From Unfreezing-Refreezing, to Systems Changes Learning

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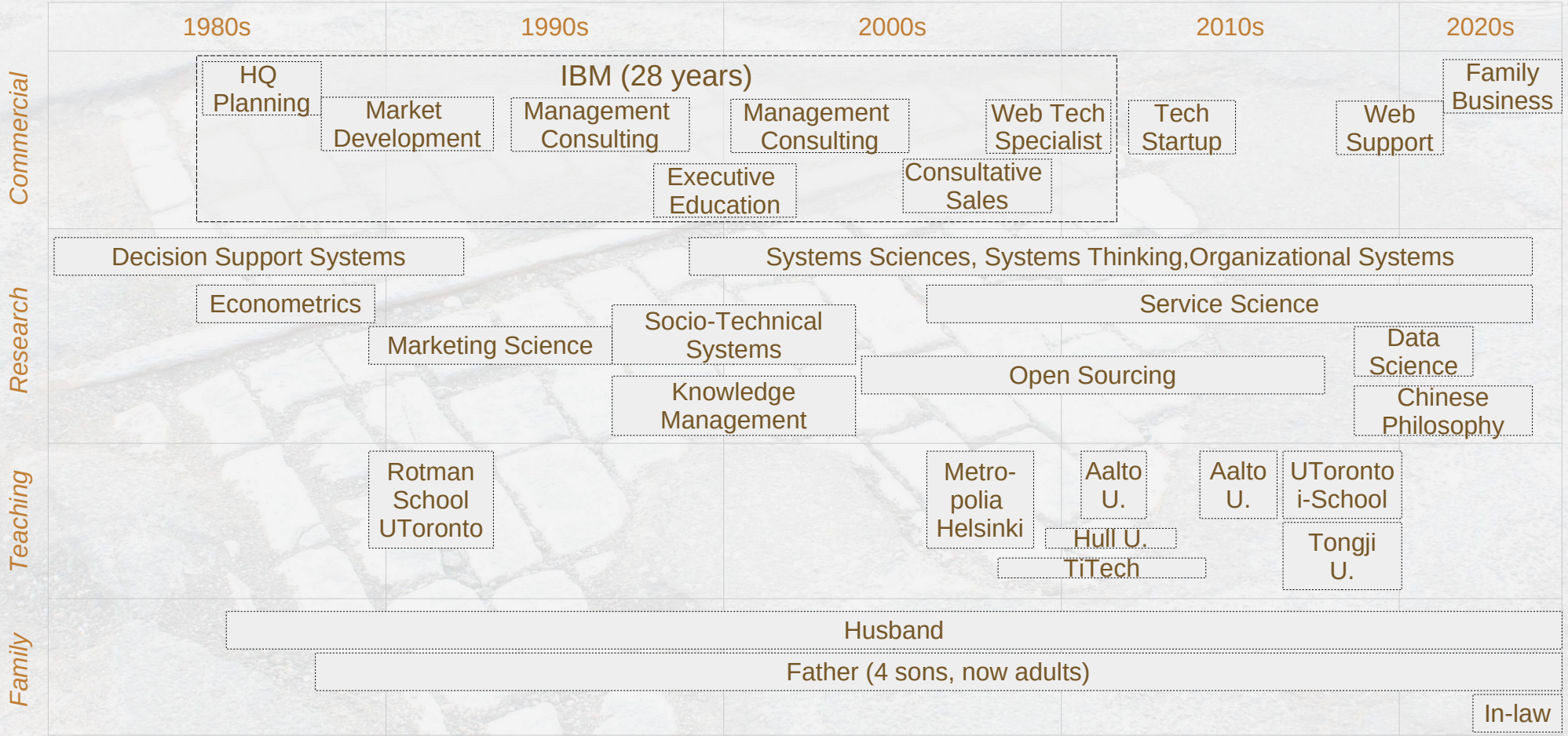
Systems Changes Learning Circle
(Toronto, Canada)

EQ Lab, Dialogic Drinks
March 12 + 14/15, 2024

Agenda

A. Welcome	Introduction	:05
	Ice-breaker	:05
B. Rethinking Systems	Presentation One	:07
	Dialogue One	:20
	Reflection One	:10
C. Rethinking Systems Changes	Presentation Two	:07
	Dialogue Two	:20
	Reflection Two	:10
D. Rethinking Systems Changes Learning	Presentation Three	:07
	Dialogue Three	:20
	Reflection Three	:10
E. After Hours		:30

David Ing resides in Toronto, Canada (with 1M+ air miles)



A. Welcome ...

“Change as Three Steps” as attributed to Kurt Lewin is a “largely post-hoc reconstruction”; he never wrote “refreeze”

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Unfreezing change as three steps: Rethinking Kurt Lewin’s legacy for change management

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Abstract
Kurt Lewin’s ‘changing as three steps’ (unfreezing → changing → refreezing) is regarded by many as the classic or fundamental approach to managing change. Lewin has been criticized by scholars for over-simplifying the change process and has been defended by others against such charges. However, what has remained unquestioned is the model’s foundational significance. It is sometimes traced (if it is traced at all) to the first article ever published in *Human Relations*. Based on a comparison of what Lewin wrote about changing as three steps with how this is presented in later works, we argue that he never developed such a model and it took form after his death. We investigate how and why ‘changing as three steps’ came to be understood as the foundation of the fledgling subfield of change management and to influence change theory and practice to this day, and how questioning this supposed foundation can encourage innovation.

Keywords
CATS, changing as three steps, change management, Kurt Lewin, management history, Michel Foucault

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[Change as Three Steps] has come to be **regarded** both as an **objective self-evident truth** and an idea with a **noble provenance** [p. 3]

unfreeze → change → refreeze

Unfreezing change as three steps | Sage Publishing | Youtube

Lewin never wrote ‘refreezing’ anywhere.

As far as we can ascertain, the **re-phrasing of Lewin’s freezing to ‘refreezing’** happened first in a 1950 conference paper by **Lewin’s former student Leon Festinger** (Festinger and Coyle, 1950; reprinted in Festinger, 1980: 14).

Festinger said that: ‘To Lewin, life was not static; it was changing, dynamic, fluid. Lewin’s unfreezing-stabilizing-refreezing concept of change continues to be highly relevant today’.

It is worth noting that Festinger’s first sentence seems to **contradict** the second, or at least to contradict later interpretations of Lewin as the developer of a model that deals in static, or at least clearly delineated, steps.

Furthermore, Festinger **misrepresents** other elements; **Lewin’s ‘moving’ is transposed into ‘stabilizing’**, which shows how open to interpretation Lewin’s nascent thinking was in this ‘preparadigmatic’ period (Becher and Trowler, 2001: 33). [p. 5]

Cummings, Stephen, Todd Bridgman, and Kenneth G Brown. 2016. “Unfreezing Change as Three Steps: Rethinking Kurt Lewin’s Legacy for Change Management.” *Human Relations* 69 (1): 33–60. https://doi.org/10.1177/0018726715577707 .

A. Ice-breaker ...

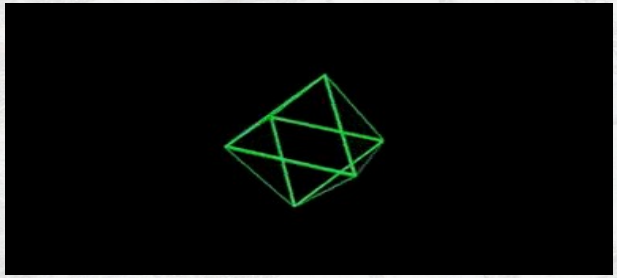
When is *Change as a Three Steps* an appropriate approach, and when might you look for an alternative?

Reality as a **changelessness state**

- Parmenides of Elea, Confucius
- Shift → stability → sustainable
- Analytic paradigm

Reality as a **state of change, not a change of state**

- Heraclitus of Ephesus, Laotse (Daodejing)
- Beauty of dynamic (c.f. protection of static)
- Contextual appreciation



Sacred Geometry 3D – Platonic Solids by sein Selbst sein (2015)

Feet Walking Along the Water Slow Motion by What's Going On (2020)

Hawk, David L. 1999. "Changelessness, and Other Impediments to Systems Performance." In *Proceedings of the Conference to Celebrate Russell L. Ackoff, and the Advent of Systems Thinking*, edited by Matthew J. Liberatore and David N. Nawrocki. Villanova University. http://davidhawk.com/wp-content/uploads/2018/09/Ackoff-Birthday-Conference.pdf#page=59 .

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Source: Ing, David. 2013. "Rethinking Systems Thinking: Learning and Coevolving with the World." *Systems Research and Behavioral Science* 30 (5): 527–47. https://doi.org/10.1002/sres.2229 .

Systems Research and Behavioral Science
Syst. Res. 30, 527–547 (2013)
Published online 10 October 2013 in Wiley Online Library
(wileyonlinelibrary.com) DOI: 10.1002/sres.2229

■ *Research Paper*

Rethinking Systems Thinking: Learning and Coevolving with the World

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Much of systems thinking, as commonly espoused today, was developed by a generation in the context of the 1950s–1980s. In the 2010s, has systems thinking changed with the world in which it is to be applied? Is systems thinking *learning* and *coevolving* with the world? Some contemporary systems thinkers continue to push the frontiers of theory, methods and practice. Others situationally increment the traditions of their preferred gurus, where approaches proven successful in prior experiences are replicated for new circumstances. Founded on interactions with a variety of systems communities over the past 15 years, three ways to rethink systems thinking are proposed:

1. 'parts and wholes' snapshots → 'learning and coevolving' over time
2. social and ecological → emerged environments of the service economy and the Anthropocene
3. episteme and techne → phronesis for the living and nonliving

These proposed ways are neither exhaustive nor sufficient. The degree to which systems thinking should be rethought may itself be controversial. If, however, systems thinking is to be authentic, the changed world of the 21st century should lead systems thinkers to engage in a reflective inquiry. Copyright © 2013 John Wiley & Sons, Ltd.

Keywords systems thinking; learning; coevolution; world

INTRODUCTION: IS SYSTEMS THINKING LEARNING AND COEVOLVING WITH THE WORLD?

The rise of systems thinking can be correlated with the founding of the Society for General Systems Research—the precursor for today's International Society for the Systems Sciences—in 1956. Much of conventional wisdom about systems thinking was influenced by luminaries between the 1950s and 1980s. Prominent names include presidents of the ISSS between 1971 and 1999: Stafford Beer, Margaret Mead, James Grier Miller, Gordon Pask, Kjell Samuelson, Heinz von Foerster, Sir Geoffrey Vickers, Richard F. Ericson, Brian R. Gaines, Robert Rosen, George Klir, John N. Warfield, Karl Deutsch, Bela H. Banathy, John A. Dillon, Peter B. Checkland,

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Systems Thinking through Changes: An action learning guide | Canadian Digital Service | 2022-03-04

Agenda

~60m	~60m	– 80m		~10m	~90m	
A. **Presentation**		B. **Workshop**			C. **Workshop**	
• Introductions • *Systems Thinking* as *Systems Changes Learning* • Action learning practices as a hub + 4 spokes		• Reforming into groups • Knowing from within • Contextural influences • Diagnosing rhythmic disorders	~10m ~20m ~20m ~30m		• Prognosing likelihoods • Reordering pacing • Reflecting on progress + process(for retrospective) • Read-outs	~20m ~20m ~20m ~30m

D. **Post-workshop retrospective** (homework)
- Summary (1 page) of paths considered and not taken, actions to be negotiated

2 Systems Thinking through Changes March 2022 systemschanges.com, 2022

Source: Code for Canada and Systems Changes Learning Circle. 2022. "Systems Thinking through Changes." Web video presented at the Canadian Digital Service, Toronto, Canada, March 4. https://systemschanges.com/online/presentations/20220304_cfc.

Journal of Systemics, Cybernetics and Informatics (2022) 20(7), 11-73
https://doi.org/10.54808/JSCI.20.07.11

Systems Changes Learning: Recasting and Reifying Rhythmic Shifts for Doing, Alongside Thinking and Making

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Abstract[1]

Entering 2023, the Systems Changes Learning Circle *completed in its fourth year of 10-year journey on "Rethinking Systems Thinking". In a contextural action learning approach, the Circle has elevated rhythmic shifts as the feature that both resonates with practitioners in the field, and fits with a post-colonial philosophy of science bridging classical Chinese thought with Western professional practices. This multiparadigm inquiry recasts and reifies the activities of doing (*praxis*), thinking (*theoria*) and making (*poiesis*). The facility with this approach is deepened through three levels: (i) educating of attention, orienting novices towards contrasting modes of thought; (ii) learning for co-relating, lending a way for practitioners to critically appreciate their situations, and (iii) learning for articulating, aiding mentors to guide groups productively through mutual learning style.*

Keywords: *systems thinking; systems change; polyrhythmia; ecological epistemology; yinyang; propensity; Chinese medicine; post-colonial science; action learning*

1. Introduction

The *Systems Changes Learning Circle* was formed in January 2019, centered in Toronto, Canada. At inception, a rising interest in a label of "systems

[1] Peer editing and final proofreading for this article by Thomas Marlowe of Seton Hall University.

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RESEARCH ARTICLE

Systems and Behavioral Research Science WILEY

Appreciating systems changes via multiparadigm inquiry: Architectural design, ecological anthropology, Classical Chinese Medicine and systems rhythms

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Abstract

In which ways is the subject of *systems change(s)*, as a first-class concept, distinct from a reduction into (i) systems and (ii) changes? For practice, theory and methods to be authentically rigourous, the philosophy underlying an approach to systems changes can be explicated. Through an appreciative systems framework, presumptions are surfaced as to (i) what are and are not systems changes; (ii) when, where and for whom, systems changes are prioritized for attention; and (iii) how systems changes should be addressed. Philosophies of (i) architectural design, (ii) ecological anthropology, (iii) Classical Chinese Medicine and (iv) rhythms are explored through multiparadigm inquiry and open theorizing. The resulting influence of these four philosophies is considered, leading to a philosophy of systems rhythms more explicitly proposed as a foundation on which to approach systems changes.

KEYWORDS
appreciative systems, multiparadigm inquiry, systems changes, systems rhythms

1 | INTRODUCTION

A rising interest in system(s) change(s), if authentic, could signal a corresponding exploration of the arts and sciences of systems. The distinction between approaches considered 'system(s) change(s)' and those **'not** system(s) change(s)' is uneven from descriptions and reports of activities in recent years.

- *Systems change*, as described by Observatory of Public Sector Innovation, points out governments using systems approaches in public services (Cook & Tõnurist, 2017, p. 4).
- *Systems change*, as led by Forum for the Future at Wasan Island in 2018, chose to not converge on an agreed definition, instead focusing on field building (Birney & Riddell, 2018, p. 5).
- *System change*, for Stanford University scholars, is a way for 'policymakers, foundations, NGOs, and social enterprises tackling issues like poverty, preventable disease and poor education' (Seelos & Mair, 2018, p. 35).
- *System change*, in a guidebook from the United Nations Development Programme in 2022, prescribes a three phase methodology: (1) sense and frame, (2) engage and position and (3) transform (Wellsch, 2022, p. 1).

A scrupulous view of these descriptions notices change as a singular event, rather than an ongoing process. These would be consistent with the unfreezing → moving → refreezing three steps ascribed to, but in fact a post hoc reconstruction of work by, Kurt Lewin (Cummings et al., 2016). In addition, scholars immersed in systems thinking are careful in using *systems* in the

Source: Ing, David, and Gary S. Metcalf. 2023. "Sciencing and Philosophizing on Threads in Systems Thinking: Tracing through the Texture of the Socio-Technical and Socio-Ecological Perspectives." *Journal of the International Society for the Systems Sciences* 67. https://journals.isss.org/index.php/jisss/article/view/4154.

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J.M. Wilby, Editor.

REFRAMING SYSTEMS THINKING FOR SYSTEMS CHANGES: SCIENCING AND PHILOSOPHIZING FROM PRAGMATISM TOWARDS PROCESSES AS RHYTHMS

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Abstract
Systems thinking rose in 20th century industrial society largely from post-WWII research. Psychologists Eric L. Trist and Fred E. Emery were early in human relations, later turning towards sociology. Philosophers C. West Churchman and Russell L. Ackoff were cofounders of Operations Research, applying pragmatism to problem-solving of complex issues. The texture of Socio-Technical Systems (STS) and Socio-Ecological Systems (SES) perspectives interweaves with management science and inquiring systems.

In the 21st century, the Service Economy and Ecological Anthropocene followed advancement of the Internet and globalization through the 1990s. Resurfacing Trist-Emery and Churchman-Ackoff for a new generation not only revisits their sciencing, but also philosophizing.

Trist-Emery Socio-Psychological Systems (SPS) and STS perspectives extended the structuralist psychology of Gestalt, through Andras Angyal and Kurt Lewin. The SES perspective built on the pragmatist metaphilosophy of Stephen C. Pepper. Sciencing by Churchman-Ackoff encouraged Operations Research beyond mathematics towards collaborative decision-making. Postwar applied philosophizing built on the experimentalism of Edgar A. Singer Jr. This lineage traces from the Metaphysical Club circa 1890, through the 1980s.

Philosophizing in the 21st century provides new lenses for the systems sciences. Through ecological anthropology, Tim Ingold depicts the lives of lines, and texture in weaving. Through Classical Chinese Medicine, Keekok Lee distinguishes *yin qi* and *yang qi*. In post-colonial constructionist program of *Rethinking Systems Thinking*, principal concepts of (i) rhythm, (ii) texture, and (ii) propensity have become the core of *Systems Changes Learning* practices, theory, and methods.

A new world hypothesis of (con)textural-dyadicism is proposed, combining STS and SES features. The associated systems theory foregrounds time-space changes over the defining of space-time systems and boundaries. Philosophizing across Western and Classical Chinese traditions requires deeper inquiry and education.

Keywords
Systems change, philosophy of science, pragmatism, Chinese philosophy, socio-technical, socio-ecological

1 | Introduction: Sciencing systems from post-WWII into the 2020s sweeps in philosophizing

In the development of systems thinking from the 1950s through the 1990s, strands of an emerging science of systems coevolved with underlying philosophies of science. Collaborations spanned Anglo-American partnerships. In the American branch, C. West Churchman and Russell L. Ackoff led from philosophy into science. In the UK branch, via the Tavistock Institute, Eric L. Trist and Fred E. Emery led from the psychological and sociological sciences, towards philosophy. Collectively, the network was largely influenced by American Pragmatism dating back to the 1890s, extending those traditions.[1]

[1] Milestones in the development of systems thinking in the 1960s-1990s are reflected in published legacies. From 1969, an early expression of the Trist-Emery trajectory is collected in the foundational *Systems Thinking: Selected Readings* (Emery, 1969b, 1981). Through the 1990s, reflections of the Trist-Emery journey were collected into 3-volume *Tavistock Anthology* (Trist & Murray, 1990; Trist et al., 1993, 1997). Following the 1947 supervision by Churchman of Ackoff's doctoral dissertation, the coauthoring of *Methods of Inquiry: An Introduction to Philosophy and Scientific Method* (Churchman & Ackoff, 1950) serves as a commencement for later collective and individual works. Festschrifts by colleagues and former students honoured C. West

Rethinking Work, with the Pandemic Disruption: Metatheorizing with World Hypotheses and Systems Changes

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Abstract
Purpose – The disruptions of the COVID-19 pandemic in the years put a pause on the everyday lives of workers and normal operation of organizations. As economies have reopened, resumption of pre-pandemic normalcy has not been uniform. The shocks to economies and societies has been historic, with prospects for recovery varied. For each worker and leader, an essential question is whether the world of work has changed irreversibly, or if prior careers and business models can be resumed. A philosophical inquiry into world theories, and theories of the world of work, provides a framing that separates everyday changes from systems changes.
Approach – A metatheoretical approach to world theories described by Stephen C. Pepper in 1942 is revisited. Attention is drawn to systems of knowledge along the dimensions of analytic-deductive treatments, and dispersive-integrative treatments. Of the four relatively adequate world hypotheses, two are reconnected to the research originating from Fred E. Emery and Eric L. Trist.: Socio-Technical Systems (STS) perspective to Organicism, and Socio-Ecological Systems perspective to Contextualism. Reworking a processual philosophy towards polyrhythmia, contextural-dyadic thinking is proposed as an alternative World Hypothesis. A root metaphor of tidescape-windscape portrays the pandemic disruption with a metaphorical winter as an external pathogenic factor, impacting multiple systems of interest, including family life and enterprise operations. As a metaphorical spring emerges comes for some, the interwoven contexture and dyads may resolve with a new eurhythmia or persist with unresolved pathologies.
Findings – A (con)textural-dyadic reframing of the world of work effectively reworks causal texture theory emphasizing living systems with (i) rhythmic pacing; (ii) dyadic balancing, and (iii) transformative reifying. Through this new world hypothesis, new insights into the effects with the onset and passing of the pandemic disruption are gained.
Research limitations/implications – Updating systems theories of socio-technical and socio-ecological perspectives invokes a post-colonial constructivist philosophy that appreciates roots in American pragmatism, ecological anthropology, and Chinese philosophy of science. The emphasis of systems rhythms prioritizes a processual orientation, compatible with a yinyang material-immaterial onto-epistemology.

Source: Ing, David, and Susu Nousala. 2024. "Rethinking Work, with the Pandemic Disruption: Metatheorizing with World Hypotheses and Systems Changes." *International Journal of Organizational Theory and Behavior* *in press).

Post WWII social psychology following Kurt Lewin led to three systems perspectives at the Tavistock Institute for Human Relations

[... the] socio-psychological, the socio-technical and the socio-ecological perspectives ... emerged from each other in relation to changes taking place in the wider social environment. One could not have been forecast from the others. Though **interdependent**, each has its own focus. Many of the **more complex projects require all three perspectives**. [p. 30]

Socio-Psychological Systems Perspective

... in Institute projects, the **psychological forces** are are directed **towards the social field**, whereas in the the Clinic, it is the other way around [with **social forces** directed **toward the psychological field**]. [p. 31]

Socio-Technical Systems Perspective

... the **best match** between the **social** and **technical systems** of an organization, since called the **principle of joint optimization**

... the **second design principle**, the **redundancy of functions**, as contrasted with the **redundancy of parts**. [p. 32]

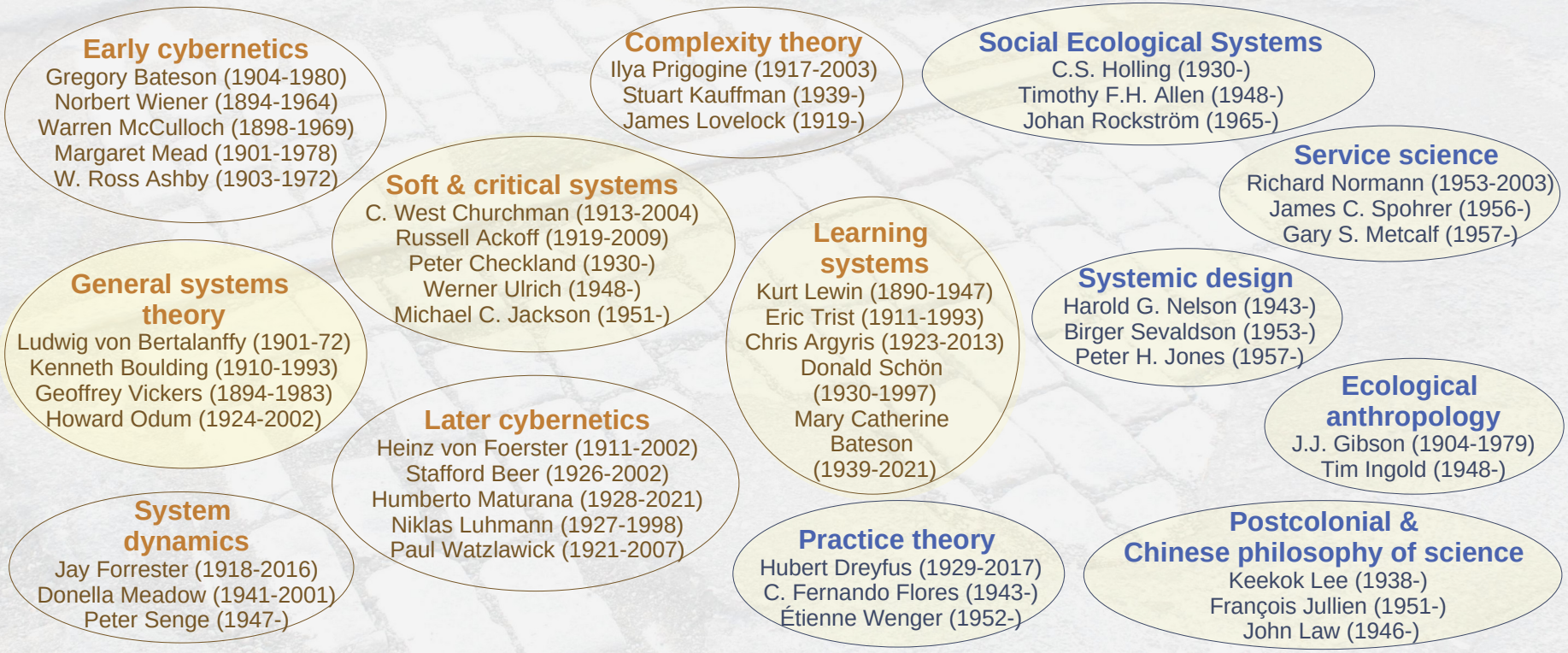
Socio-Ecological Systems Perspective

... the **context** of the **increasing levels of interdependence, complexity and uncertainty** that characterize societies a the present time.

... new problems related to **emergent values** such as **cooperation** and **nurturance**. [p. 33]

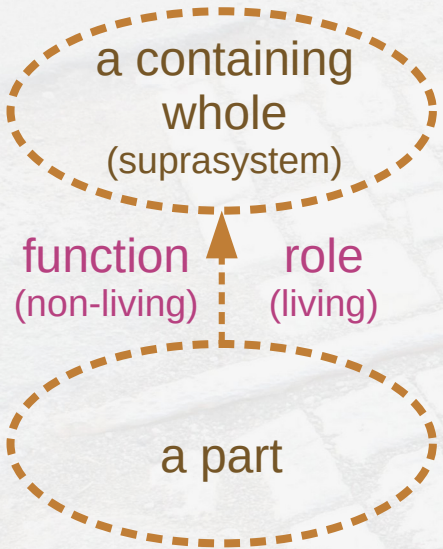
Trist, Eric L., and Hugh Murray. 1997. "Historical Overview: The Foundation and Development of the Tavistock Institute to 1989." In *The Social Engagement of Social Science: The Socio-Ecological Perspective*, edited by Eric L. Trist, Frederick Edmund Emery, and Hugh Murray, 3:1–35. Philadelphia: University of Pennsylvania Press.

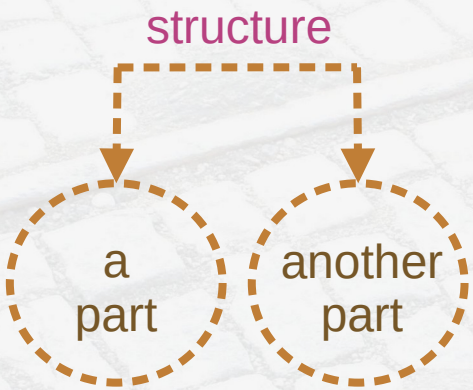
With the rich legacy of systems thinkers, three categories are preferred, and extended with contemporary researchers

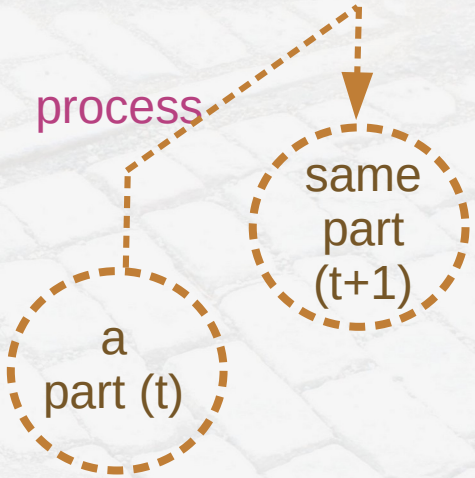


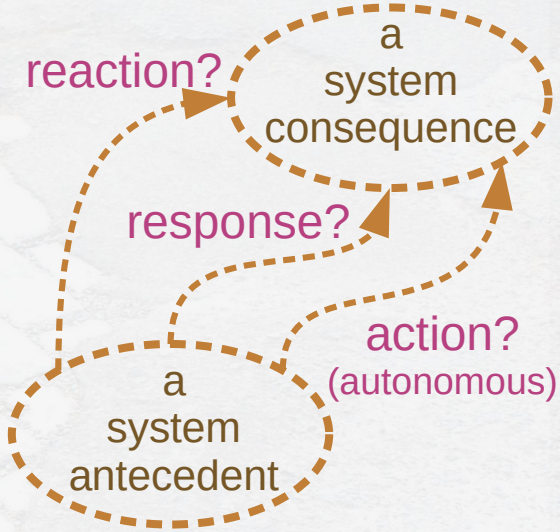
Source: Ramage, Magnus, and Karen Shipp. 2020. "Introduction to the First Edition." In *Systems Thinkers*, edited by Magnus Ramage and Karen Shipp, xiii–xx. Springer London. https://doi.org/10.1007/978-1-4471-7475-2, p. xvii

Systems thinking is a perspective on parts, wholes, and their relations









Function is a "contribution of the part to the whole"

Structure is an "arrangement in space"

Process is an "arrangement in time"

Behaviour is a "system change which initiates other events"

Ing, David. 2013. "Rethinking Systems Thinking: Learning and Coevolving with the World." *Systems Research and Behavioral Science* 30 (5): 527–47.
Gharajedaghi, Jamshid. 1999. *Systems Thinking: Managing Chaos and Complexity : A Platform for Designing Business Architecture*. Elsevier
Ackoff, Russell L. 1971. "Towards a System of Systems Concepts." *Management Science* 17 (11): 661–671.

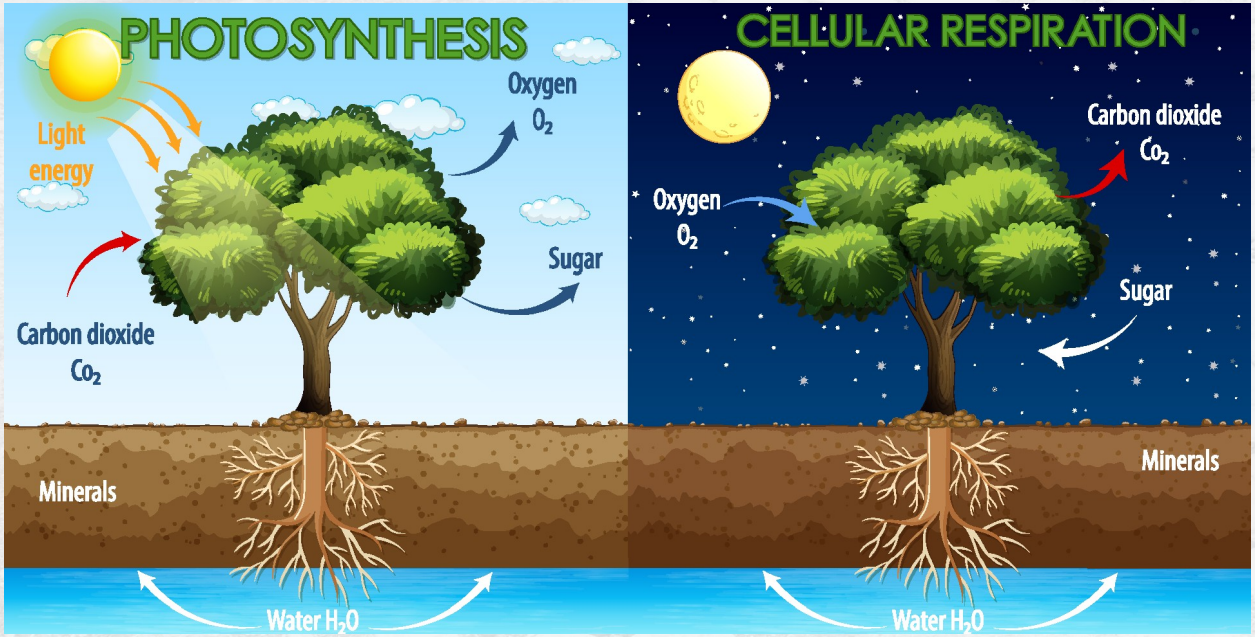
With authentic systems thinking, synthesis precedes analysis

Thinking *synthetically*

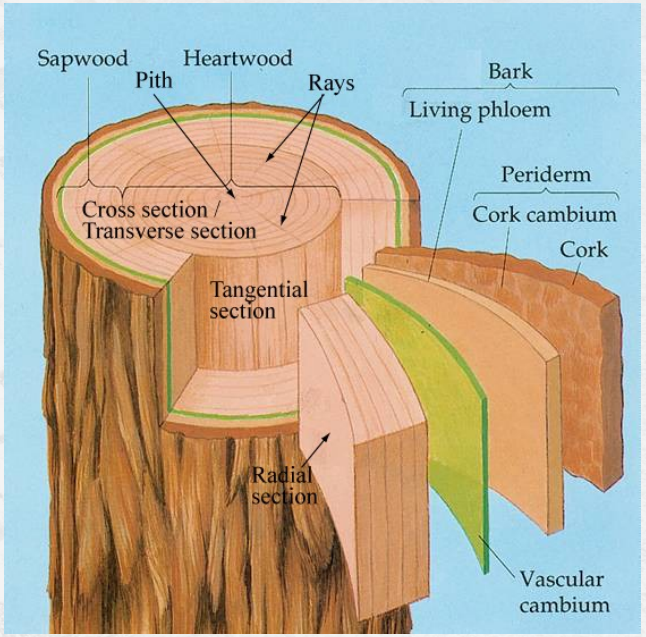
- Placing together parts into wholes

Thinking *analytically*

- Loosening from wholes into parts



"Photosynthesis, Cellular Respiration" BY brgfx (2021)



"A cut-through of a tree trunk" CC-BY-NC-SA University of Cambridge 2004

Systems Changes Learning adds ... thinking *dyadically* ... over time

- e.g. the sun *waxing* (increasing in strength) and *waning* (decreasing in strength)
- Dyadic (yinyang waxing and waning) is not dualistic (e.g. sun, no sun)

General Systems Theory (GST) approaches in a hierarchy of complexity of organization as the "skeleton of science"

(i) … first level … **static structure** … level of *frameworks*.

(ii) … **simple dynamic system** with predetermined, necessary motions … level of ***clockworks***.

(iii) … **control mechanism** or cybernetic system … level of the *thermostat*.

(iv) … "**open system**," or self-maintaining structure … *life* begins to differentiate ... from not-life … level of .. *cell*.

(v) … **genetic-societal level** … typified by the ***plant***, .. differentiated and mutually dependent parts …, and sharp differentiation between genotype and phenotype ...

(vi) … "**animal**" level, characterized by increased *mobility*, teleological behaviour and self-awareness.

(vii) … "**human**" level … *self-consciousness* … different from mere awareness.

(viii) … **symbolic** images and behavior based on them … *social organization*.

(ix) … **transcendental** systems … *ultimates and absolutes* and the inescapable unknowables ...

Boulding, Kenneth E. 1956. "General Systems Theory -- The Skeleton of Science." *Management Science* 2 (3): 197–208. https://doi.org/10.1287/mnsc.2.3.197 .

B. Dialogue One ...

What if we resequence thinking on "systems" as "genetic-social" before "clockworks"?

Clockwork Animation CC-By Falkenauge (2015)

Beavers Behaving Badly by BBC Natural World (2014)

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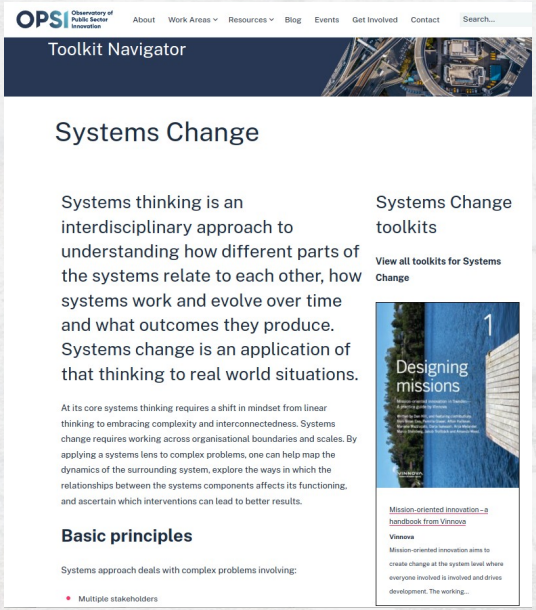
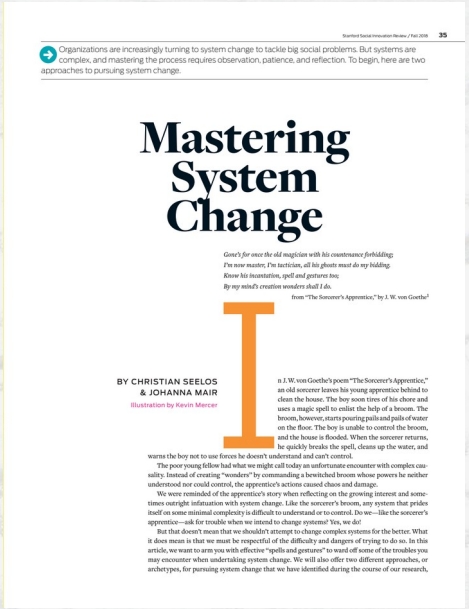
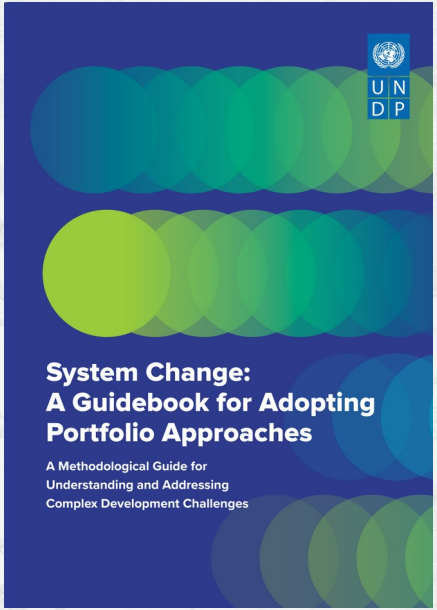
C. Rethinking Systems Changes ...

Which is/are *system(s) change(s)* c.f. ***not*** *system(s) change(s)*?







OECD Observatory of Public Sector Innovation

"… (rare) use" by governments of systems approaches towards making public services more effective and resilient"
(Cook & Tõnurist, 2017, p. 4).

Stanford Social Innovation Review

… a way for "policymakers, foundations, NGOs, and social enterprises tackling issues like poverty, preventable disease and poor education" to "solve the root causes" of these intractable problems (Seelos & Mair, 2018, p. 35).

United Nations Development Programme

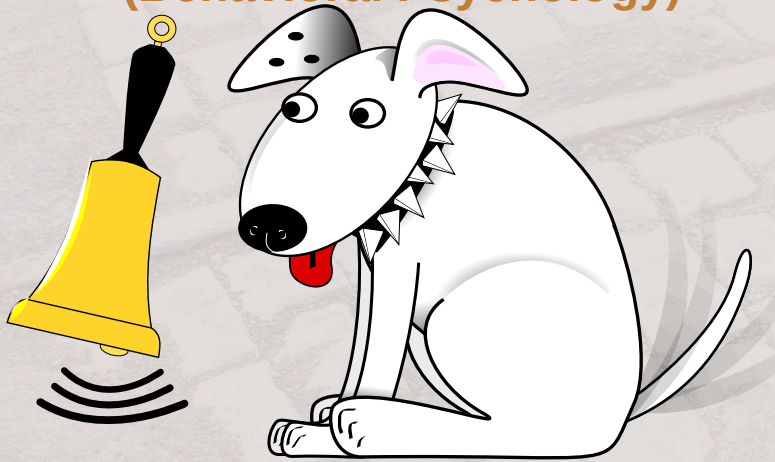
… a three phase methodology: (i) sense and frame; (ii) engage and position; and (iii) transform (Wellsch, 2022, p. 1)

Forum for the Future + McConnell Foundation

"What is systems change?"
"… asked people attending and unable to attend to offer their definitions of systems change" (Birney & Riddell, 2018, p. 5)

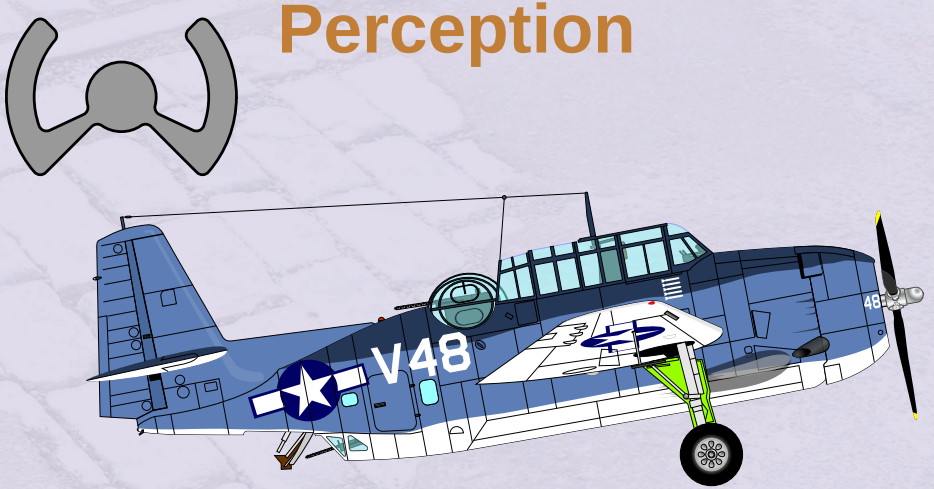
While Behavioral Psychology asked "*What's inside your head*", an Ecological Approach asks "*What's your head inside of?*"

Stimulus – Response
(Behavioral Psychology)



[In the 1950] ... the **psycho-physical** program was … traditional in considering **perception** to be **a set of responses to presented stimuli** (albeit "higher order" stimuli).

Ecological Approach to Perception



[**James J. Gibson**] has tried to develop enough theory … to demonstrate that **direct perception** is indeed plausible ... The … analysis of the optic array, stimulus organization, and the functional organization of **perceptual systems** are what Gibson oftens points to as **radical features** ….

William M. Mace 1977. "James J. Gibson's Strategy for Perceiving: Ask Not What's inside Your Head, but What Your Head's inside of." In *Perceiving, Acting, and Knowing: Toward an Ecological Psychology*, edited by Robert Shaw and John Bransford, 43–65.

Confusion is common distinguishing systematic change from systemic change

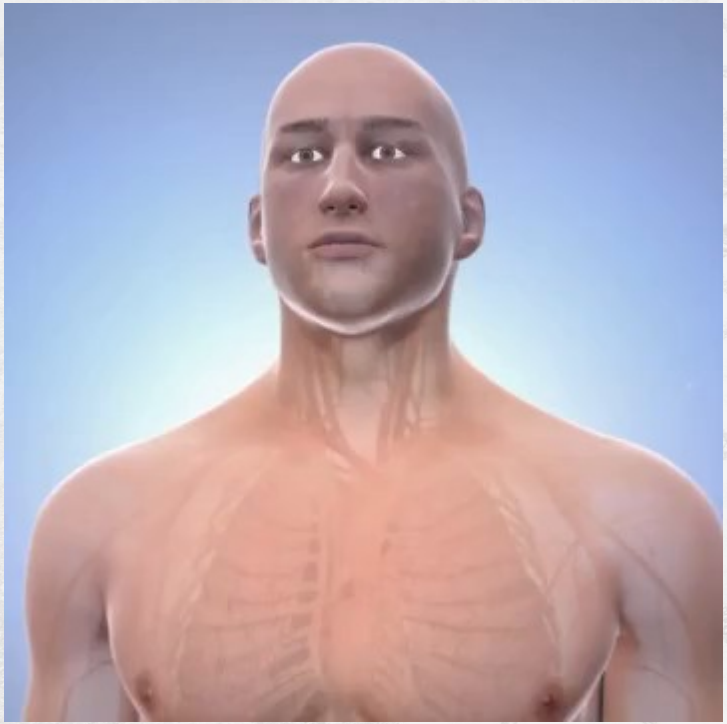
Systematic	***Systemic***
Somatic	*Genotypic*
(adaptive, cellular) change	(generational) change
Non-living, effect-producing (allopoietic)	*Living*, systems-generating (autopoietic)
Reactive	*Co-responsive*

Concurrent changes over time and space can be placed as (i) *at hand* for directly joining, and/or (ii) *remote* engaging via intermediaries

Distant	Expediting trauma emergencies 	Organizing operating room teams
Local	 Summoning battlefield medics	 Scheduling neighbourhood clinics
	Urgent	*Important*

D. Dialogue Two ...

What if we resequence thinking on "systems changes" as "ecological" before "behavioral"?



What Happens In Your Body During Migraine
by WebMD (2019)

Friday Night Swing @ MUB 2017-02-03 CC-BY Gainesville Swing (2017)

Agenda

A. Welcome	Introduction	:05
	Ice-breaker	:05
B. Rethinking Systems	Presentation One	:07
	Dialogue One	:20
	Reflection One	:10
C. Rethinking Systems Changes	Presentation Two	:07
	Dialogue Two	:20
	Reflection Two	:10
D. Rethinking Systems Changes Learning	Presentation Three	:07
	Dialogue Three	:20
	Reflection Three	:10
E. After Hours		:30

A state-maintaining system can adapt to events; a living system with memory can learn from experience

A state-maintaining system **adapts** by:

- discriminating between states,
- *reacting* to conditions with deterministic behaviors.

A living system **learns** to produce an outcome by:

- attaining a state in different ways, and maybe under different conditions,
- *responding* to events with choice of behavior.

Temperature Regulation of the Human Body CC-BY Fuse School (2017)

Training a Dolphin Differently CC-BY Zoospensefull (2019)

Ackoff, Russell L. 1971. “Towards a System of Systems Concepts.” *Management Science* 17 (11): 661–71. https://doi.org/10.1287/mnsc.17.11.661 .

Trito-learning rolls with turbulent contexts by negotiating in worlds where proto-learning and deutero-learning break down

	Process discriminating context change over time	*Example / metaphor (groups learn to cook)*
Trito-learning (Learning 3)	Change in response correcting for contexts (i.e. systems of sets of alternatives)	Competing on tv cooking challenges as teams and individuals (e.g. Hell's Kitchen)
Deutero-learning (Learning 2)	Change in response correcting the set of alternatives	Mastering a range of food prep traditions (e.g. Culinary Institute of America)
Proto-learning (Learning 1)	Change in response correcting errors within a set of alternatives	Training on food service handling for consistency and safety (e.g. cafeteria kitchens)

Bateson, Gregory. 1972. “The Logical Categories of Learning and Communication.” In *Steps to an Ecology of Mind*, 279–308. Northvale, NJ: Jason Aronson

Are (interventions to) systems changes based on a Bias for Action, or the Hippocratic Oath?

Bias for Action was the first chapter of eight, in 1982

5. A Bias for Action

There is no more important trait among the excellent companies than an action orientation. It seems almost trivial: experiments, ad hoc, task forces, small groups, temporary structures. [….] They don't give in and create permanent committees or task forces that last for years. Nor do the install formal matrixes. They live in accord with the basic human limitations we described earlier: people can only handle a bit of information at one time, and they thrive if they perceive themselves as even somewhat autonomously (e.g. experimenting modestly). [1,2]

6. Close to the Customer
7. Autonomy and Entrepreneurship
8. Productivity Through People
9. Hand-On, Value-Driven
10. Stick to the Knitting
11. Simple Form, Lean Staff
12. Simultaneous Loose-Tight Properties

[1] Peters, Thomas J., and Robert H. Waterman. 1982. *In Search of Excellence: Lessons from America's Best-Run Companies*. Harper & Row.

[2] Peters, Thomas. 2001. *In Search of Excellence: A Three-Generation Report Card* . Tom Peters' Manifesto 2002. Tom Peters Company Press. https://tompeters.com/wp-content/uploads/2014/02/ISOE.pdf
.

Physicians have vowed to a Hippocratic Oath since 1508 in Germany, becoming standard in France by 1804

… our mantra of "First, do no harm" (a phrase translated into Latin as " *Primum non nocere* ") is often mistakenly ascribed to the oath, although it appears nowhere in that venerable pledge.

Hippocrates came closest to issuing this directive in his treatise *Epidemics*, in an axiom that reads, "As to diseases, make a habit of two things — to help, or at least, to do no harm."

[3] Markel, Howard. 2004. "'I Swear by Apollo'--on Taking the Hippocratic Oath." *The New England Journal of Medicine* 350 (20): 2026–29. https://doi.org/10.1056/NEJMp048092 .

Willful action and *non-intrusive action* are central in Chinese thinking

為
wèi

有為 yǒu wèi

無為 wú wèi

为 （為） wéi: p. 517
I (动， verb)
1. **do; act**: 敢做敢 ~ gǎn zuò gǎn ~ bold in action
2. **act as; serve as**: 以此 ~ 凭 yí cǐ ~ píng This will serve as proof.
3. **become**: 变沙漠 ~ 良田 biàn shā mó ~ liáng tiān turn the desert into arable land.
4. **be; mean**: 一公里 ~ 二华里 yī gōng lǐ ~ èr huā lǐ One kilometer is equivalent to two li.

无 （無） wu2: p. 526
I (名， noun) **nothing; nil**: 从 ~ 到有 cóng ~ dào yǒu start from scratch
II (动， verb) **not have; there is not; without**: ~ 一定计划 ~ yī dìng jì huà have no definite plan
III (副， adverb) **not**: ~ 须多谈 ~ xǔ duō tǎn need not go into details

Concise English-Chinese Chinese-English Dictionary (2004), 3ed, Commercial Press and Oxford University Press

Wei meant application of **the force of will-power**, the **determination** that things, animals, or even other men, should do what they were ordered to do, but ***wu wei*** was the opposite of this, **leaving things alone**, letting **Nature** take her course, profiting by **going with the grain** of things instead of going against it, and **knowing how not to interfere**.

Needham, Joseph. 2004. “General Conclusions and Reflections.” In The Social Background, edited by Kenneth Girdwood Robinson. Vol. VII:2. *Science and Civilisation in China*. Cambridge University Press. p. 16

Some scholars have argued that the interpretation of ***wuwei*** as “**non-intrusive action**” or “**non-interfering action**” is more philosophically profound and interesting.
These latter translations support a meaningful rendition of the concept *wuwei* **both at the sociopolitical level** (arguing against the imposition of artificial, conformist and universally binding norms) **and at the metaphysical level** (acknowledging the inappropriateness and fatality of imposing egocentric or anthropocentric norms upon other individuals or species).

Lai, Karyn. 2003. “Conceptual Foundations for Environmental Ethics: A Daoist Perspective.” *Environmental Ethics* 25 (3): 247–66. https://doi.org/10.5840/enviroethics200325317 .

Contrasting modes of thinking are grounded in philosophy

Dualistic (Modern Western formal logic)		**Contextual-dyadic (Classical Chinese implicit logic)**
Abstract and permanent, is independent of context • Can extrapolate from propositions	**Truth - Falsity**	Application and meaning is relative to a particular context • Evaluate assertion as embedded
Oppositions Superior ↔ Inferior Superordinate ↔ Subordinate Intrinsic value ↔ Non-intrinsic value Human ↔ Nonhuman	**Pairings**	*Characteristics under context* A term presupposes it opposite • e.g. *cat* implies *non-cat*, not universe Context-dependence • e.g. men or women superior when/where?
Hierarchical Reductionist Entity- (thing-) ontology	**Frames**	Yin-Yang Harmonious whole Mutually engendering or constraining

Lee, Keekok. 2017. *The Philosophical Foundations of Classical Chinese Medicine: Philosophy, Methodology, Science*. Lexington Books. https://rowman.com/ISBN/9781498538886/The-Philosophical-Foundations-of-Classical-Chinese-Medicine-Philosophy-Methodology-Science.

D. Dialogue Three ...

What if we resequence thinking on "systems changes learning" as "propensity" before "causality"?

Shooter's Pool, Gameplay (Part 2) by MegaMilez (2020)

30 Days Timelapse at Sea, Through Thunderstorms, Torrential Rain & Busy Traffic by JeffHK (2017)

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Centered in Toronto, the Systems Changes Learning Circle originates from CSI, OCADU SFI and Systems Thinking Ontario

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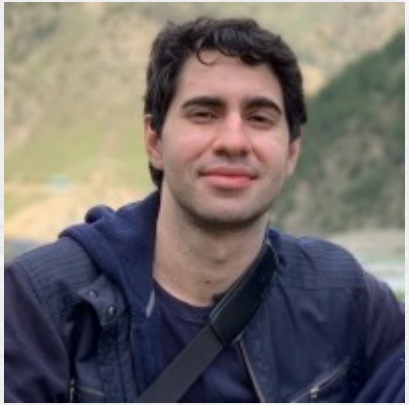

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Creative Systemic Research Platform Institute

is an institution aiming to promote research and development of non-profit projects. We focus on investigating the skills needed for Community Resilience, supported by ecological practices and systemic and creative learning.

Existing since 2017 as a non-profit research group, we evolved in December 2020 into the CSRP Institute.

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Contact us

Image CC-BY Mike Cassano (2009) *Most Interesting Pothole*