STS in the Digital Era:
Renewed Conceptual Foundation for SmarT Organization Design

(Part II: Dynamic Designing)

Bert Painter, Douglas Austrom and Carolyn Ordowich

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STS RT
SOCIOTECHNICAL SYSTEMS ROUNDTABLE INC.

SMART ORG-DESIGN GLOBAL NETWORK

November 5th Webinar

- **Objectives** – To present a meta-methodology for dynamic designing and to explore the 'fit' of this methodology and the first principles and three foundational perspectives with design approaches in YOUR design practice
- **Topics** –

    * First principles for humanistic orientation to design
    * 3 inter-related perspectives for 'whole systems' sense-making
    * Meta-methodology of dynamic designing
    * 'Fit' with YOUR preferred design approaches in the Digital Era

- **Process** –After brief review of the **First Principles** & **3 Perspectives** and presentation of a **Meta-Methodology**, we will work in BREAKOUT rooms to explore the 'Fit' with YOUR approaches that help "make sense of" the whole (eco)system in which the system to be designed resides

DYNAMIC DESIGNING FOR THE COMPLEXITY OF DIGITAL KNOWLEDGE WORK

CONTEXT FOUNDATIONAL TRANSFORMATION CAPABILITIES

1. **Whole Systems Sense-making [content]**
   - First Principles for humanistic orientation to designing
   - 3 Inter-related/integral perspectives for whole system insight

2. **Meta Dynamic Designing [process]**
   Continuous learning and experimenting; participative and deliberative core process

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SmarT ORGANIZATION DESIGNING APPROACHES

Examples

- **Winby et al Adaptive Work System Design**
- **Pasmore 4D Continuous Change Design Model**
- **Emery Search Conference & Participative Design Workshops**
- **Mohr et al People-Powered Innovation Design**
- **Lowlands Modern STSD**

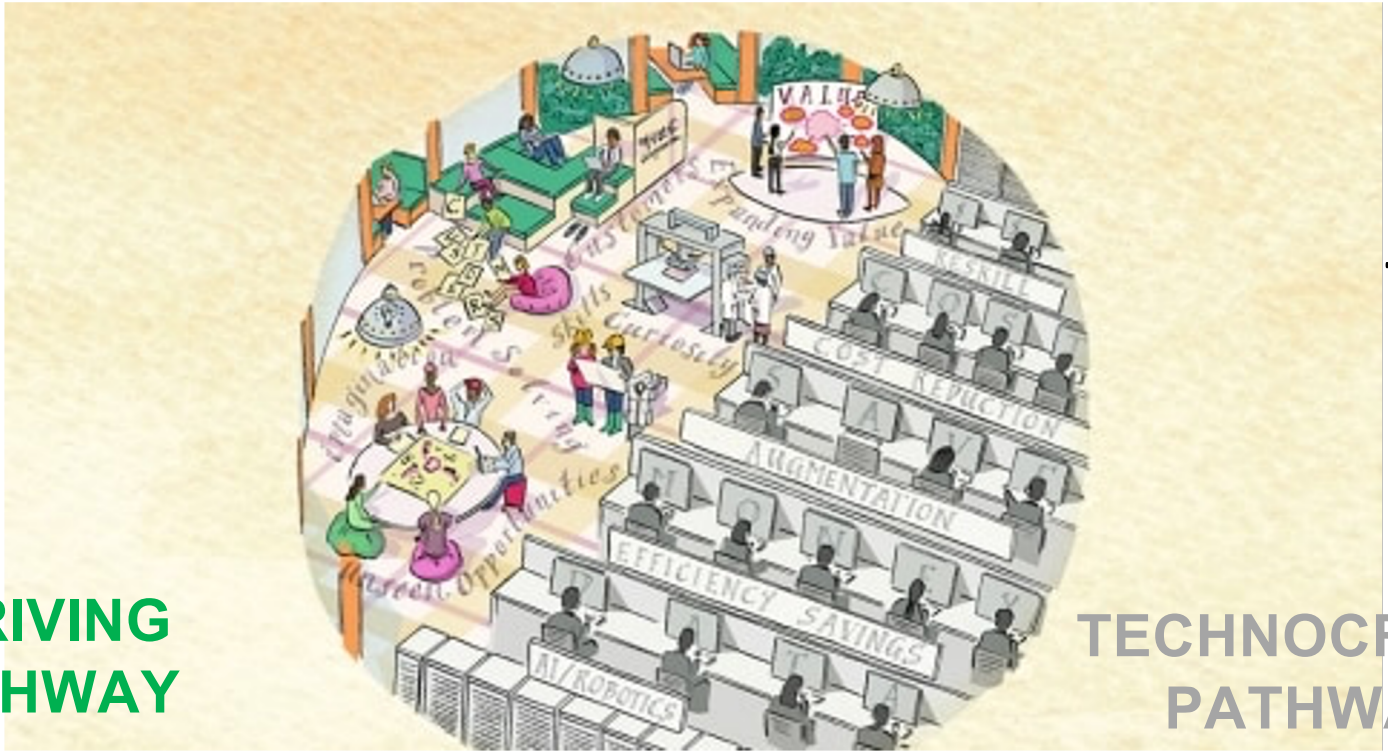
Other Approaches

- **Robertson Holocracy**
- **Cicero Platform Design**
- **Hoffer-Gittell Relational Coordination Design**
- **Hamel Humanocracy**

= **WHOLE SYSTEM TRANSFORMATION, VALUE & THRIVING**

Choice for Humanity

SmarT Design



Traditional Design

THRIVING PATHWAY

TECHNOCRATIC PATHWAY

First Principles for a Humanistic Orientation to Design

$$\frac{dy}{dx} = \lim_{h \to 0} \frac{f(x+h) - f(x)}{h}$$

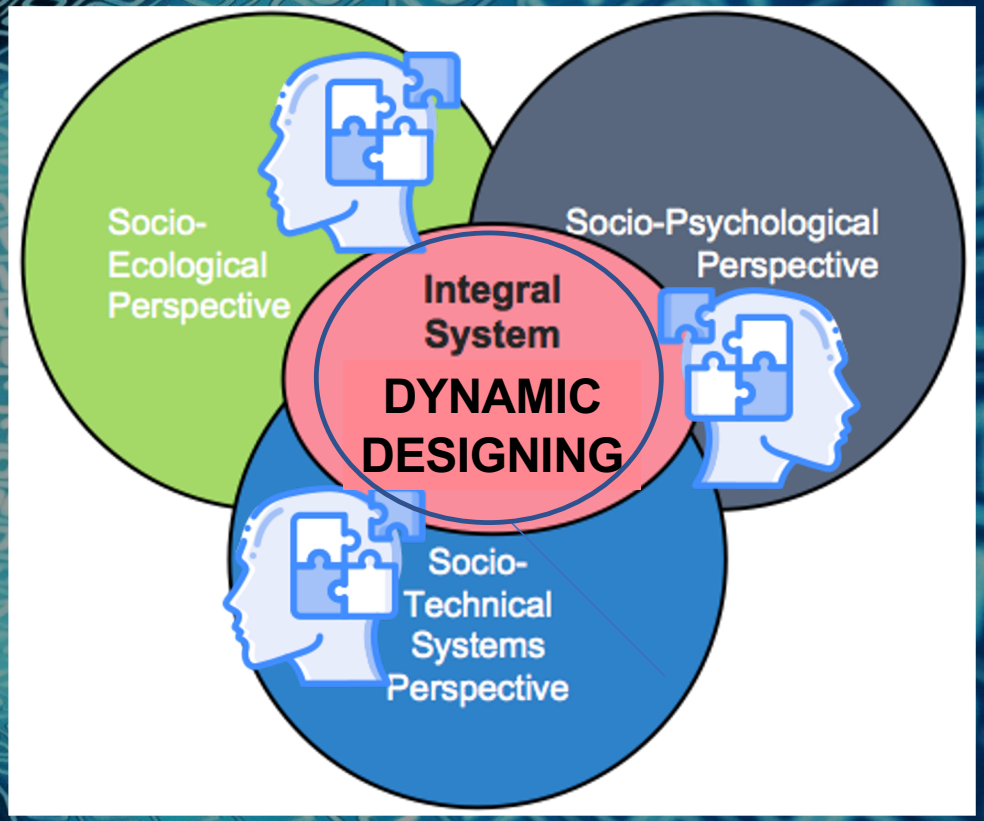
The first basis from which a thing is known.

Aristotle

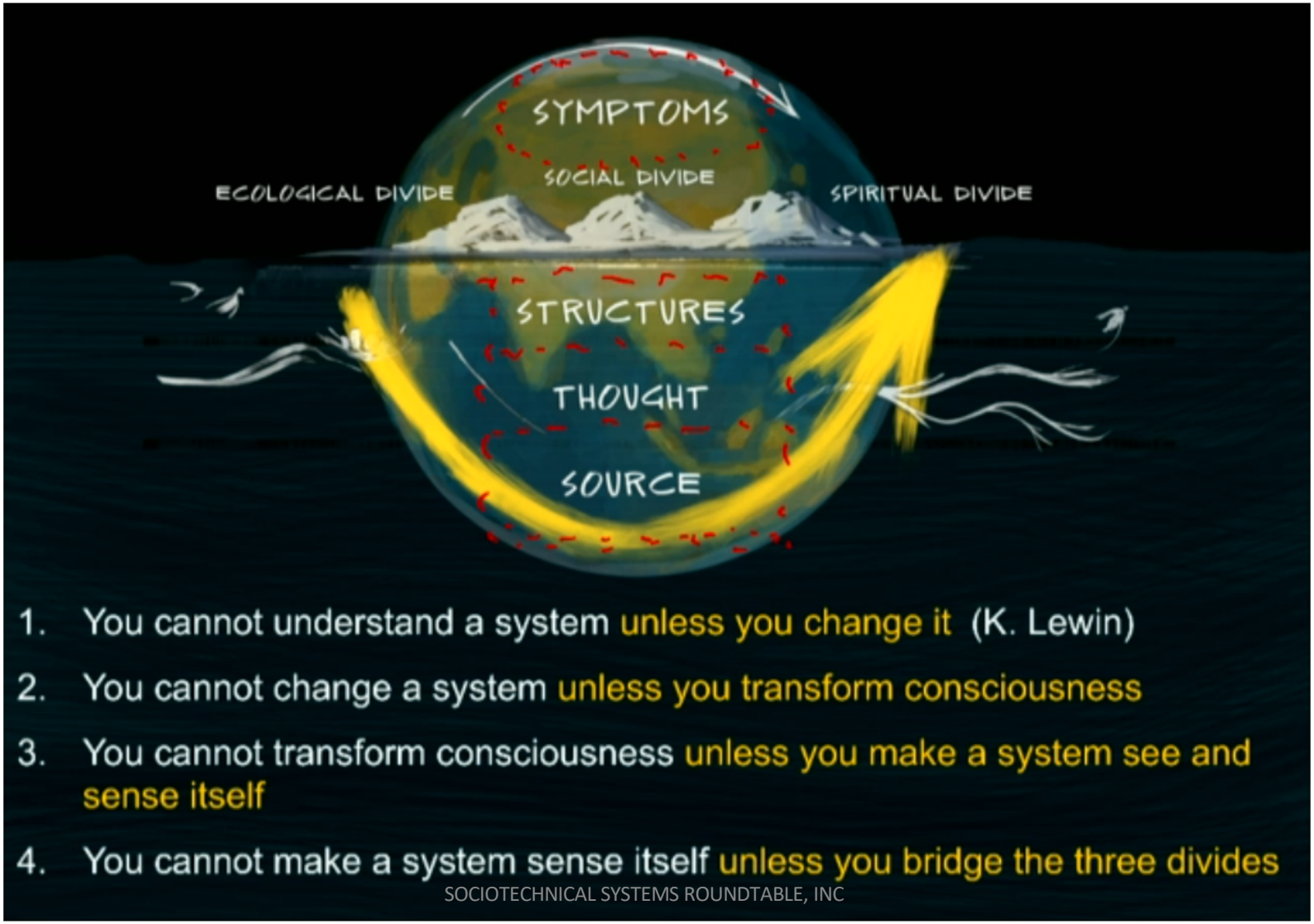
- Human dignity
- Self-determination - responsible autonomy, voice, and choice
- Co-determination through dialogue
- Reciprocity and mutual benefit
- Wholeness and whole systems thinking

3 Inter-Related Foundational Perspectives for Sense-Making

In our Instantaneous,
Hyper-connected,
Limitless,
Nonlinear,
Dynamic World



First Principles for Humanistic Designing


SYMPTOMS
SOCIAL DIVIDE
ECOLOGICAL DIVIDE
SPIRITUAL DIVIDE
STRUCTURES
THOUGHT
SOURCE
1. You cannot understand a system unless you change it (K. Lewin)
2. You cannot change a system unless you transform consciousness
3. You cannot transform consciousness unless you make a system see and sense itself
4. You cannot make a system sense itself unless you bridge the three divides

THEORY U Process of Organizational Learning

Otto Scharmer, MIT, "5 Movements"

Paradoxical Organizational Context requires Continuous Collaborative Learning in Digital Era

Socio-Ecological Perspective

Is *both* about a continuously evolving *negotiated order* of system boundary and purpose among diverse interacting institutional actors

and

their simultaneous pursuit of *alternate futures*

Socio-Technical Systems Perspective

Is *both* about *self-organized work systems* with an optimal combination of human and digital-technical capability for value creation

and

a *learning infrastructure* for scaling learning to the entire ecosystem to maintain rapid innovation.

Socio-Psychological Perspective

Is *both* about culture enactment as a *'stable bridge'* for continuous development and growth of trust among diverse individuals and groups within bounded organizations and their ecosystem

and

culture enactment as a *'disruptive force"* to build new bridges to people with different thinking for a rapid pace of innovation.

First Principles for Humanistic Designing

Meta-Methodology … Dynamic Deliberation Design

Deliberations are patterns of exchange and communication in which people engage to reduce the uncertainty and ambiguity of problematic issues that are critical to advancing knowledge and moving the work forward

- The **initiating step** in designing a deliberation is to identify the **Topic(s)** or problematic issue(s) about which people must reflect and communicate.
- Then, address these elements …
  - Sharpen definition of the **Topic(s),** i.e. challenge, opportunity to be addressed
  - Identify **Participants** – Critical stakeholders to the issue; those who should be involved in the reflections and conversations; representative diversity of roles and perspectives
  - Determine **Data** – the information that is needed to effectively address the topic and advance the reflections and communication; physical documents and stored information; data bases; analytics, algorithms and machine learning
  - Choose **Forums** – in which they occur which may be structured, semi-structured, unstructured or *ad hoc;* in person or online meetings; informal interactions; internet collaboration platforms

Design and Change Approaches as Structured Deliberations

- Dialogic Organization Design and Development
- Participative Design Workshops
- Search Conferences, Future Searches, Conference Model
- Holacracy
- Sociocracy
- Liberating Structures
- People Powered Innovation
- World Cafes
- Design Charettes
- Meeting Canoe Model
- Agile
- Open Space Technology
- Participatory Action Research
- Relational Coordination

Deliberation Conversion Process

Inputs

Topics
- Innovation and knowledge development tasks
- Ambiguous and equivocal issues
- Exceptional events to be addressed
- Priorities and urgency

Forums
- Individuals working on their own
- Informal interactions
- Information sharing
- F2F Meetings
- Virtual meetings, videoconferences
- Email and social media

Participants
- Key stakeholders to the issue
- Representative diversity of roles and perspectives

Data
- Physical documents and stored information
- Online information sources
- Data bases
- Algorithms and analytics

Enabling Technologies
- Collaboration software
- Internet
- ICT hardware and media

Conversion

Discretionary Coalitions
- Fluid networks of people needed to address the topic
- Multiple points of view to generate contention, convergence, and unity
- Shared codes of conduct; working agreements

Deliberations
- Individual reflections
- Information exchange
- Conversations
- Discussions, debate, dialogue
- Abstract reasoning and problem solving

Quality of Interactions
- Suspension -- Internal listening and accepting differences
- Dialogue -- Confronting own and others' assumptions; building common ground
- Metalogue -- Thinking and feeling as a whole group; building new shared assumptions,

Outputs

Knowledge Advancement and Application
- **New perspectives, new insights**
- Agreements and disagreements
- Decisions, commitments to action
- Improved algorithms
- **Expanded pool of shared knowledge and shared understanding**
  - Tacit knowledge to tacit knowledge
  - Tacit knowledge to explicit knowledge
  - Explicit knowledge to tacit knowledge
  - Explicit knowledge to explicit knowledge

Collaboration Capability
- **Increased trust**
- **Enhanced ability to collaborate**

First Principles and the Socio-Psychological/Technical/Ecological Perspectives

Dynamic Deliberation Designing

Use radical participation to design the INITIAL DELIBERATIONS and to design/implement the enabling infrastructure for dynamic deliberation design

Imbue the enterprise with the competencies in deliberation designing through skill building, extensive practice, and enabling infrastructure

Forums

Doing the work - Single loop learning

Adapting work processes - Double loop learning

Transforming the enterprise - Triple loop learning

Interactive Process - methods for enabling symbiosis with technology and energizing patterns of interaction (e.g. addressing knowledge barriers)

Examples of Topics and Dynamic Designing Deliberation

Design Element	Deliberation Topics
Primary structure	• *How can we best fulfill our evolutionary purpose?* • *How can we reduce unnecessary complexity?* • *How can the STS first principles, our core values guide, and how we design how we work together and with others to achieve our core purpose?*
Work processes	• *What's the best way to work together?* • *How can we innovate to meet our customer's needs and fulfill our evolutionary purpose?* • *How can we have more timely, effective and efficient deliberations and decisions?*
Contributor processes	• *How do the STS first principles and our core values guide sourcing contributors, and how people engage, learn, and contribute, and how they are supported?*
Coordination and self-management processes	• *What is the level of task uncertainty and complexity?* • *How do we foster a leader-full enterprise and what are the key leadership tasks/roles and how are they organized?* • *What systems should we use to track how we're doing?*
Enabling ICT/Digital	• *How do we design our ICT so that it truly supports optimal deliberations and how contributors want to work?* • *How do we weave the first principles and our core values into everything we do?*
Shared value reward system	• *How can we ensure mutually beneficial outcomes for all contributors?* • *How can we ALL thrive in order to fulfill our evolutionary purpose?*

An Example of Dynamic Deliberation Designing

GE Aviation Bromont

Participative team designed a supportive STS infrastructure for the GE Bromont site

All employees received extensive practice in designing and conducting effective deliberations within the supportive infrastructure

Forums

- Doing the work – Teams huddle to address real-time issues
- Adapting work processes – Participative management teams for recurring issues
- Transforming the enterprise – Re-imaging the plant to address changes in the external environment

Interactive and Iterative Process – Joint decisions to use robotic technology to automate dangerous activities in the production process; maintenance system; robotics global innovation center

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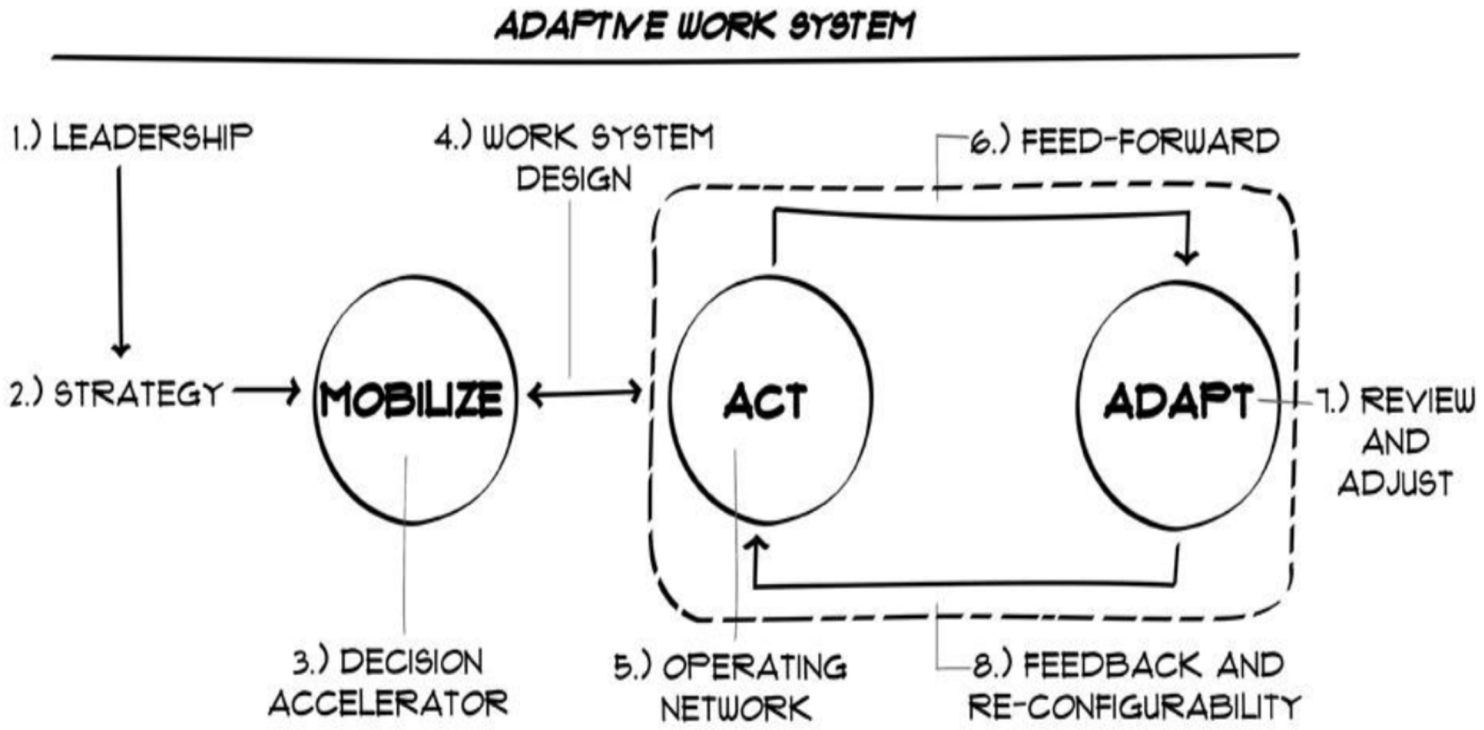
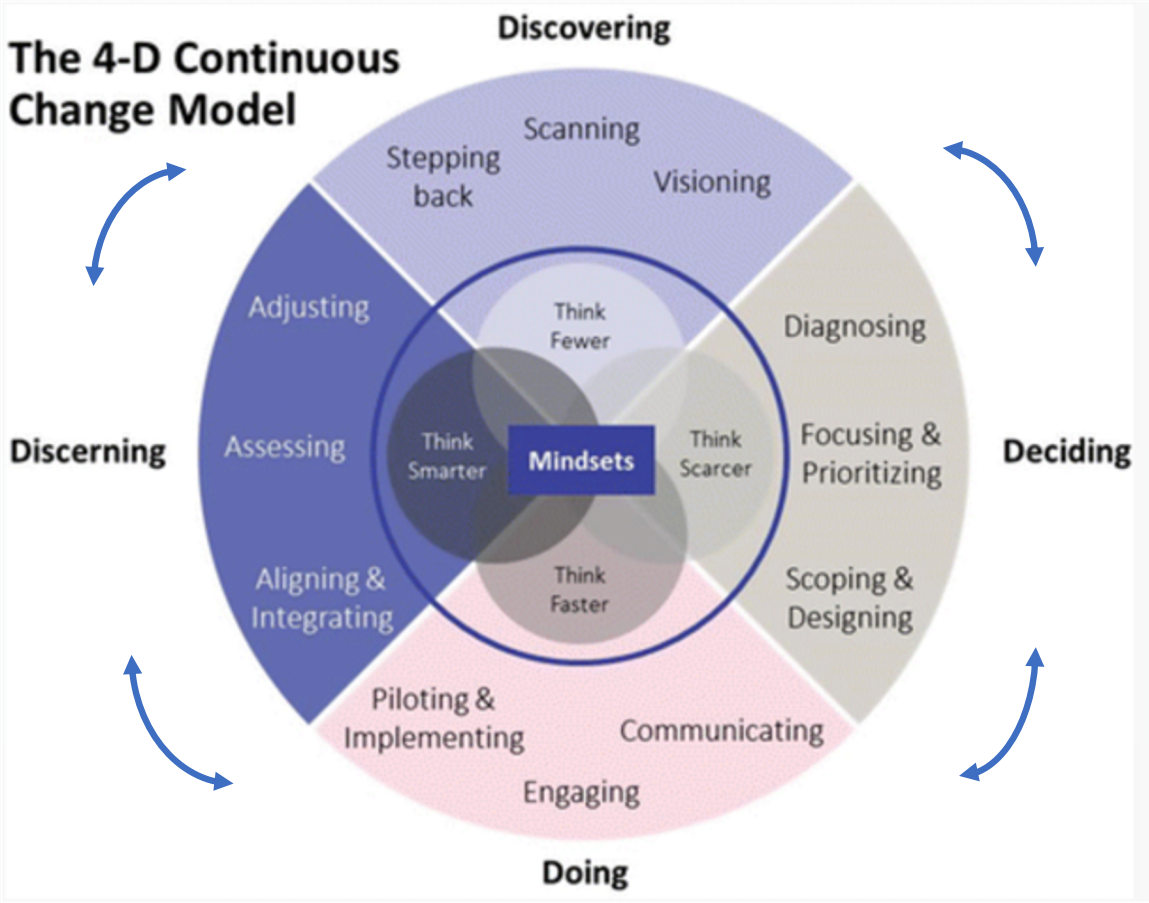
Adaptive Work System Design

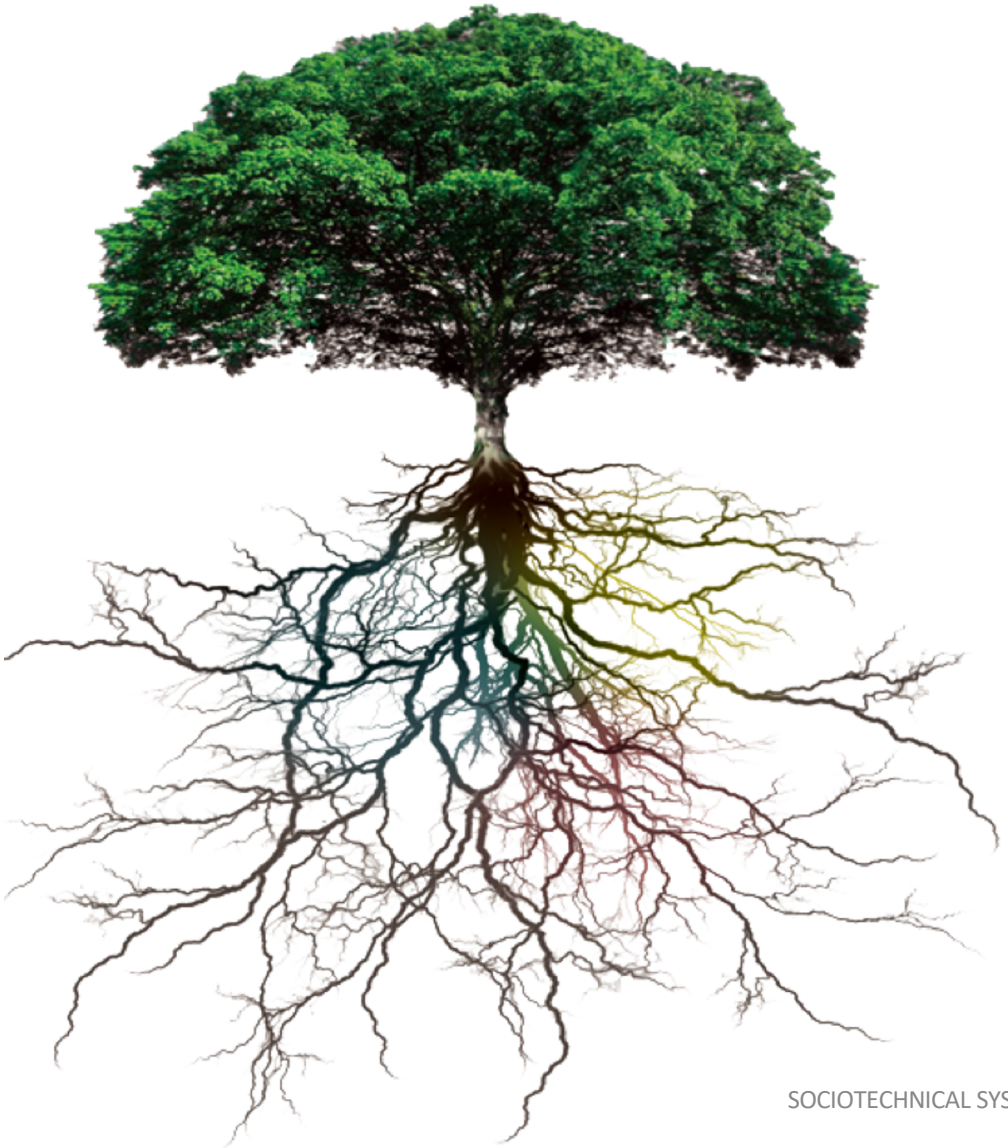
Stu Winby, 2014



Reference: **Winby, S. and Worley, C.G, "Management process for agility, speed and innovation", *Organizational dynamics*, 43 (3), 225-234, 2014**

"Leading Continuous Change": William Pasmore, 2015; A CIRCULAR Process





Breakout Discussions

- In your breakout groups, we invite you to explore the ‘Fit’ of the conceptual foundation and the meta-methodology we have presented with YOUR approaches that help “make sense of” the whole (eco)system in which the system to be designed resides?
- What have you learned here that might be new?

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&
(Part II: Dynamic Designing)

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