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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.”

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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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
Domains are Defined by Causality

- **Complex**
  - Un-order
  - C & E coherent in retrospect

- **Hidden**
  - Order
  - C & E discoverable

- **Chaotic**
  - Un-order
  - No perceivable C & E

- **Visible**
  - Order
  - C & E obvious
Decision Heuristics and Organisation

Complex
- Probe
- Sense
- Respond

Complicated
- Sense Analyse
- Respond

Chaotic
- Act
- Sense
- Respond

Simple
- Sense Categorise
- Respond

Sense-Making starts with a void

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Moves through Disorder:

To Sense:

Complex
- Probe
- Sense
- Respond

Complicated
- Sense
- Analyse
- Respond

Chaotic
- Act
- Sense
- Categorise
- Respond

Simple
- Sense
- Respond
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

Boundaries and Extremes

- Fluffy bunny
- Ivory tower
- Catastrophe
- Burocracy
Parameters of a Complex System

- Attractors
- Barriers
- Identities
- Diversity
- Environment

The other aspects

- Narrative
- Social Network Analysis & Stimulation
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

Informal Organisation

With whom do you discuss issues important to your work?

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Social Capital

Commander
High outdegree centrality, least hierarchical constraint

Socialite
High eigenvector centrality, low hierarchical constraint

Sage
High indegree centrality, betweenness effective network, low constraint

Entrepreneur
High betweenness, low hierarchical constraint
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?

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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.
Thank you

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