

Understanding Software Development

Scrum Gathering Durban 2018



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The last thing one knows when composing a
work is what to put first.

Blaise Pascal

The journey of a single step starts with ten thousand miles.

Don Gray

When I started ...

- Fortran IV was still in use.
- My first connection was a 300 baud modem to the VAX11/750 four floors below me.
- We controlled 100 Acres of manufacturing with less memory and storage than my phone.
- The internet was 5 years in the future.
- I could be reached at 7164,717

A group of men are gathered at what appears to be a conference or networking event. In the foreground, a man with a grey beard and a blue t-shirt is smiling broadly. Behind him, several other men are visible, some wearing lanyards with badges. One man in a dark blue polo shirt is holding a cup of beer. The background shows a casual indoor setting with other people and a whiteboard.

Conversation

Participation

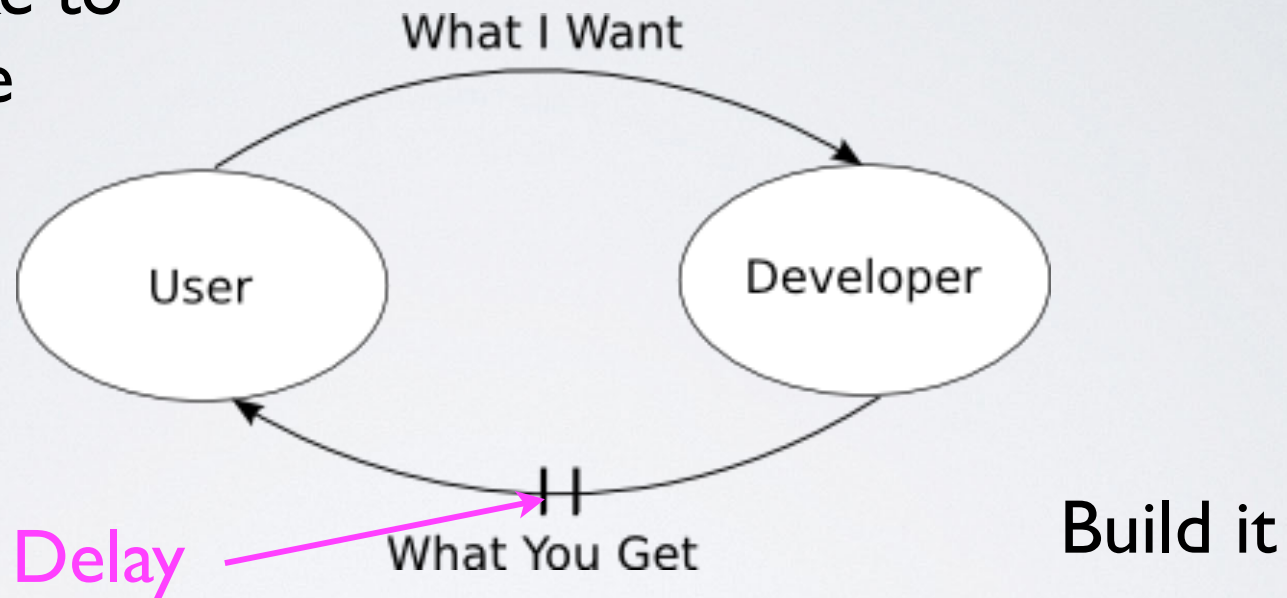
Our Time Together

Agenda:

- Software Development
- Learning
- Thinking and Visualization
- Discussion / Wrap up

What's So Hard?

Find out what the user would like to experience

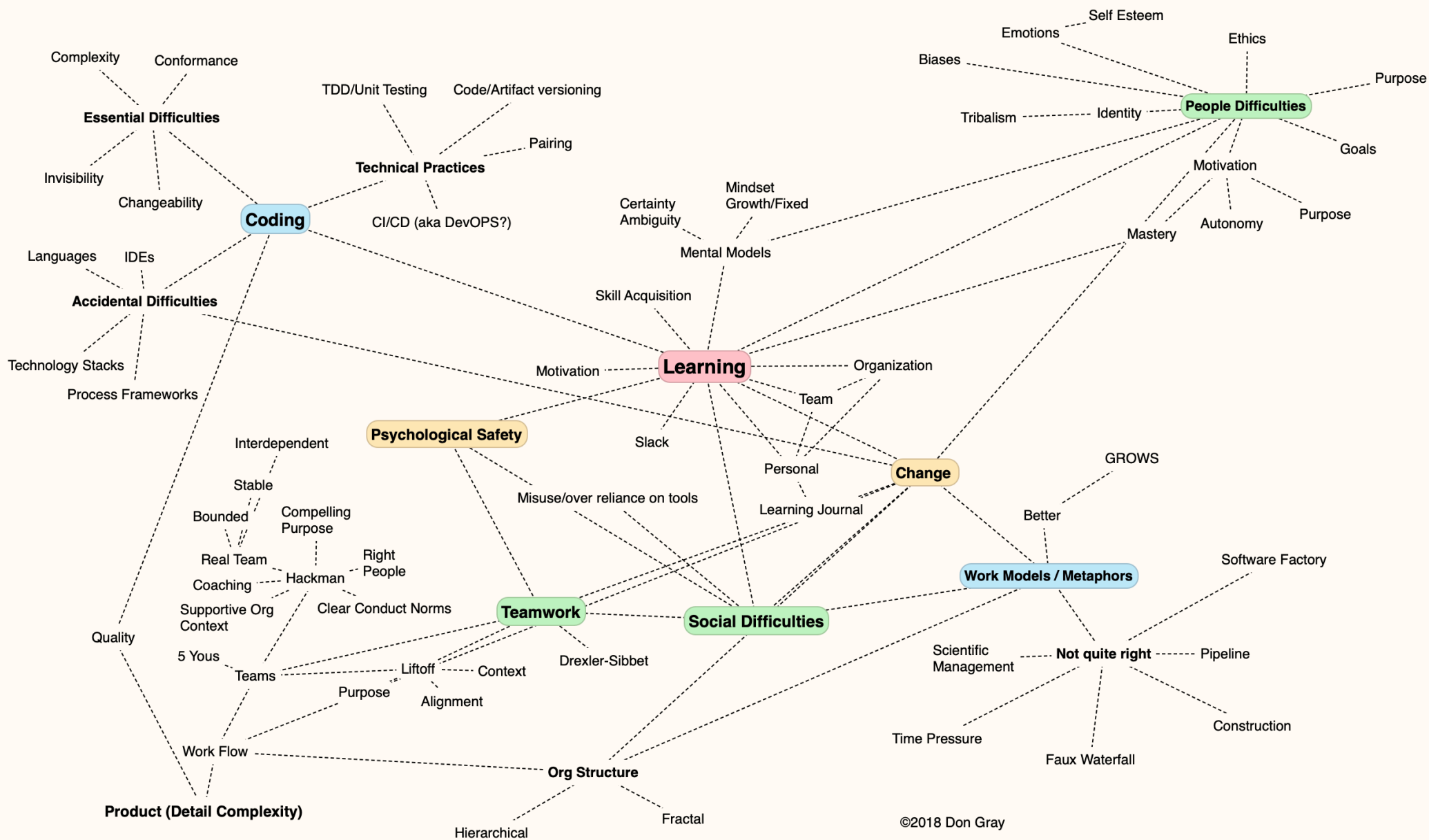


A system is not the sum of its parts, but the product of its interactions. Ackoff

$x(5)^5 * x(4)^4 * x(3)^3 * x(2)^2 * x(1) = \text{output}$

The "problem" involves the number of domains that impact software development

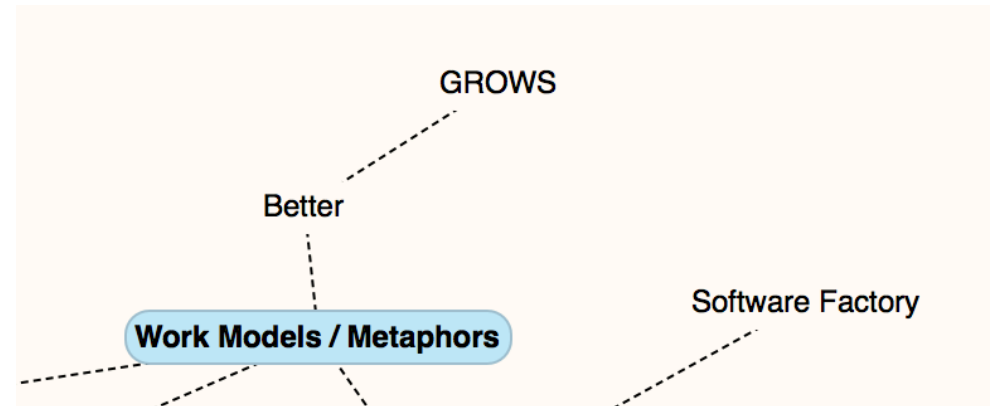
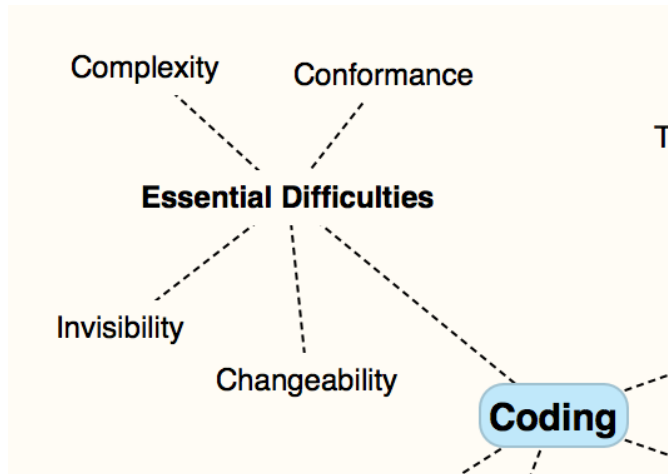
We need generalists but attract specialists.

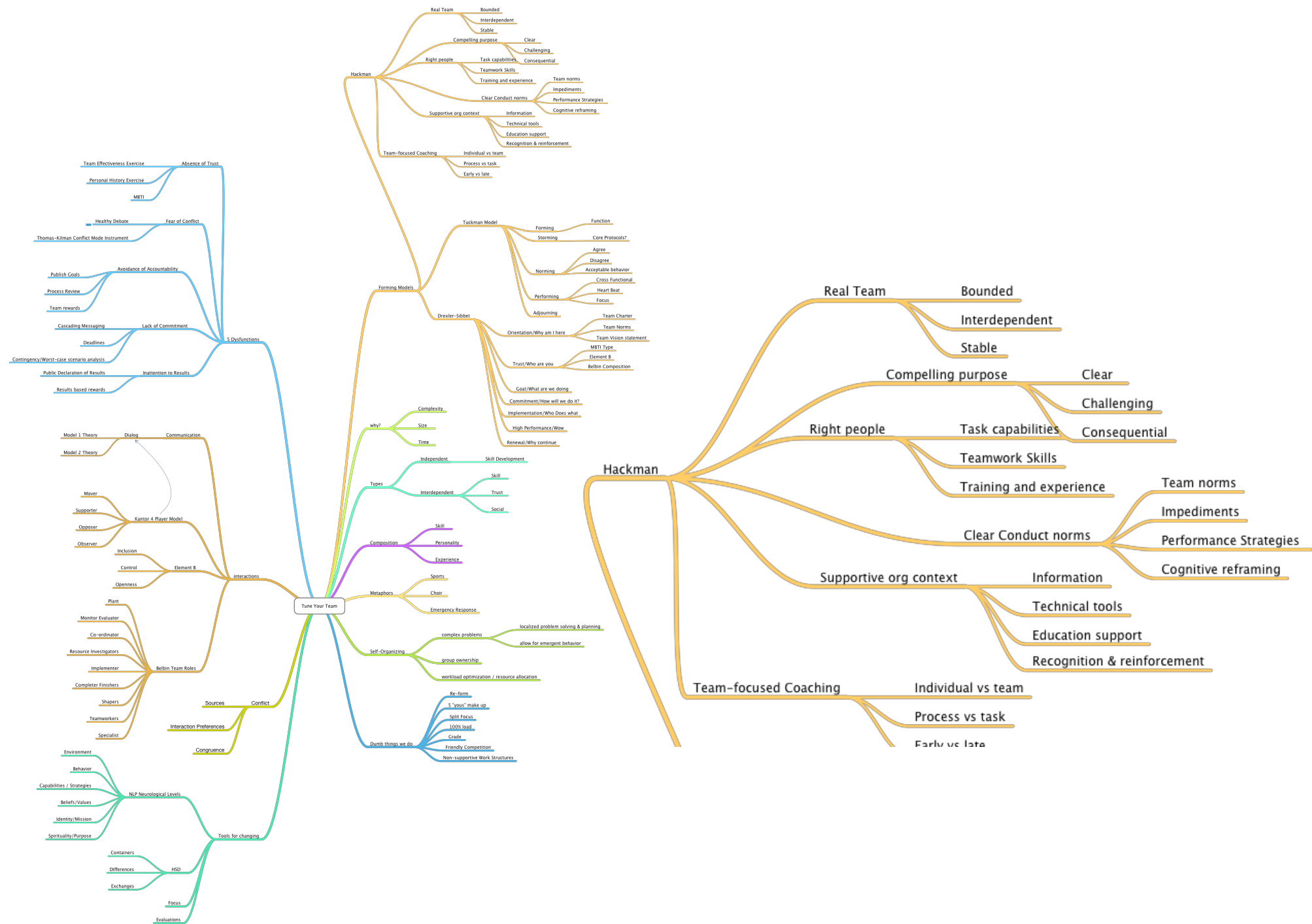


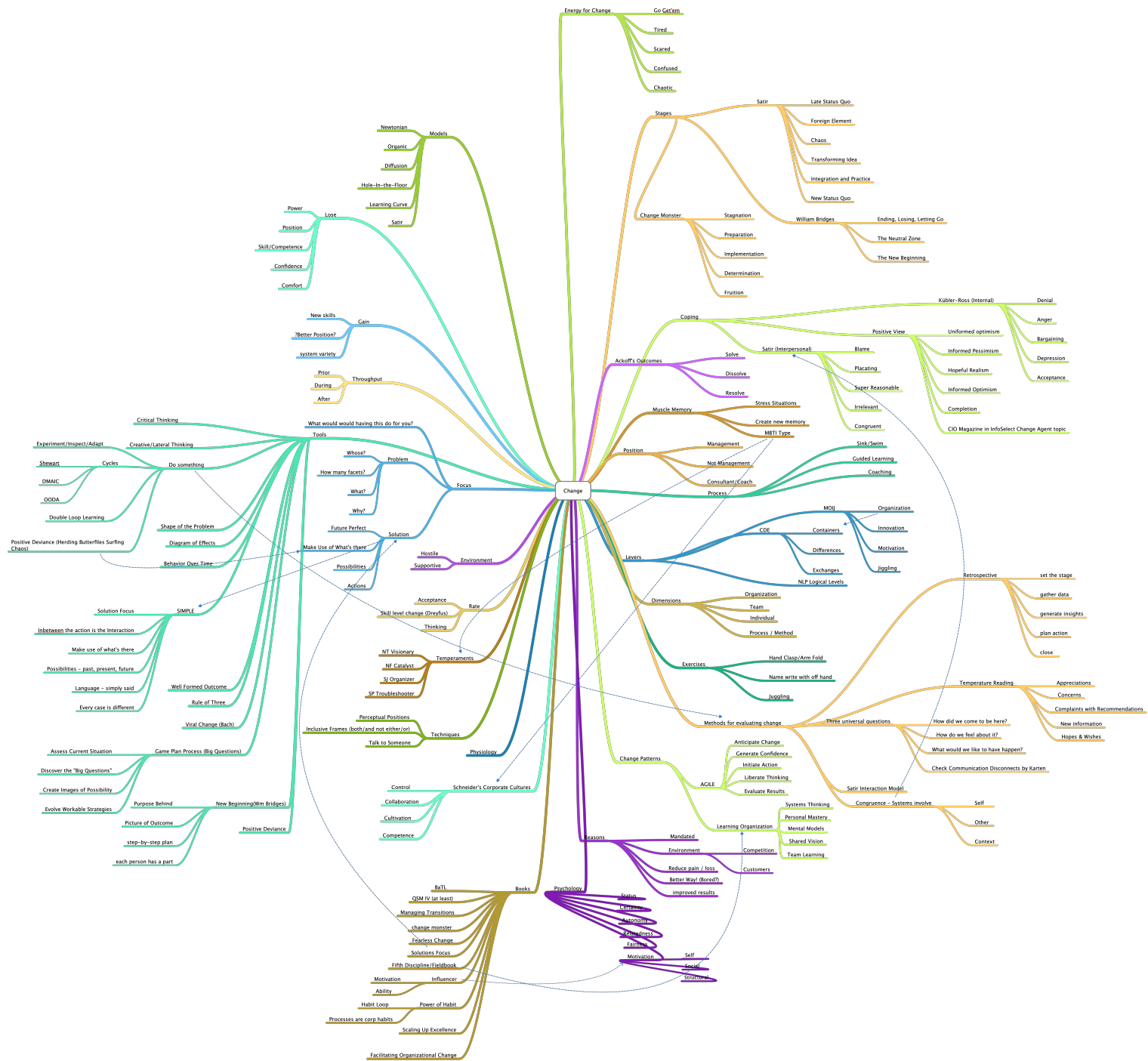
A bad system will defeat a good person every time.

W. Edward Deming

Essential Difficulties And Metaphors







Our Time Together

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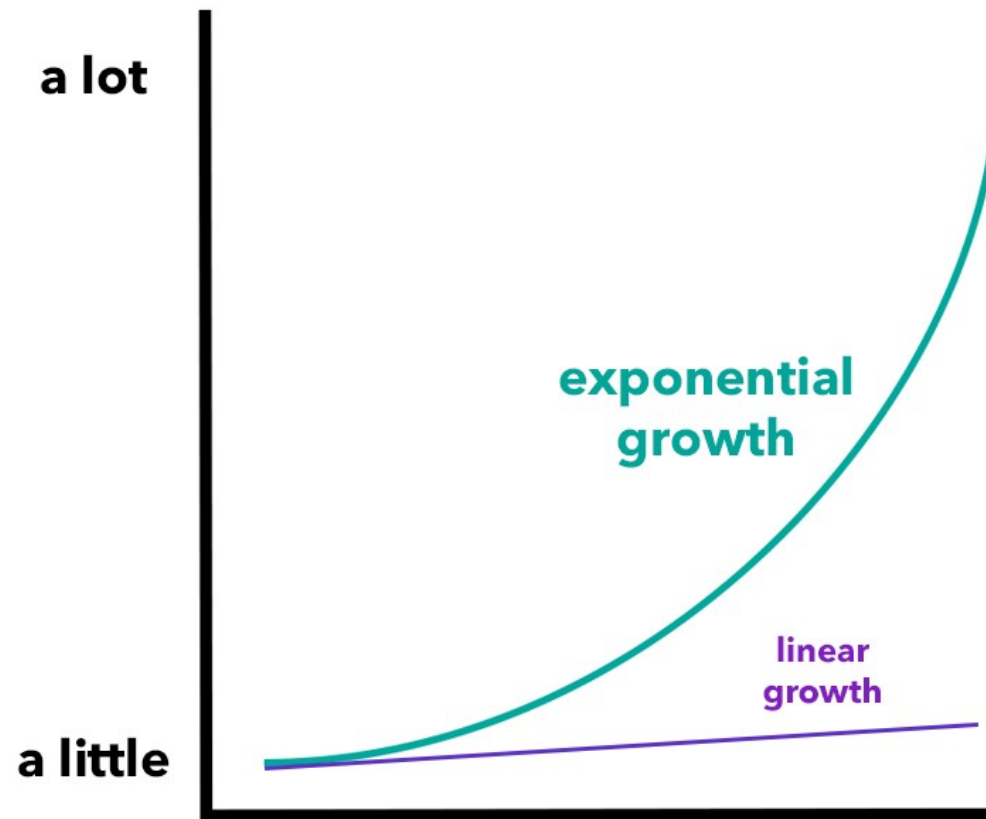
- Software Development
- **Learning**
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Learning

In times of change, learners inherit the earth,
while the learned find themselves beautifully equipped to
deal with a world that no longer exists.

Eric Hoffer

Losing Ground



Individual Learning

Are you deliberately learning?

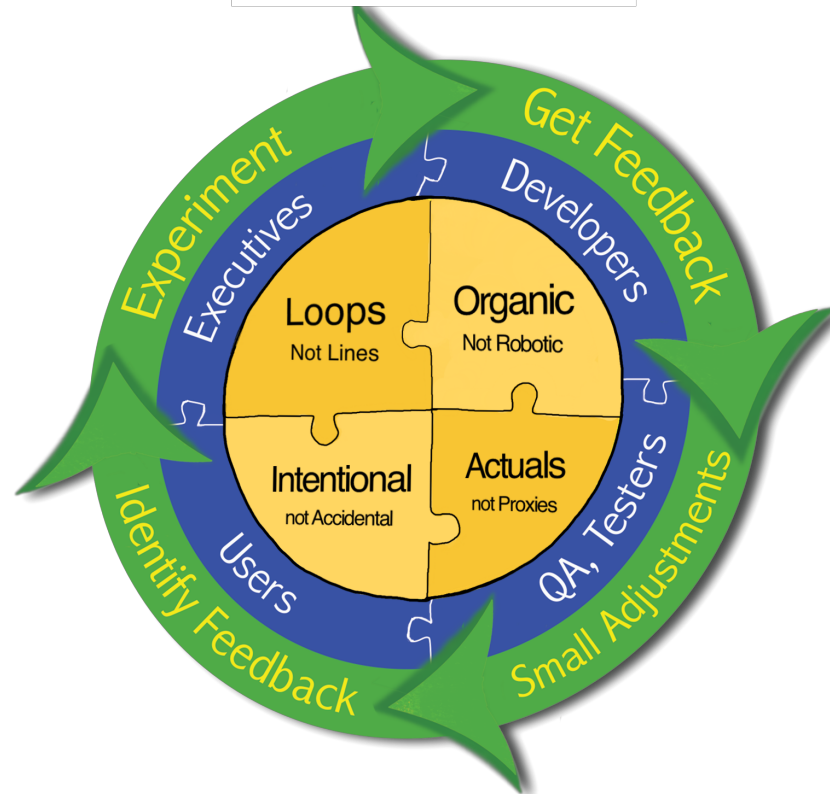
- I have a regular time and place to invest in my learning and skills (10 pts)
- I have a time and place set up, but don't do it consistently (5 pts)
- I invest in learning only when something comes up (0 pts)
- I don't bother to learn anything new, ever (-20 pts)

Considering your actions over the last week:

- I can demonstrate progress of new things learned (5 pts)
- I feel like I've learned new things but don't have anything concrete to show for it (2 pts)
- I don't feel that I've learned anything new (0 pts)

GROWS

Method TM



Learning Journal

<https://growsmethod.com/downloads/LearningJournalHandout.pdf>

Team Learning

Individual learning, at some level, is irrelevant for organizational learning. Individuals learn all the time and yet there is no organizational learning. But if teams learn, they become a microcosm for learning throughout the organization.

Peter Senge

Team Learning Plan

- Create participation process to support team processes
- Create specific and meaningful goals
- Align goals to team and organizational goals
- Clarify the importance of meeting these goals
- Develop a team learning plan to meet the goals
- Find resources and tools
- Decide how to track progress
- Figure out how team members can help each other

Psychological Safety is "a shared belief that the team is safe for interpersonal risk taking".

Hunter Industries



Bad News

A system is not the sum of its parts, but the product of its interactions.

Russell Ackoff

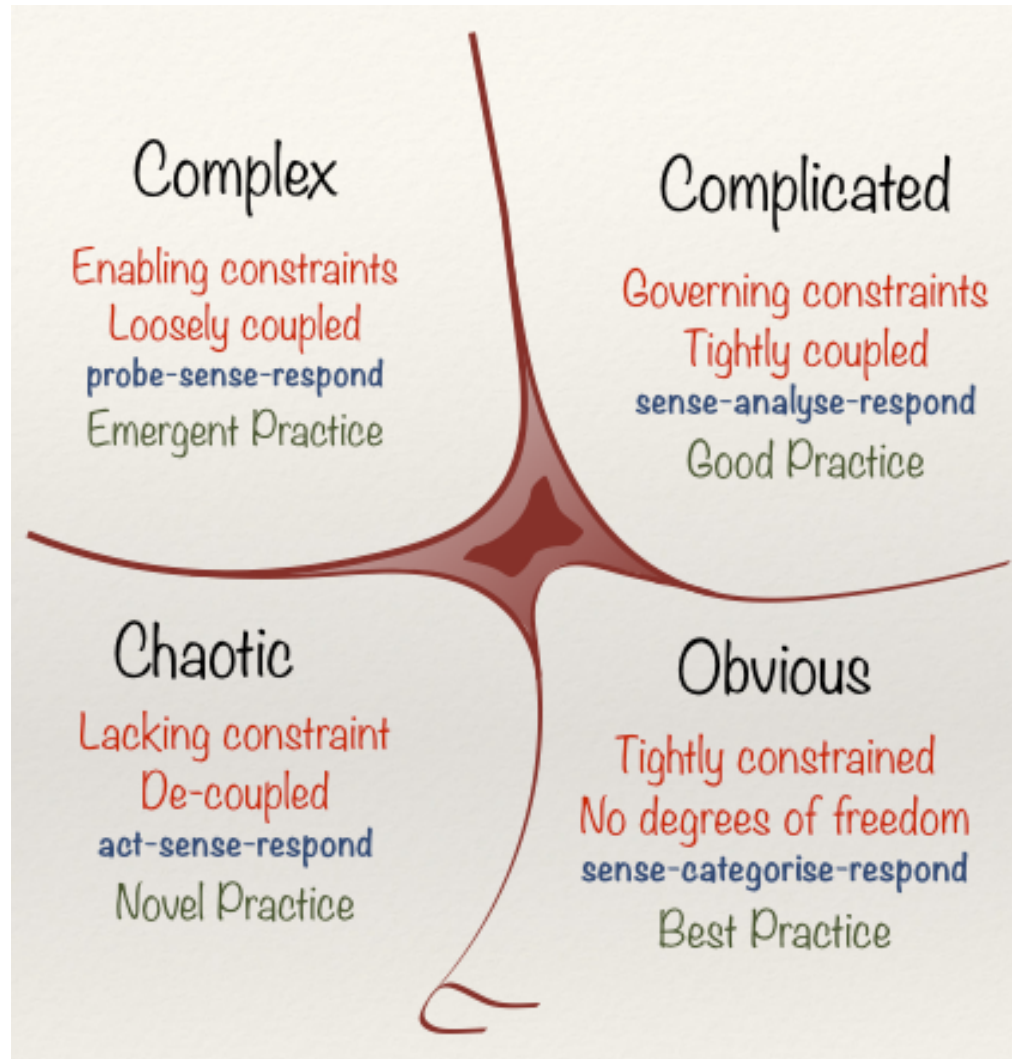
$$x(5)^5 * x(4)^4 * x(3)^3 * x(2)^2 * x(1) = \text{output}$$

Our Time Together

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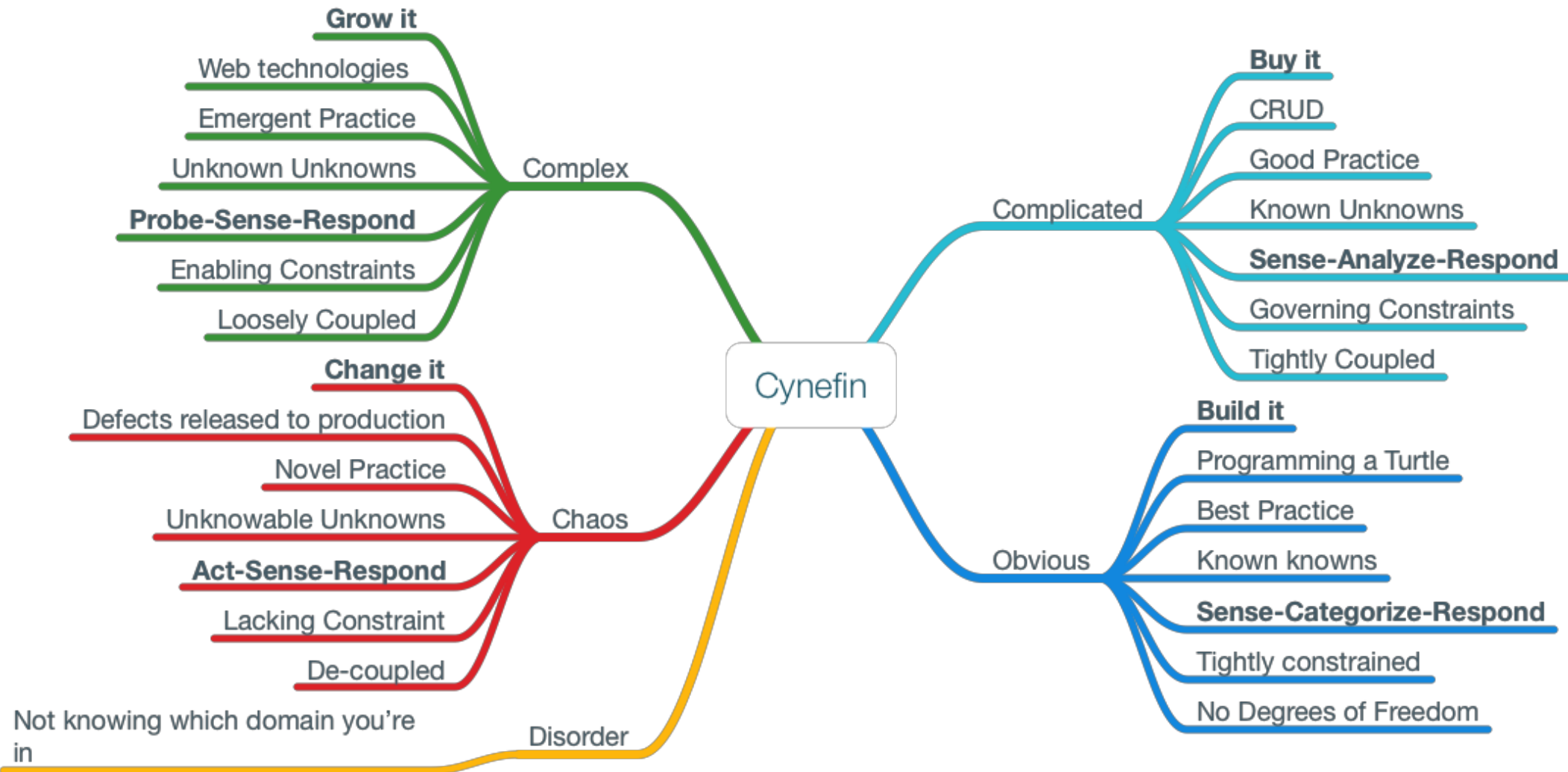
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Problems are not equal



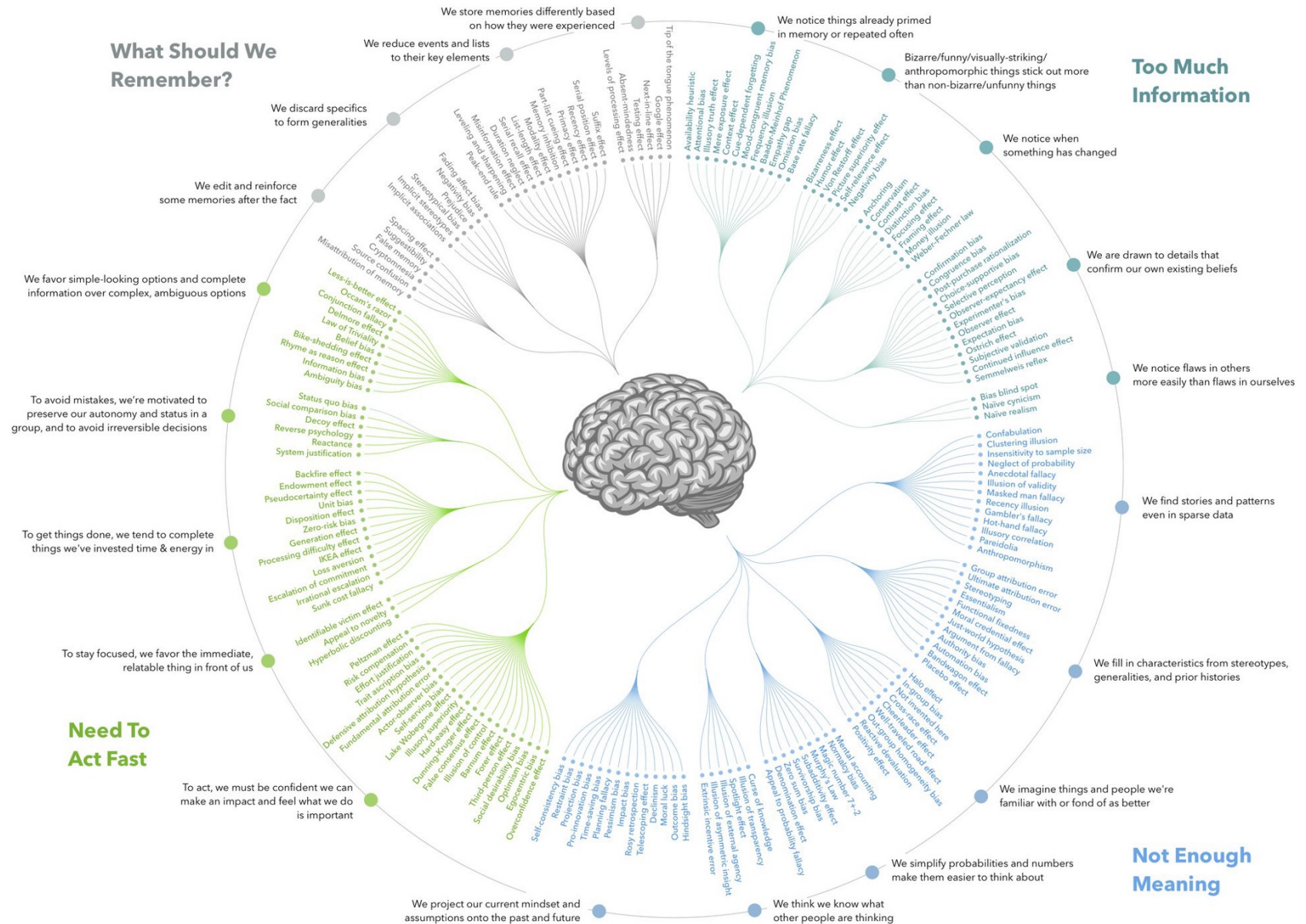
The Cynefin Model was developed by Dave Snowden

Another View



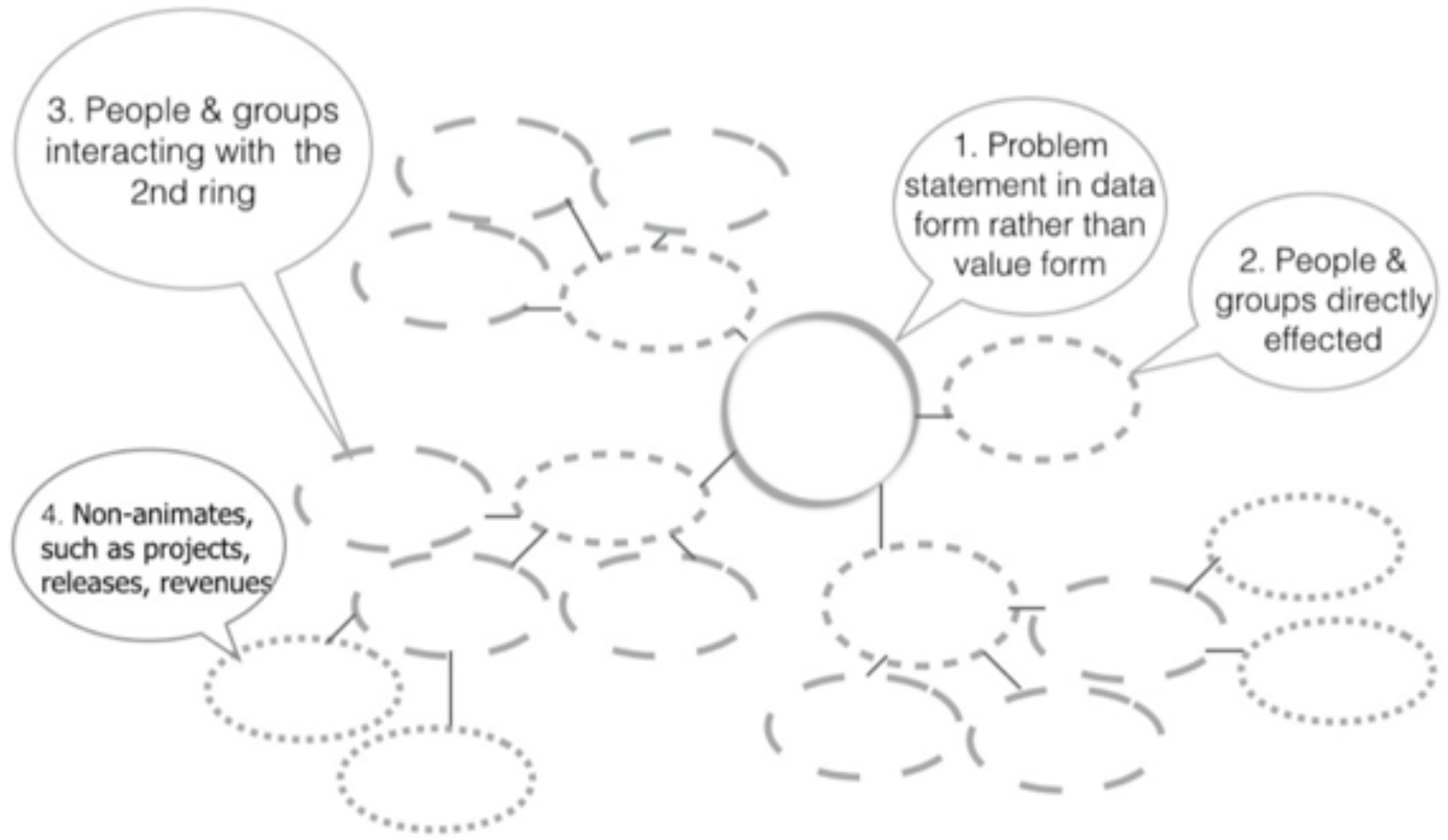
The software development items stolen from Liz Keogh lunivore.com

COGNITIVE BIAS CODEX, 2016

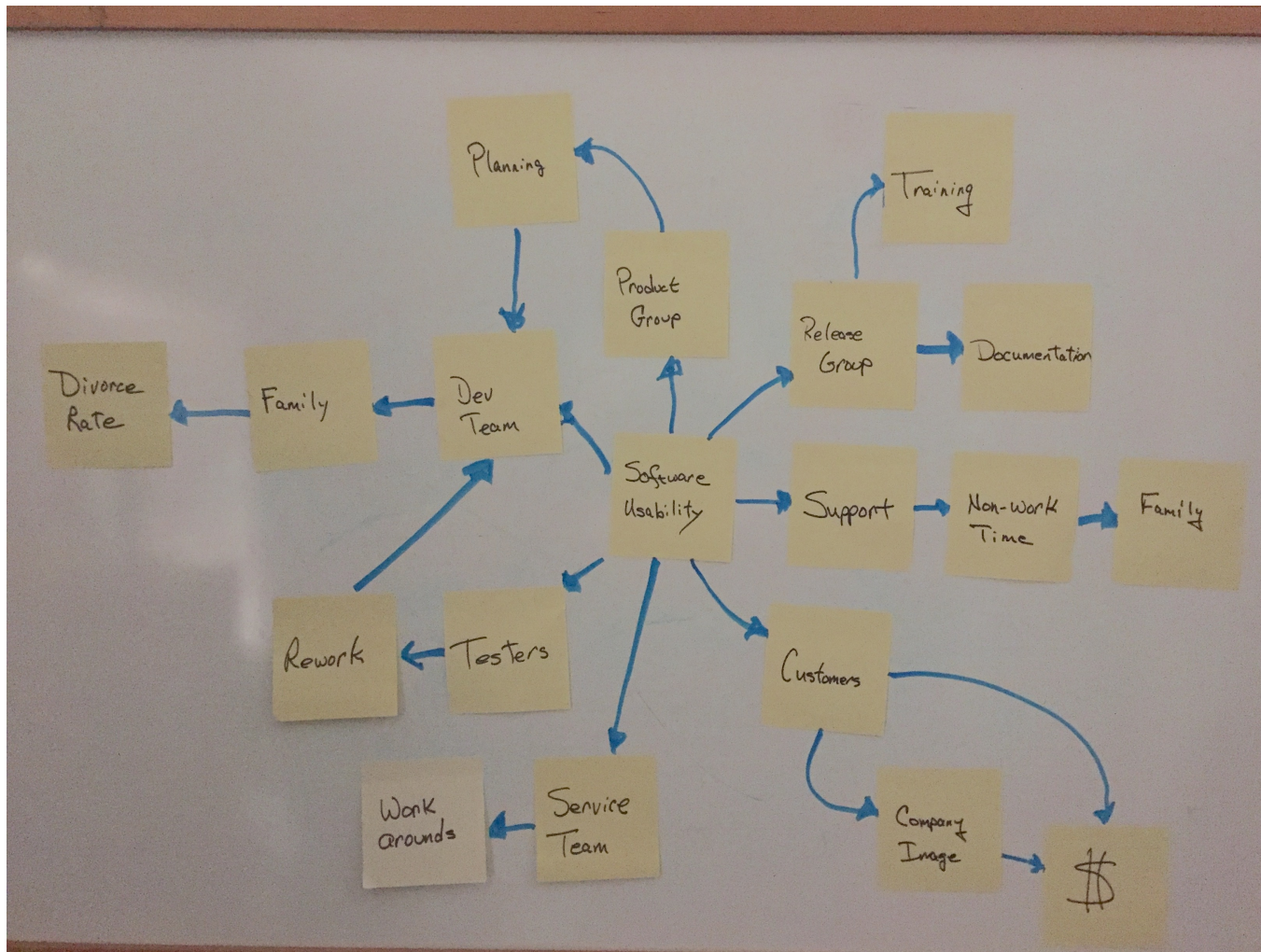


ALGORITHMIC LAYOUT + DESIGN BY JM3 · JOHN MANOOGIAN III // CONCEPT + METICULOUS CATEGORIZATION BY BUSTER BENSON // DEEP RESEARCH BY WIKIPEDIANS FAR + WIDE

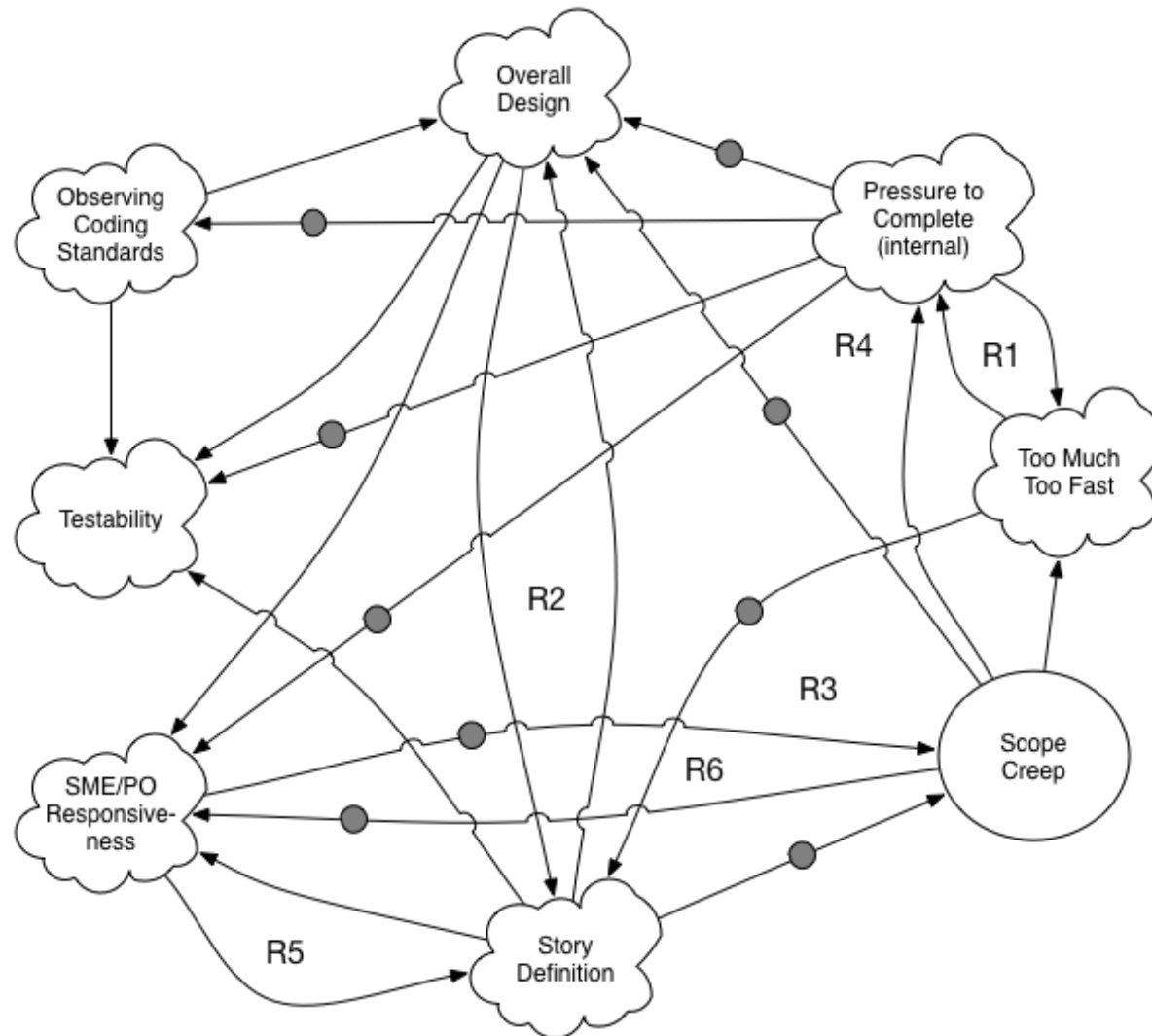
Shape of the Problem



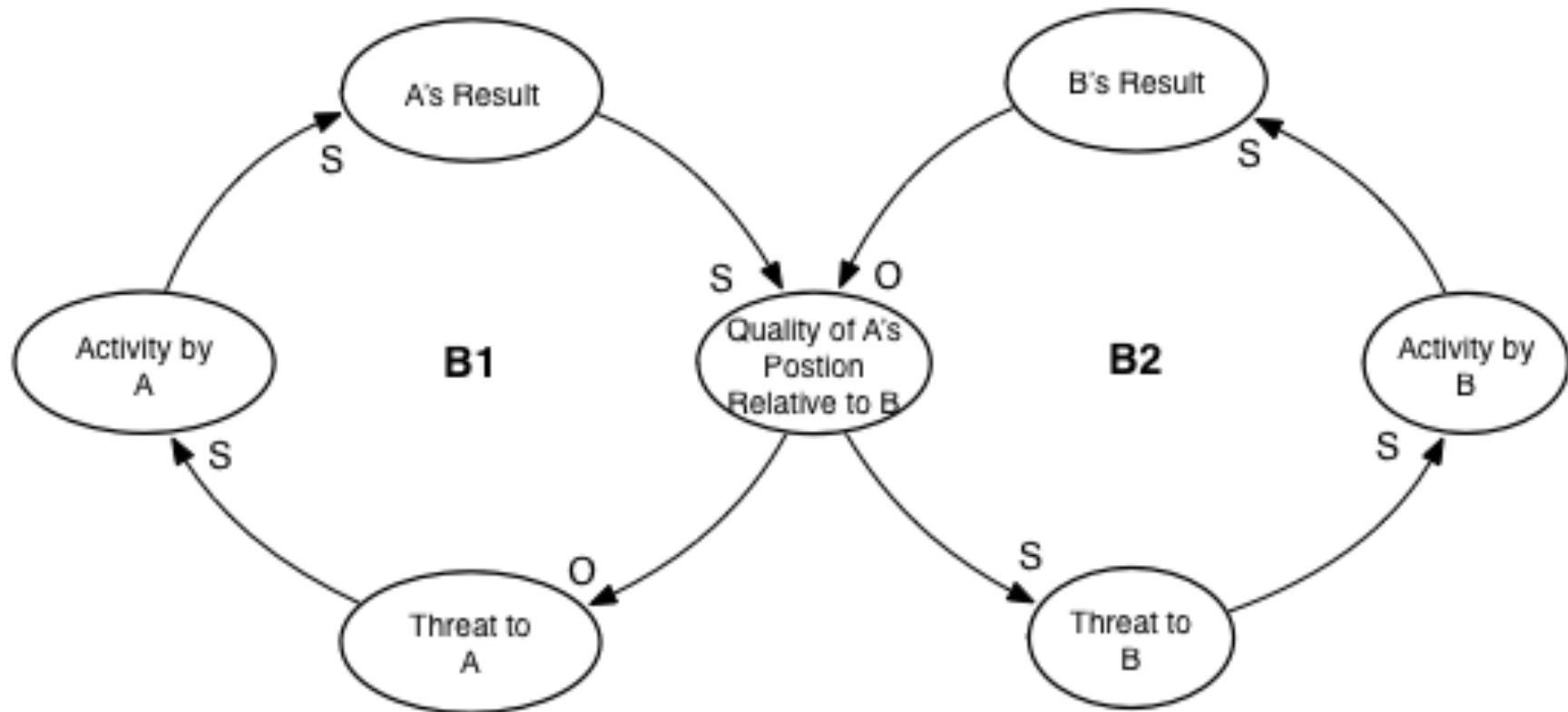
Software Usability



Circle of Causes



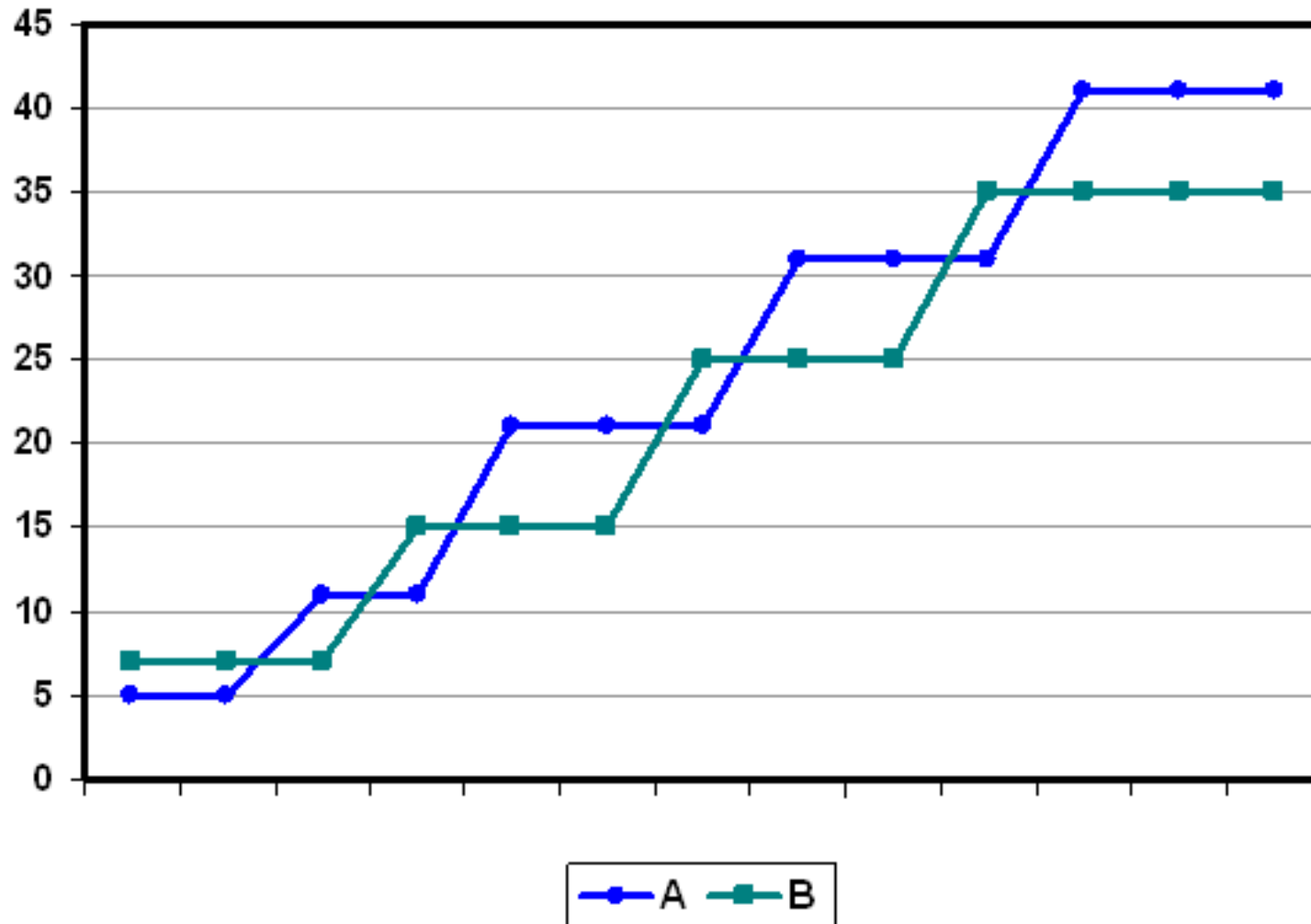
CLD / DoE



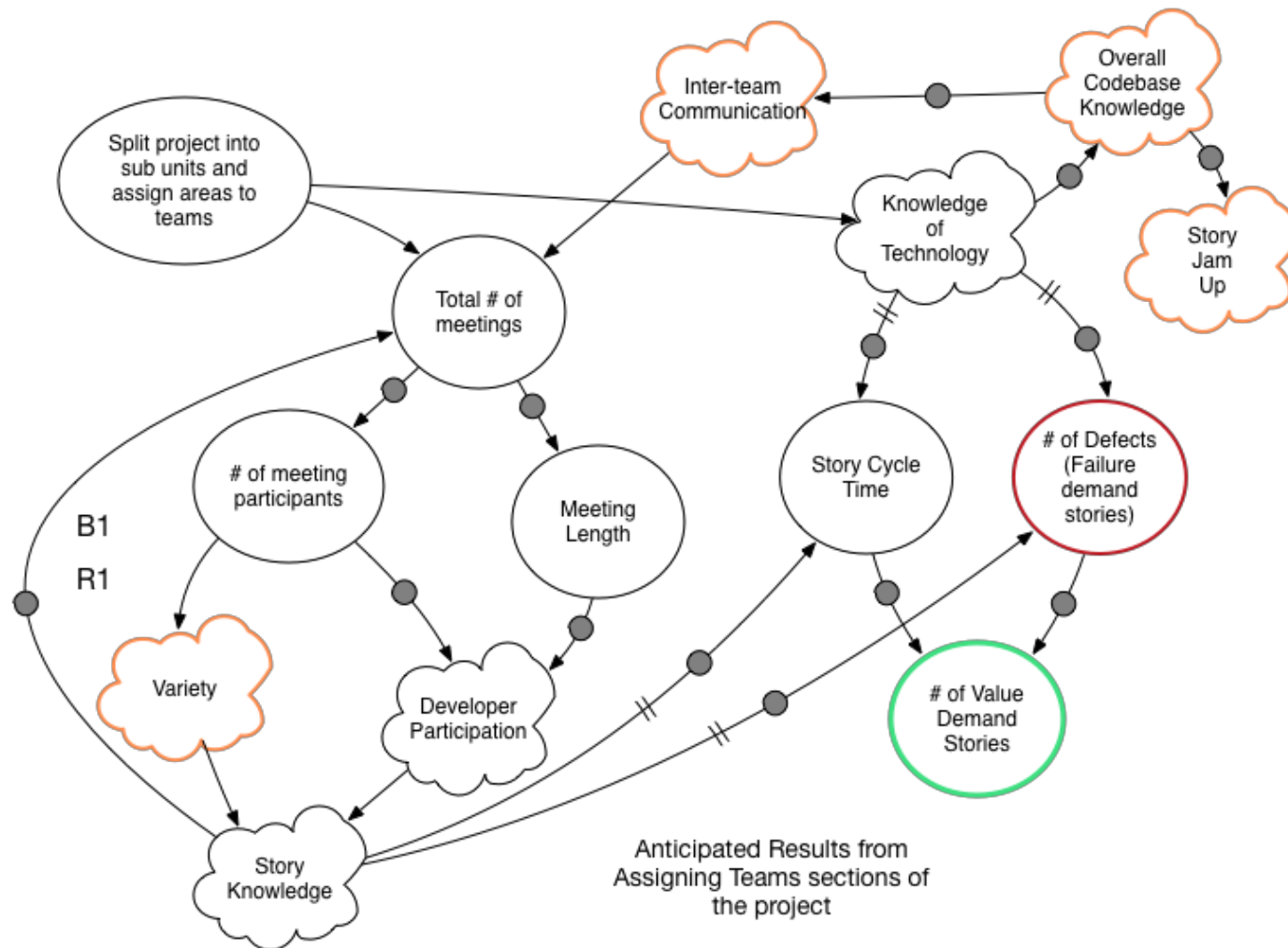
Escalation Diagram

Behavior Over Time

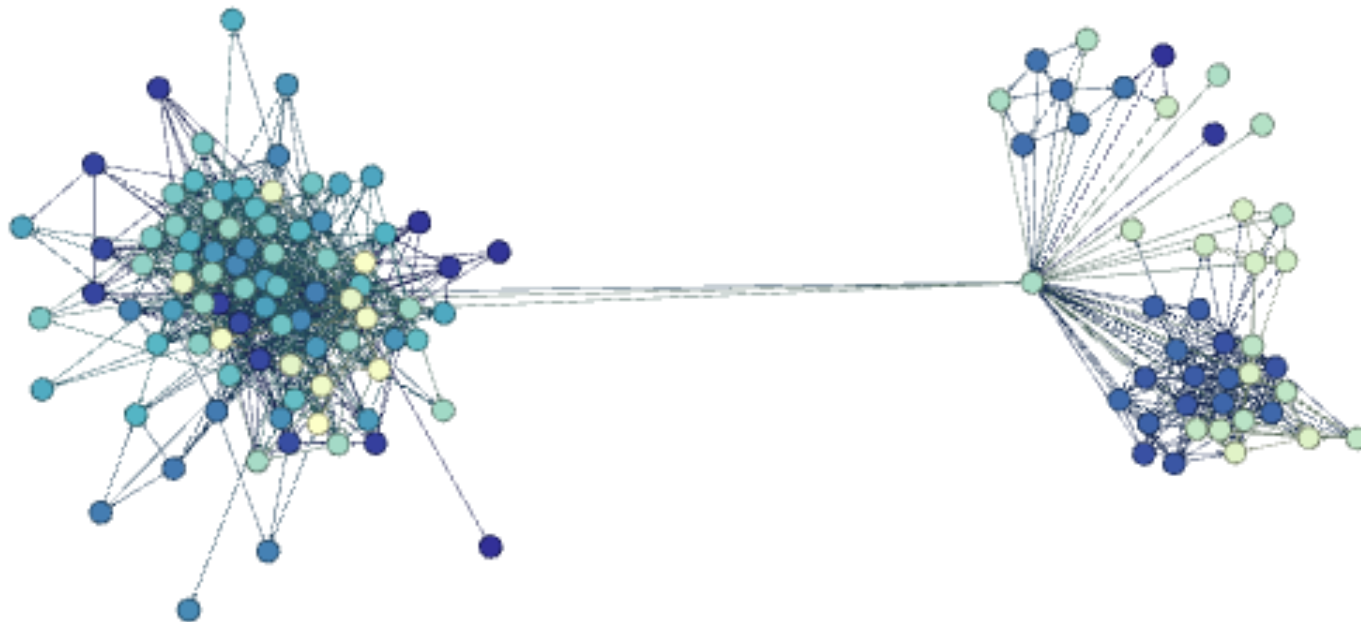
Escalation Diagram



Possible Dynamics



Social Network Analysis

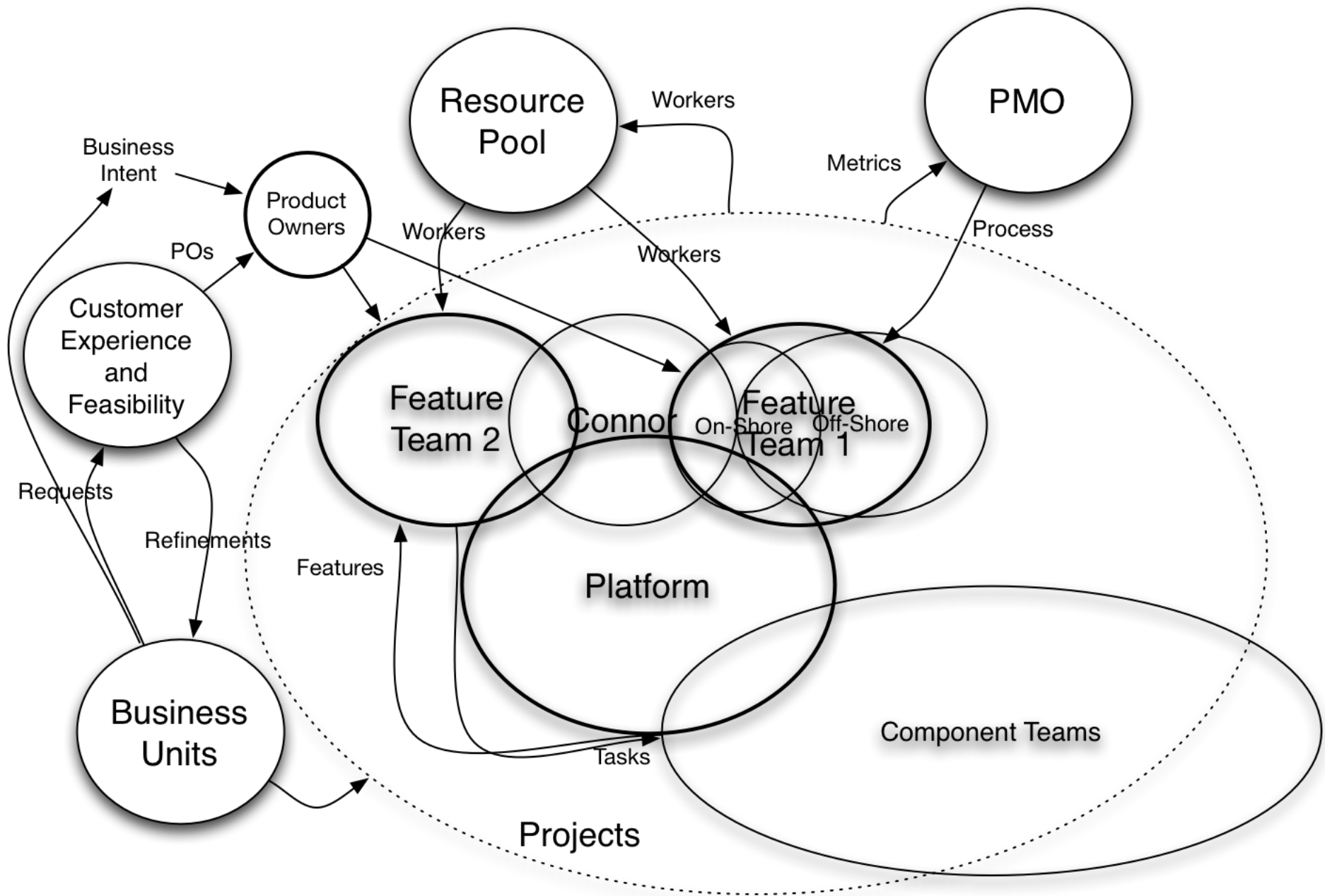


Human Systems Dynamics

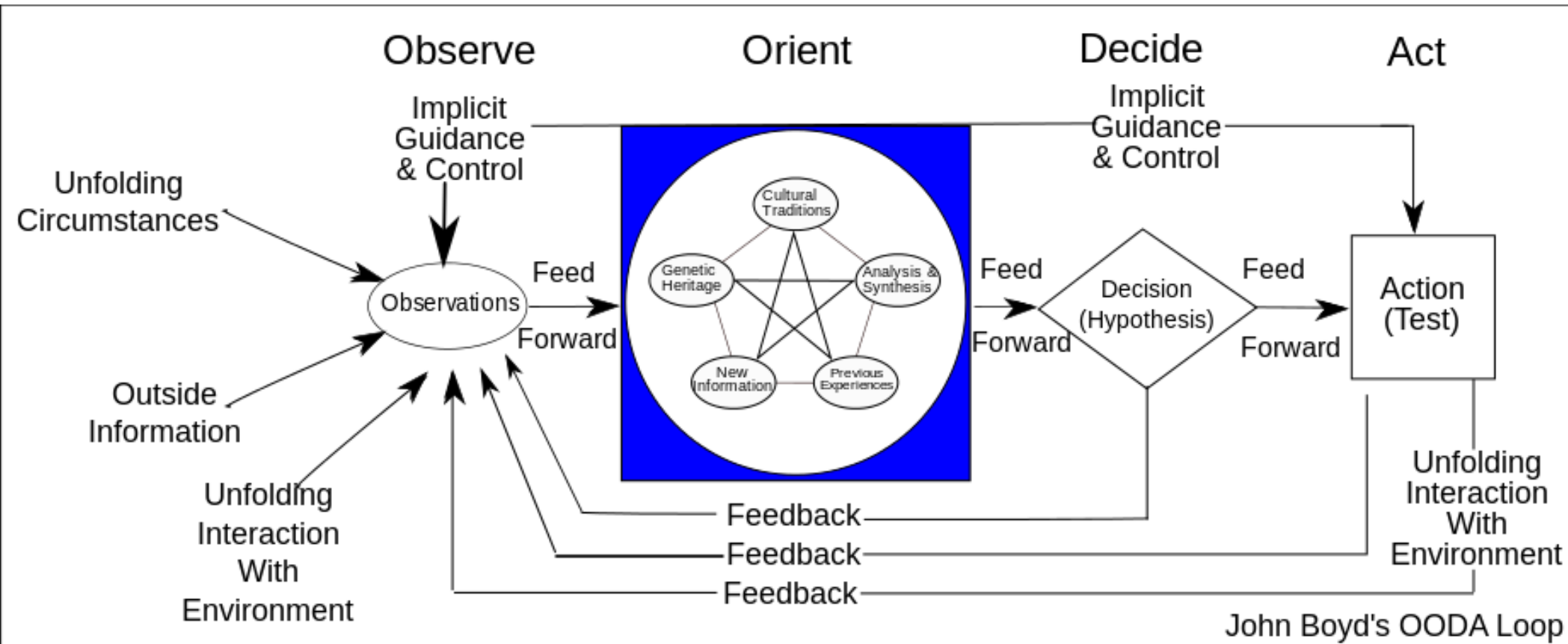
Containers established the boundaries of the system until the pattern can emerge and take form. They may be physical, organizational, or conceptual. Any number of containers can exist in a system at any given time.

Differences exist within containers and between containers. Differences may be stylistic, background or outlook. Differences manifest in the system in two ways: by the number of differences that exist in the system and by the degree of difference in any one element.

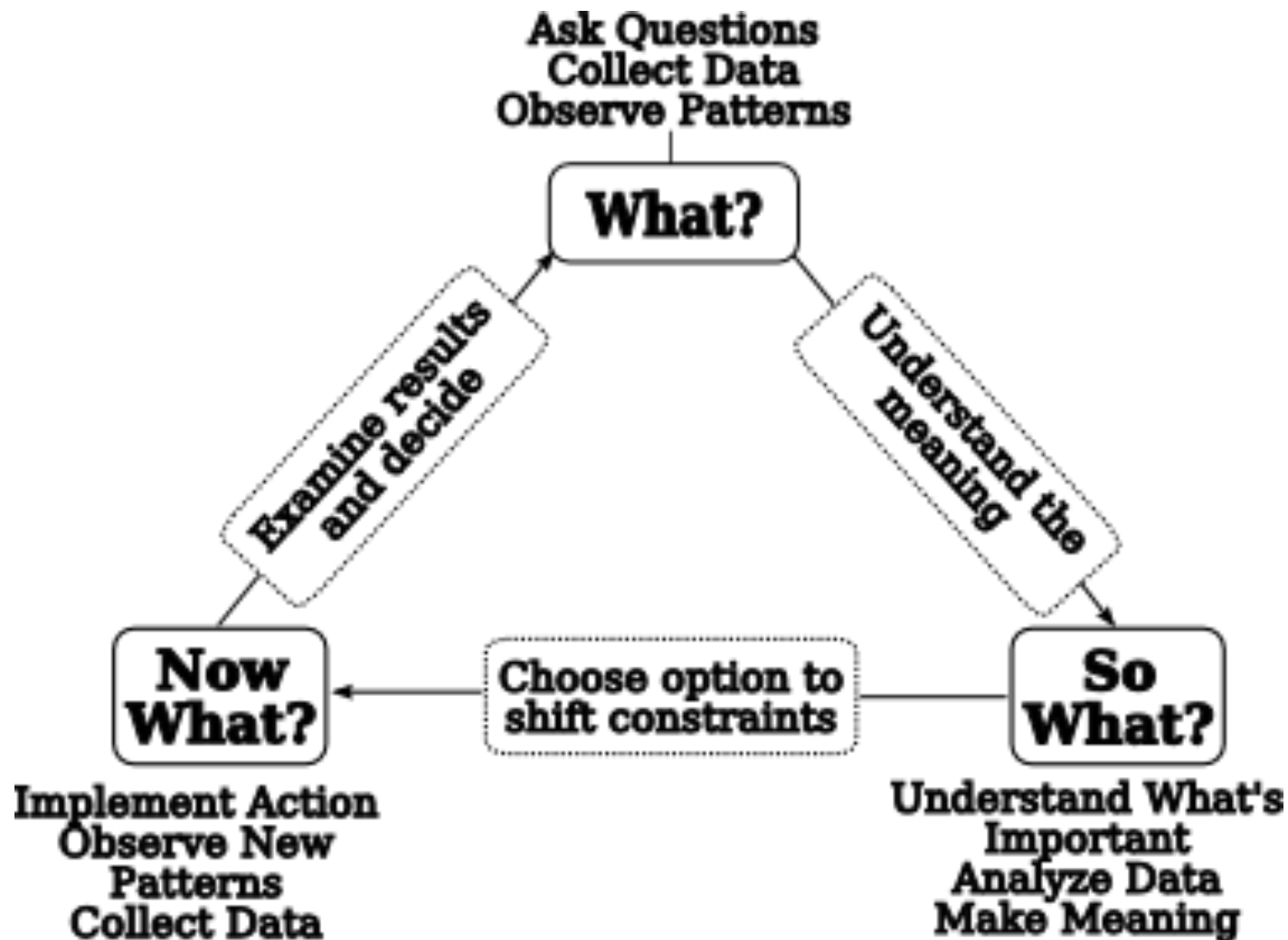
Exchanges are the way a system connects to itself or its environment to share time, energy, information, and other resources. Exchanges can be: language based, organizational culture and expectations, movement of resources that support the organization's work



OODA Loop



Adaptive Action



Design an Experiment

1. **Fast Feedback**
2. **Inexpensive**
3. **No permission needed**
4. **Easy**

Our Time Together

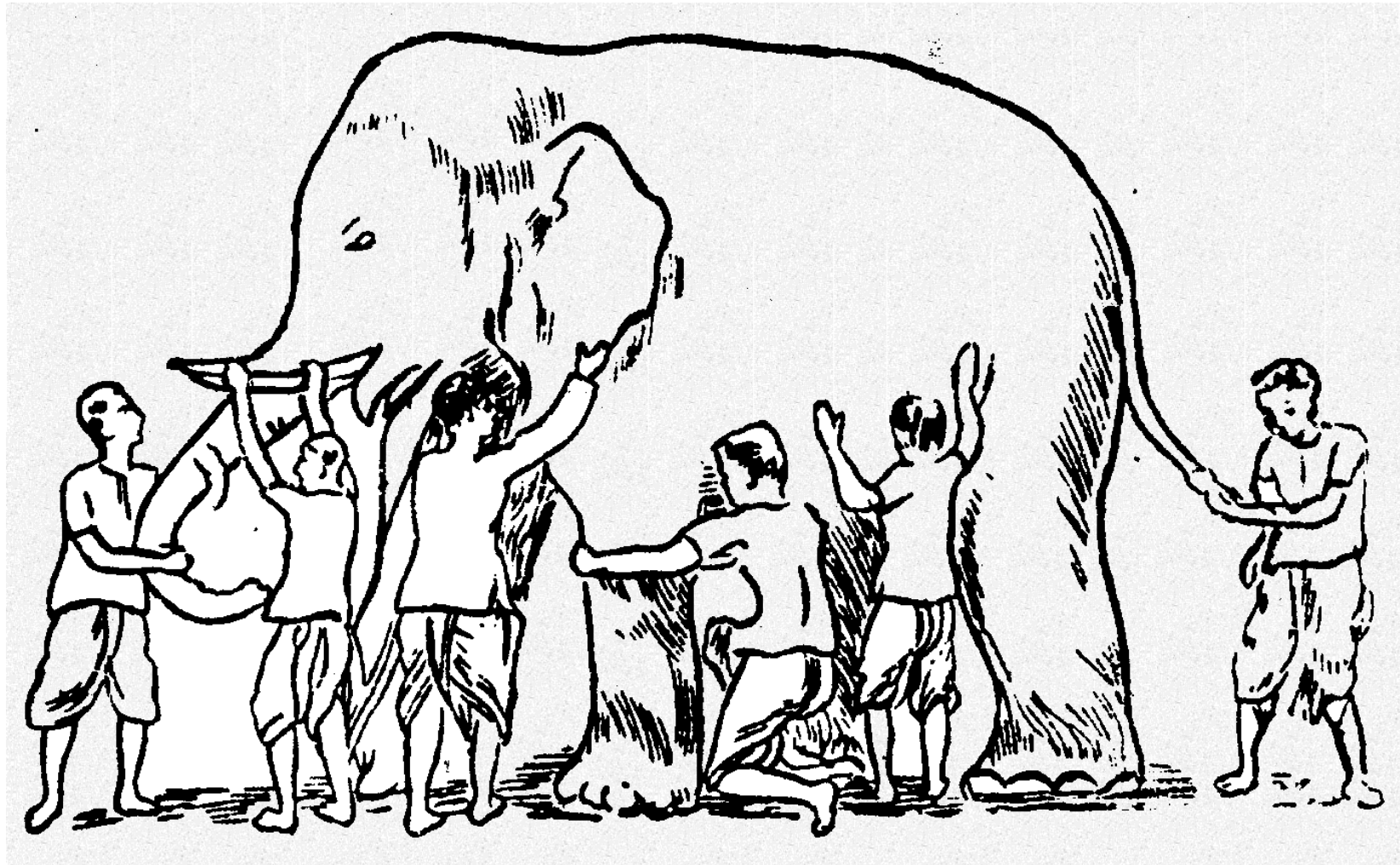
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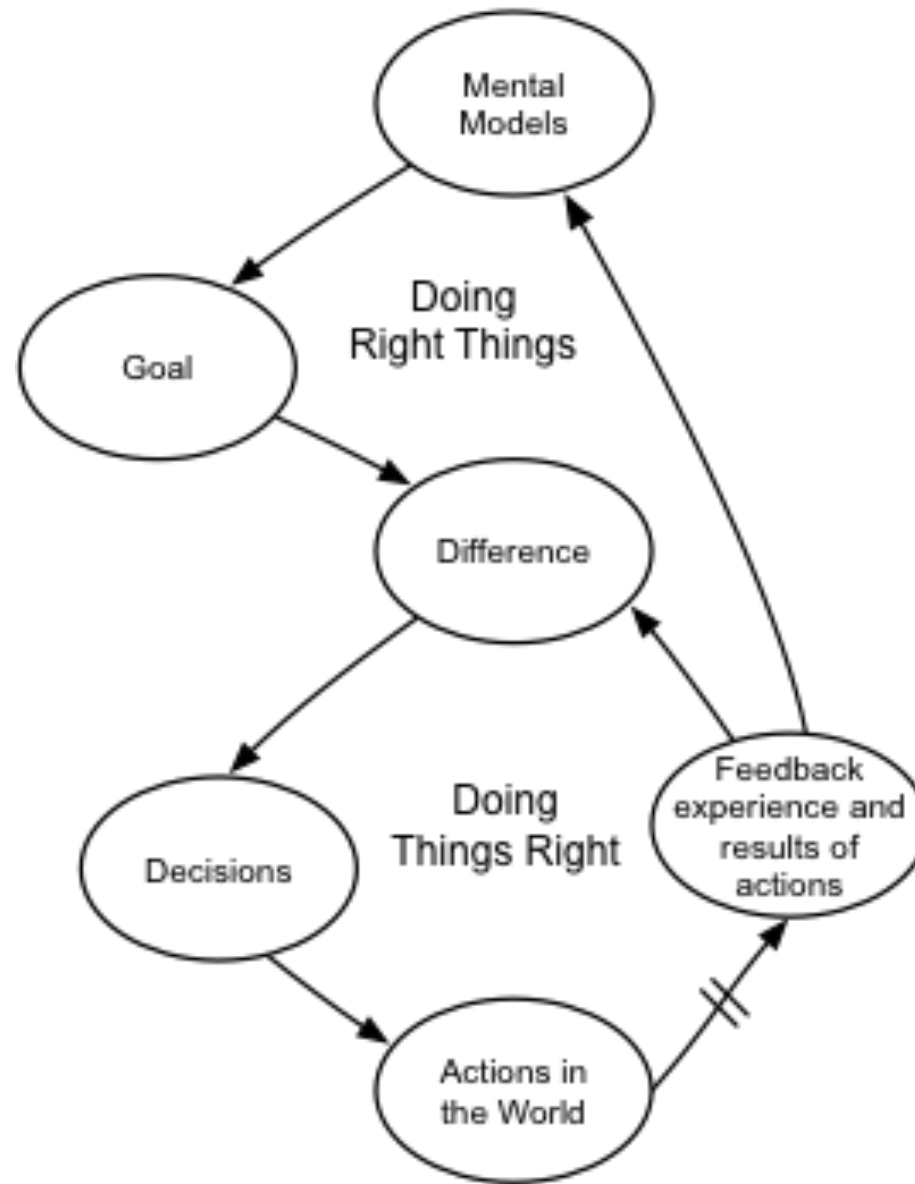
Congruence



Curiosity



Double Loop Learning





Don works with executives and managers building coherent organizational structure, processes, policies and goals where teams can flourish. This consulting is based on systems/complexity thinking and humans systems dynamics.

In addition to client work, he currently co-facilitates the well-known *Coaching Beyond the Team* and *Problem Solving Leadership* workshops and is a GROVs Method™ core team member.

Don Gray