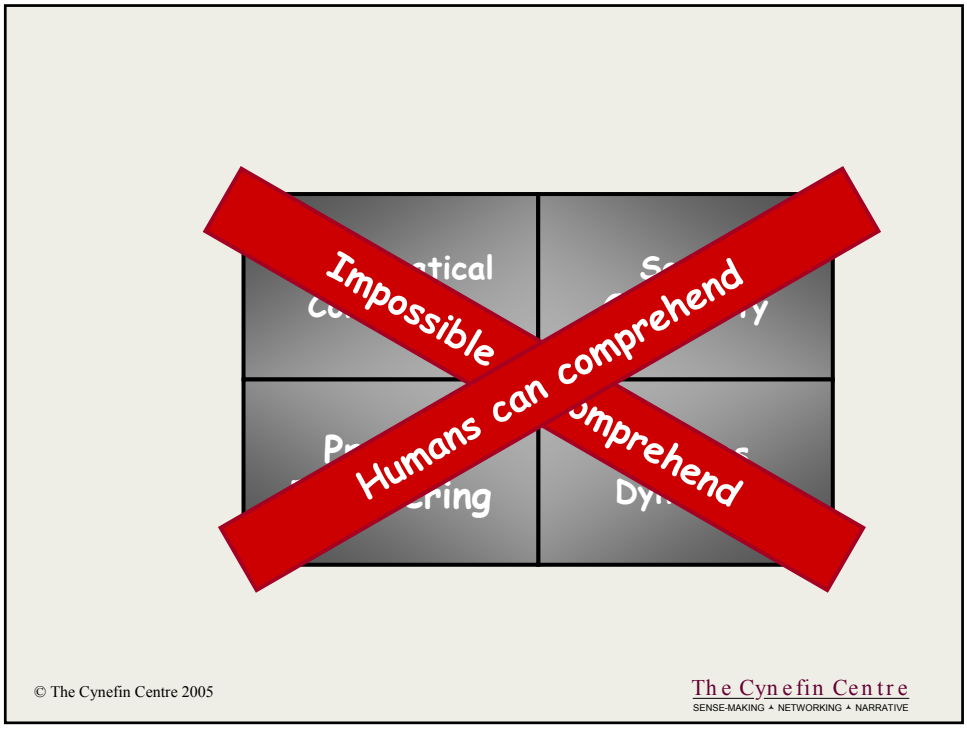
Why Humans are not Ants

- We never make rational decisions unless we‘re autistic
- We have multiple identities
- We impute intention where none exists
- We evolve to be malicious gossips
- We structure our interactions to create order


Impossible
Humans can comprehend
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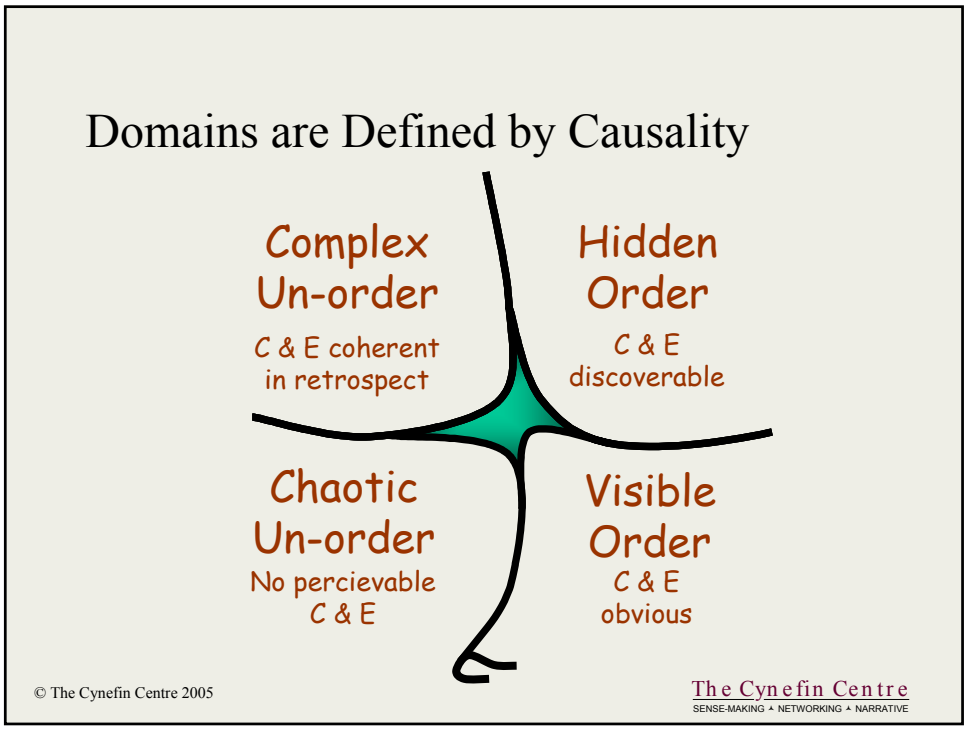
Domains are Defined by Causality
Complex
Un-order
C & E coherent
in retrospect
Hidden
Order
C & E
discoverable
Chaotic
Un-order
No percievable
C & E
Visible
Order
C & E
obvious
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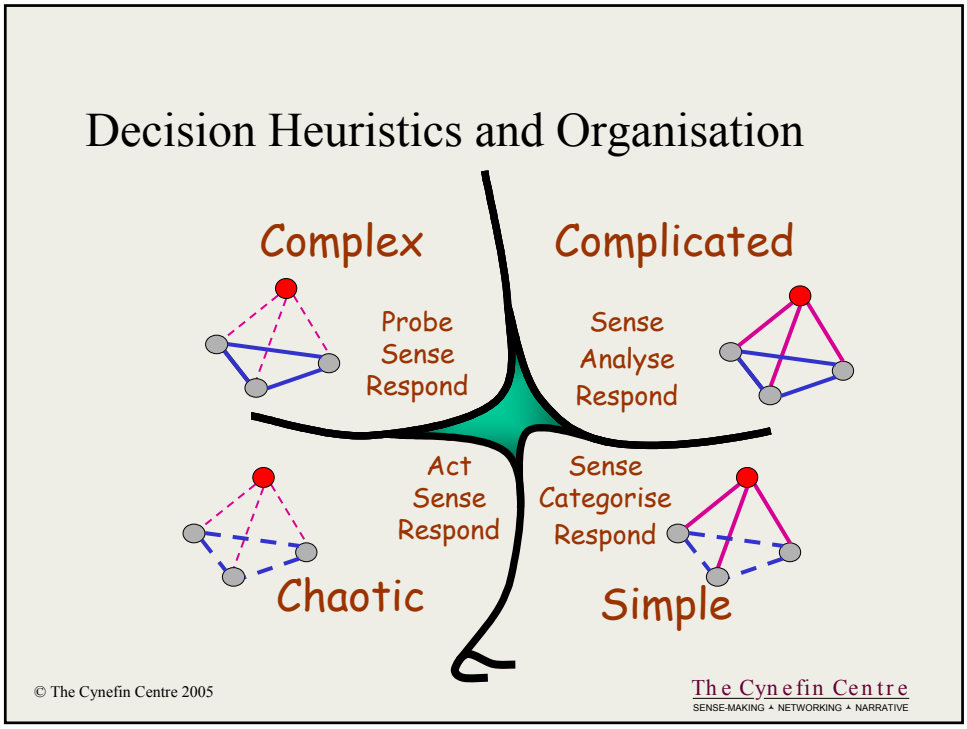
Decision Heuristics and Organisation
Complex
Complicated
Probe
Sense
Respond
Sense
Analyse
Respond
Act
Sense
Respond
Sense
Categorise
Respond
Chaotic
Simple
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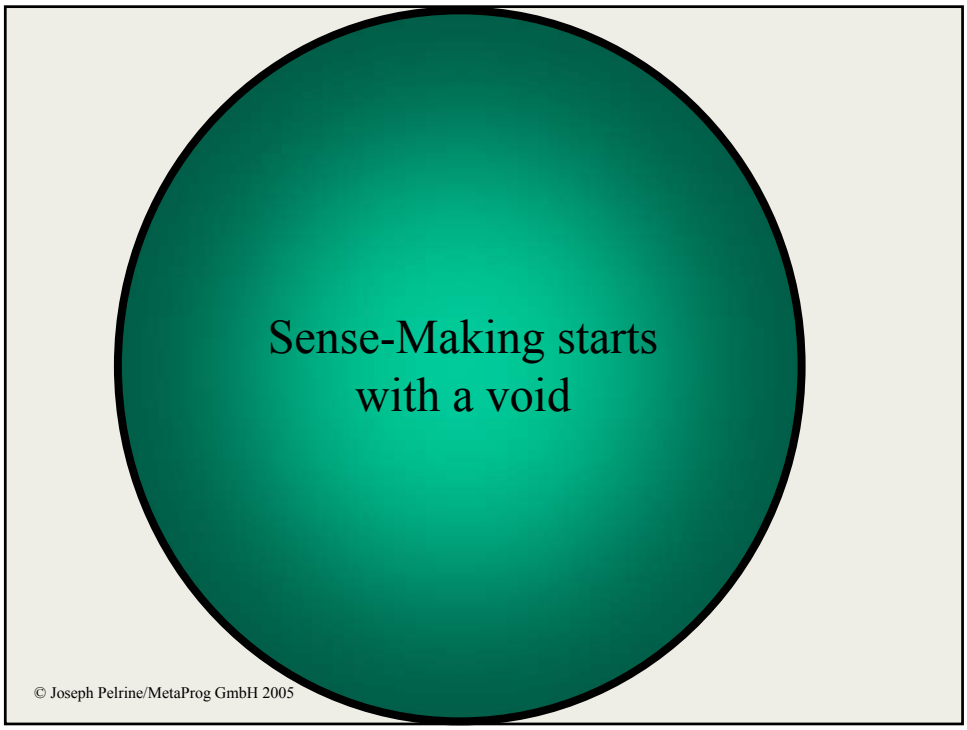
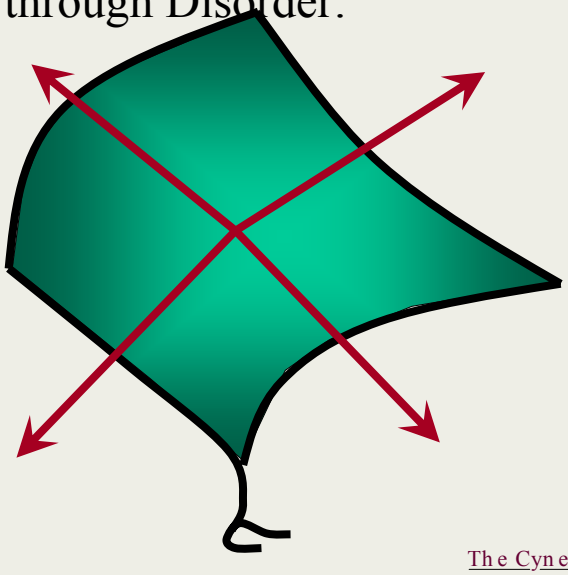

Sense-Making starts
with a void
© Joseph Pelrine/MetaProg GmbH 2005

Moves through Disorder:



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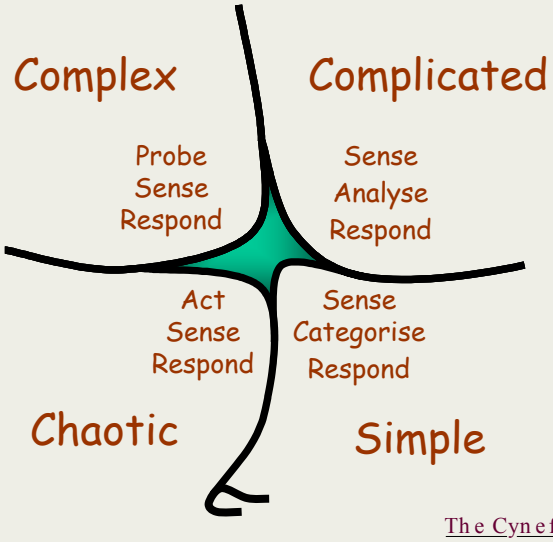
To Sense:



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Cognitive Bias Mapping

- Groups working together distribute meaningful data over the Cynefin model
- Uses all sub domains and can use boundary conditions
- Can be completed virtually Each group working on its own then distributes data following a time interval
- Patterns are then represented
- Two measures of dissonance
  - Overall pattern
  - Item distribution

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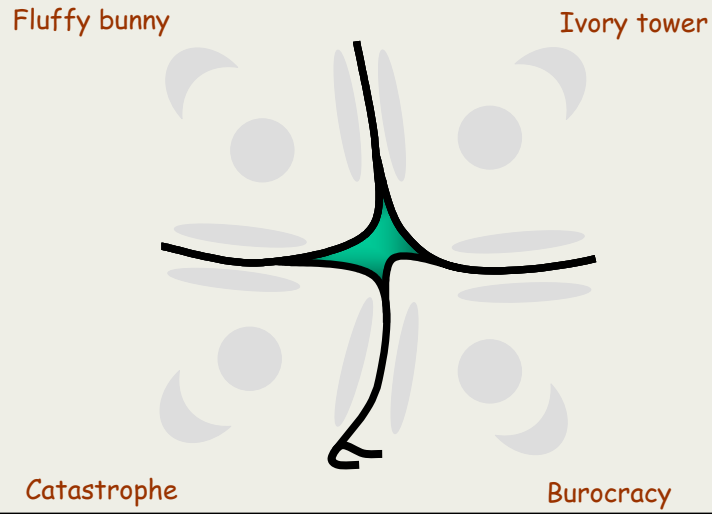
Boundaries and Extremes



Parameters of a Complex System

- Attractors
- Barriers
- Identities
- Diversity
- Environment

The other aspects

- Narrative
- Social Network Analysis & Stimulation

Key Elements of Narrative

- Resonance
- Displacement
- Ambiguity

Nasrudin found a weary falcon sitting one day on his window sill. He had never seen a bird like this before.

„You poor thing“, he said, „how ever were you allowed to get into this state?“

He clipped the falcon‘s talons and cut its beak straight, and trimmed its feathers.

„Now you look more like a bird“, said Nasrudin.

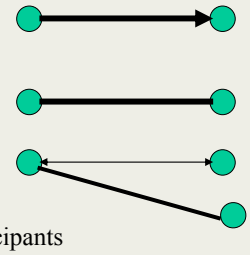
Social Network Analysis

- A set of techniques for identifying and representing patterns of interaction among social entities
- Provides precise and specific insight in place of intuition and general hunches
- Graphical:

  Directional relationship
  - E.g. 'Provides advice to'

  Non-directional relationship
  - E.g. 'Shares an office with'

  Strength of Relationship
  - E.g. Frequency of contact
  - E.g. Value or importance to the participants



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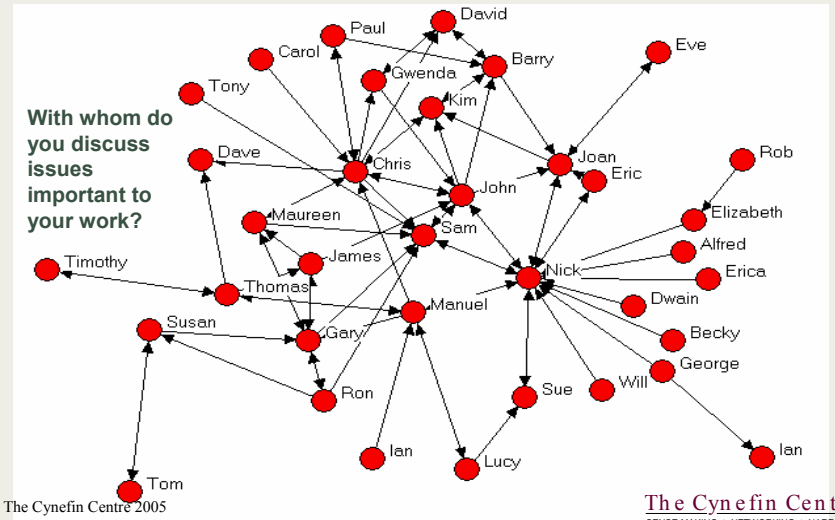
Informal Organisation



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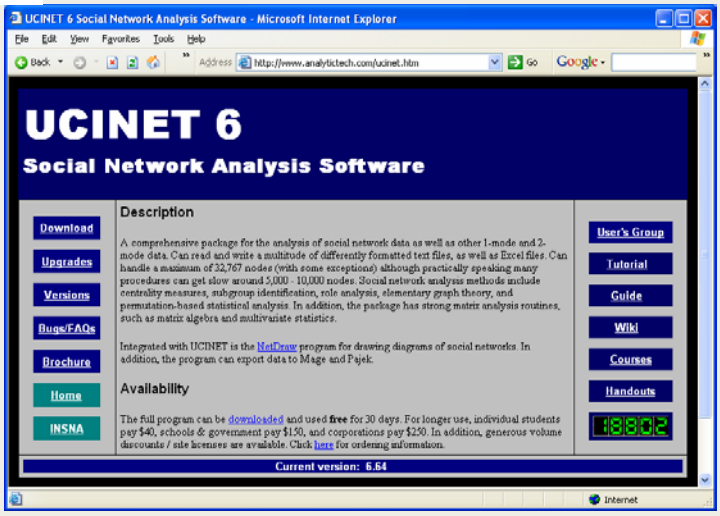
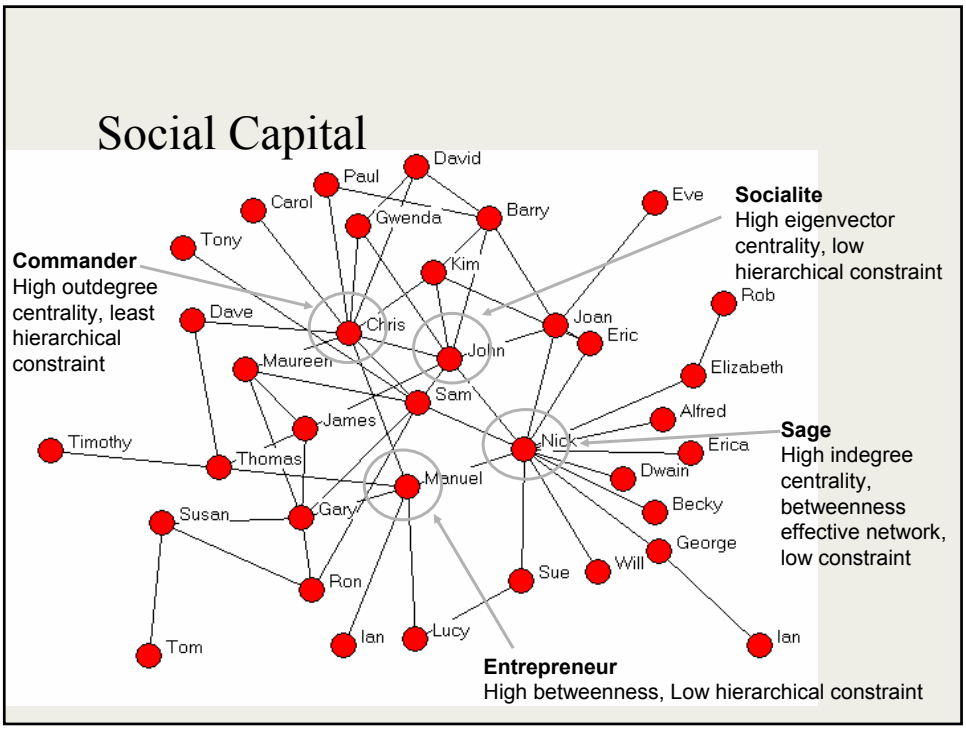


Developed by
•Martin Everett (University of Greenwich)
•Steve Borgatti (Boston College)
•Lin Freeman (UC Irvine)

A Mathematical more than Business tool



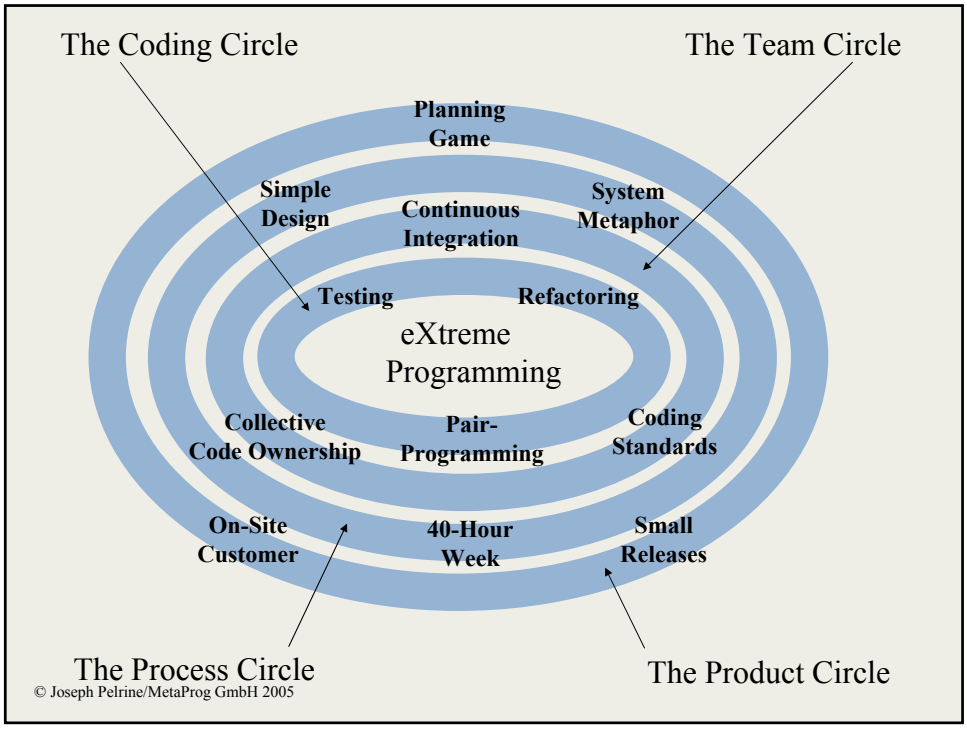
Applications of Cynefin to Agile

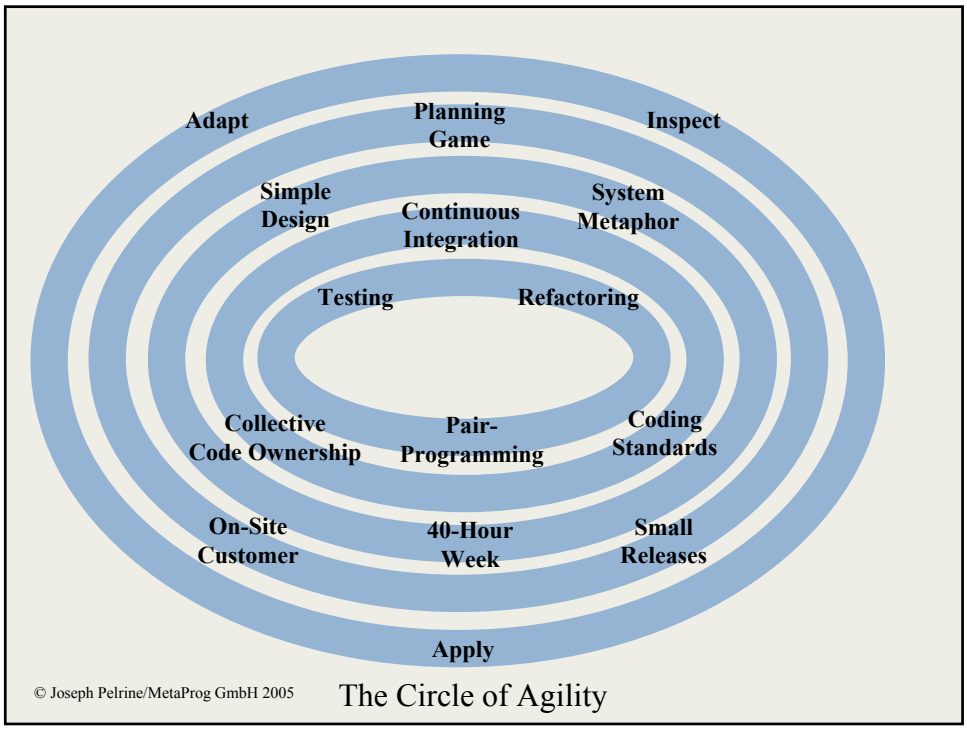
Manifesto for Agile Software Development

We are uncovering better ways of developing
software by doing it and helping others do it.
Through this work we have come to value:

Individuals and interactions over processes and tools
Working software over comprehensive documentation
Customer collaboration over contract negotiation
Responding to change over following a plan

That is, while there is value in the items on
the right, we value the items on the left more.





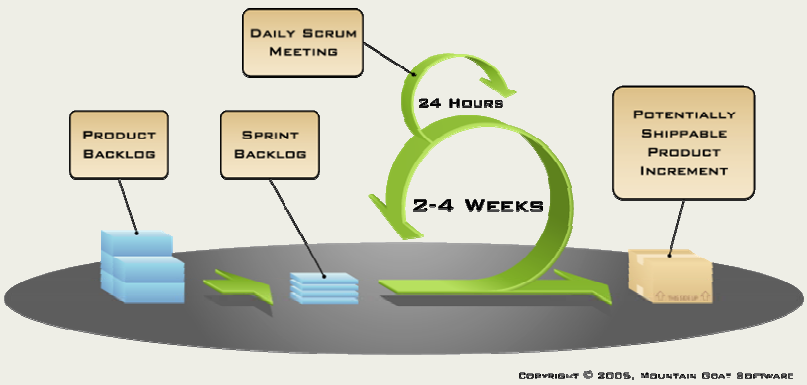
From Agile to Complex

- Apply
- Inspect
- Adapt

→

- Probe
- Sense
- Respond

How about Scrum?



What can we learn from this?

- The Cynefin framework of organizational complexity theory helps us order and organize problems.
- To be agile, we need a toolkit of problem-solving techniques for
  - Development
  - Planning & Management
  - Analysis & Design
  - Requirement gathering
  - Facilitation
  - Diplomacy
  - etc.

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Thank you

- Dave Snowden
- Rachel Davies
- Ken Schwaber
- Norm Kerth