Resequencing Systems Thinking:

Practising, Theorizing and Philosophizing as Systems Changes Learning – at Year 6 of 10

David Ing

Creative Systemic Research Platform Institute
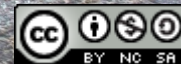   (Ticino, Switzerland; Mora d'Ebre, Spain; Espoo, Finland)
Systems Changes Learning Circle
   (Toronto, Canada)

68th Annual Meeting of the
International Society for the Systems Sciences
at Open Gov Hub, Washington, DC
June 16, 2024

Agenda

A. Initiating		
B. Philosophizing	B1. ↓ Metaphilosophy; ↑ Postcolonial Constructionist	B4. Exercise: ↓ Structure then process; ↑ Process then structure
	B2. ↓ Behavioral Structuralist; ↑ Ecological Processualist	
	B3. ↓ Progress → Ideals; ↑ (Con)textualism-Dyadicism	
C. Theorizing	C1. ↓ Linear Movement; ↑ Rhythmic Complements	C4. Exercise: ↓ Hastening / Retarding; ↑ Comping
	C2. ↓ Progressive Development; ↑ (Con)textural Threading	
	C3. ↓ Directional Control; ↑ Implicit Propensities	
D. Practising	D1. ↓ Unfreezing-Refreezing; ↑ (Con)textural Action Learning	D4. Exercise: ↓ Bias for Action (Youwei); ↑ Doing No Harm (Wuwei)
	D2. ↓ Intention; ↑ Attention	
	D3. ↓ Adaptive Problem Solving; ↑ Learning Better Questions	
E. Continuing		

Reseqencing Sysems Thinking -- at Year 6 of 10   June 2024   David Ing, 2024

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

David Ing

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Dan Eng
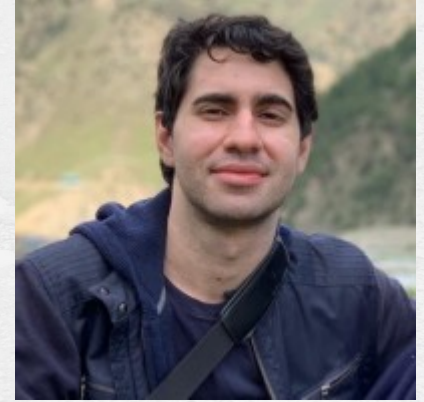
linkedin.com/in/
daneng/

Kelly Okamura

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kelly-okamura/

Zaid Khan

linkedin.com/in/
zaid---khan/
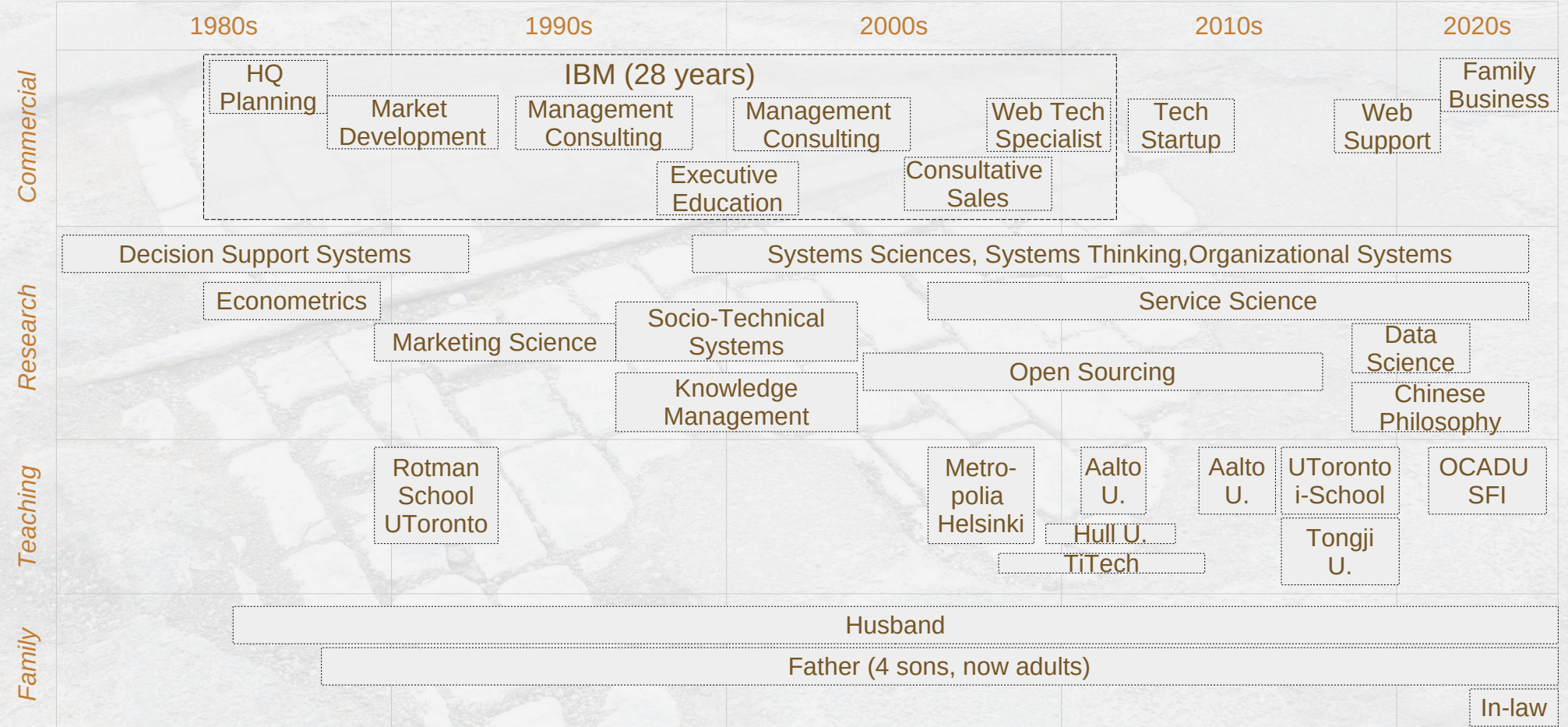
Which is/are *system(s) change(s)* c.f. ***not*** *system(s) change(s)*?

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)

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David Ing, 2024

Into *systems changes*, what does *causal texture* mean?

The Causal Texture of Organizational Environments[1]

F. E. EMERY AND E. L. TRIST

IDENTIFICATION OF THE PROBLEM

A MAIN problem in the study of organizational change is that the environmental contexts in which organizations exist are themselves changing, at an increasing rate, and towards increasing complexity. This point, in itself, scarcely needs labouring. Nevertheless, the characteristics of organizational environments demand consideration for their own sake, if there is to be an advancement of understanding in the behavioural sciences of a great deal that is taking place under the impact of technological change, especially at the present time. This paper is offered as a brief attempt to open up some of the problems, and stems from a belief that progress will be quicker if a certain extension can be made to current thinking about systems.

Emery, Fred E., and Eric L. Trist. 1965.
"The Causal Texture of Organizational Environments."
Human Relations 18 (1): 21–32. https://doi.org/10.1177/001872676501800103.

L_{11}
Internal part-part relations

1 (system)

L_{21}
Learning from environment

L_{12}
Planning process

2 (environment)

L_{22}
Environment part-part relations
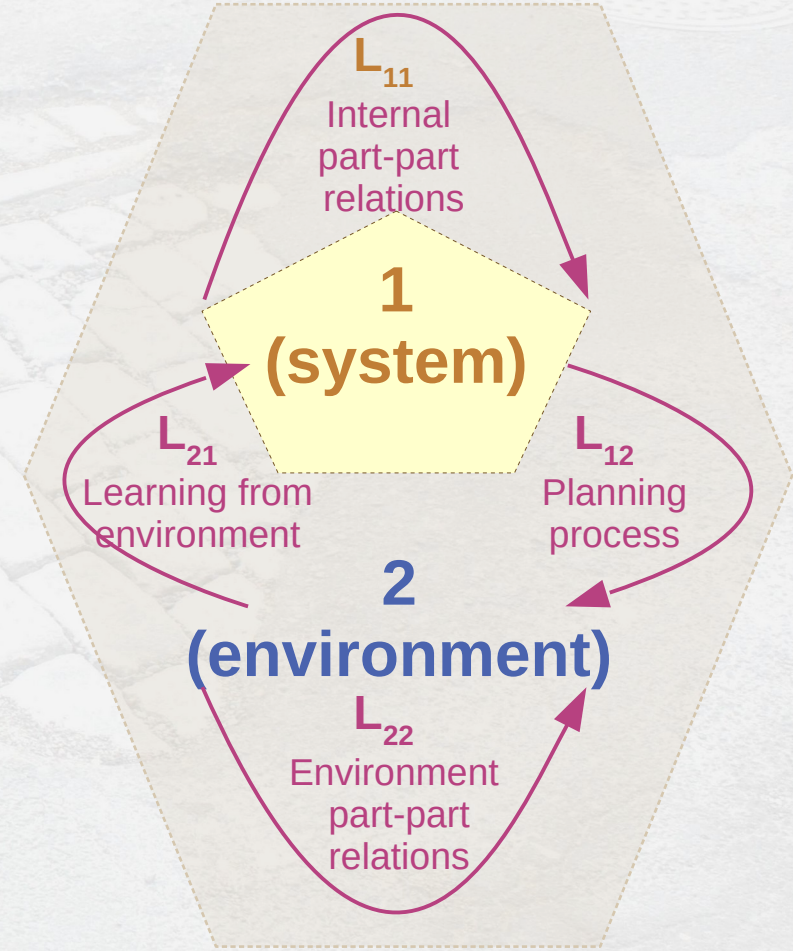
The 1969 edition of *Systems Thinking* noted the omission of Stephen C. Pepper (1942) *World Hypotheses*
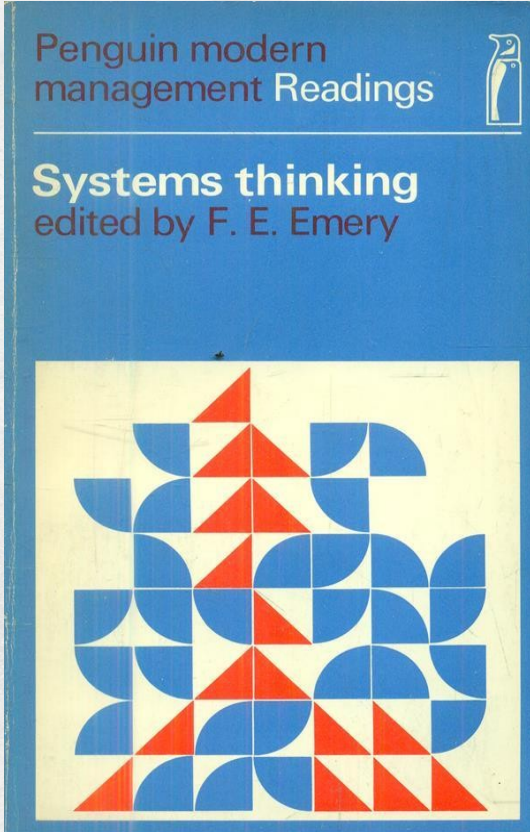
Part One *Precedents to Systems Theory*

Only pressing problems of space precluded a selection from S. C. Pepper (1950).

This is of particular importance because the 'root metaphors' he identifies and rigorously defines are all clearly operating in different systems theorists and account for much of the mutual incomprehension that exists among them.

'Contextualism' is the root metaphor which comes closest to our bias in selecting for this volume.

References

PEPPER, S. C. (1950), World Hypotheses, University of California. [Emery (1969) p. 15]

Emery, Fred E. 1969. "Precedents to Systems Theory." In *Systems Thinking: Selected Readings*, edited by Fred E. Emery, 1st ed., 1:15. Harmondsworth: Penguin. https://archive.org/details/systemsthinkings00emerrich

A January 2022 session on metaphilosophy received encouragement

David Ing • You
Systems Evangelist; Management Consultant; Technology Executive…
1yr • 🌐

On Monday, January 9, 6:30pm ET, **#SystemsThinking** Ontario will have an online session on "Root Metaphors and World Hypotheses", see **https://lnkd.in/gx4AFhRf** .

The world hypothesis of contextualism is at the foundation of the Socio-Ecological Systems perspective of **#EricLTrist** and **#FredEmery**. American pragmatism influencing the systems approach.

Dr Mike C Jackson OBE • 1st   1y •••
Centre for Systems Studies

Very interesting, David. And great that you are bringing Pepper and Emery/Trist back into centre of debates about systems thinking - where they belong. Thanks, also, for drawing attention to my 2020 discussion of world hypotheses.
Sociotechnical thinking went through a brief 'mechanical systems' phase (Trist and Bamforth) before discovering von Bertalanffy and embracing organicism. It is also true that both Trist and Emery later claimed to have moved beyond organicism and embraced contextualism. My own view is that they did not succeed and that organicism continued to dominate in the L22 work and even in the later socio-ecological work. I recently had an exchange with Merrylyn Emery on this who, of course, says I am wrong and that her and Fred's later work is clearly contextualist. My argument, which I still adhere to, can be found in the chapter on sociotechnical thinking in my 'Critical Systems Thinking and the Management of Complexity'. It is this chapter Merrylyn objected to. She is still very active in Australia. Best wishes, Mike.

Four world theories (world hypotheses) by Stephen C. Pepper in 1942 now have an additional proposed based on *yinyang*

World Hypothesis	*Dispersive* manner for organizing evidence	*Integrative* manner for organizing evidence
Analytic mode of reasoning	**Formism** *Root metaphor*: **Similarity**, as recurrence or recognizable features *Nature of time*: Universal or irrelevant	**Mechanism** *Root metaphor*: **Machine**, where exerting force or energy produces predictable outcomes *Nature of time*: Schematic time as location (linear and dimensional)
Synthetic mode of reasoning	**Contextualism**: *Root metaphor*: **Situation**, as a historic event in its living actuality *Nature of time*: Qualitative duration, event relative to a specious present	**Organicism** *Root metaphor*: **Constructive Development**, with orderliness of changes from stage to stage *Nature of time*: Directional arrow, successive integrations

Synthetic mode of reasoning	**(Con)texturalism-Dyadicism**: *Root metaphor*: **Yinyang dancing through [eight] seasons** *Nature of time*: Kairotic, with propitious periods and inopportune periods

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*, forthcoming.

Post-colonial philosophy of science in Taiwan hybridizes correlativity in TCM pulse + tongue diagnosis, alongside analytical biomedicine

[Dr. Lee] works with a body that has circulating qi and meridians. [….]
Dr Lee adds the biomedical results to her findings. They supplement her diagnosis.

Lin, Wen-yuan, and John Law. 2022. "Thinking Differently with Chinese Medicine: 'Explanations' and Case Studies for a Postcolonial STS." Social Studies of Science 52 (4): 491–511. https://doi.org/10.1177/03063127221092180

Images: "Chinese Medicine" by Kian2018 (2015) on Pexels; "Examination" by Semevent (2017) on Pixabay; "Sphygmomanmeter" by Pavel Danilyk (2021) on Pexels

Systems changes looking into systemic, beyond systematic, by West Churchman on the *I Ching* (*Yijing*, *Book of Changes*) leads to *yinyang*
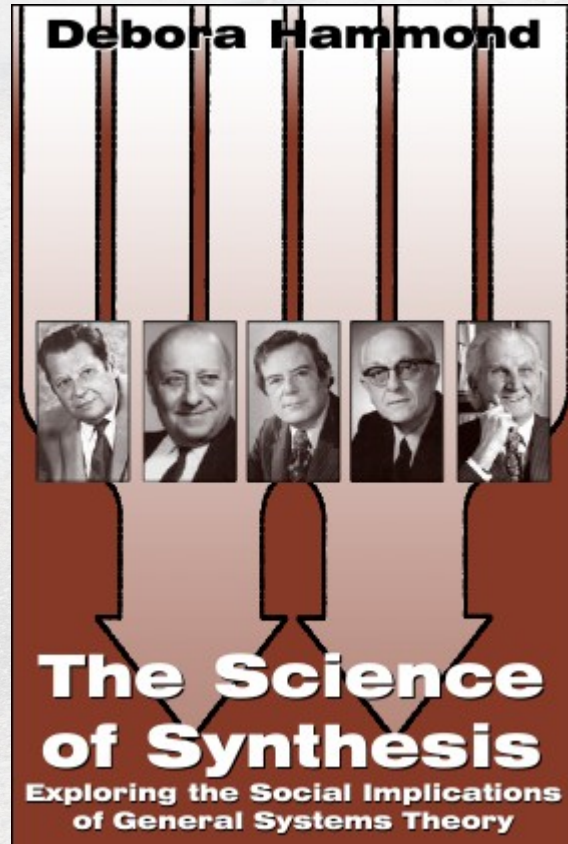
In conversations with Churchman on the historical sources of systems thinking, he often identified the Chinese *I Ching* as the oldest systems approach. As an effort to model dynamic processes of changing relationships between different kinds of elements, **the *I Ching* might be seen as a systemic approach, in contrast with the more systematic approach of rationalist Western thought,** rooted in the work of Plato and Aristotle.

The pre-Socratic philosophers were perhaps closer in spirit to the Eastern view than they were to the more orderly view of systems embodied in the later evolution of the Western tradition. This is particularly true of Heraclitus, whose inspiration is often cited in connection with the more progressive developments within the contemporary systems tradition. This contrast between **systemic conceptions, which focus on interrelationships and dynamic processes**, and the **systematic conceptions, which are more concerned with classification and order**, is critical in understanding the relationship between different views of systems in the twentieth century. [p. 13]

Hammond, Debora. 2003. The Science of Synthesis: Exploring the Social Implications of General Systems Theory. University Press of Colorado. https://muse.jhu.edu/book/85409/.

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

Stimulus – Response
(Behavioral Psychology)

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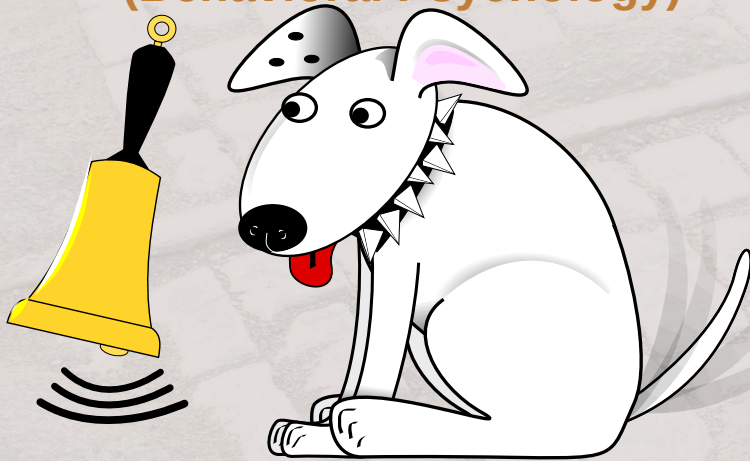
[In the 1950] ... the **psycho-physical** program was … traditional in considering **perception** to be **a set of responses to presented stimuli** (albeit "higher order" stimuli).

[**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.

Embodied Becoming (action, being) comes from *Knowing from Within* and *Co-responding along Contextures* (travelling along meshwork)

[The Sami people] did not inform me of *what* is there, to save me the trouble of having to inquire for myself. Rather, they told me *how I might find out*. They taught me what to look for, how to track things, and that knowing is a process of active following, of *going along*.

… you know as you go … **knowing *is* movement**.

Ingold, Tim. 2013. "Knowing from the Inside." In Making: Anthropology, Archaeology, Art and Architecture, 1–14. Routledge. p.1.
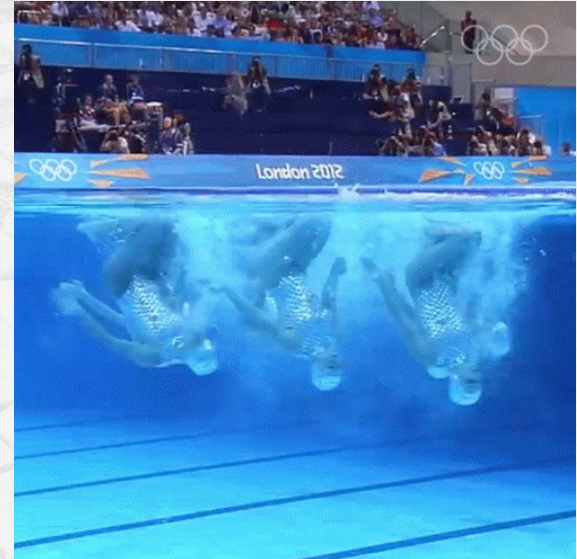
… **the ground of knowing** … **is itself the very ground we walk**, where earth and sky are tempered in the ongoing production of life.

Ingold, Tim. 2015. "Knowledge." In The Life of Lines, 46–50. Oxford, UK: Routledge. pp. 48-49

A Non-Relativistic Pragmatic Theory of Value specified 4 pursuits, later refined with a variety of ends over defined time periods

Truth
(perfect knowledge)

Moral Good
(perfect cooperation)

Ideals

Freedom
(perfect regeneration in ideal pursuit)

Objectives

Plenty
(perfect production and distribution)

Goals

within period planned

within longer period

unattainable yet worth pursuing
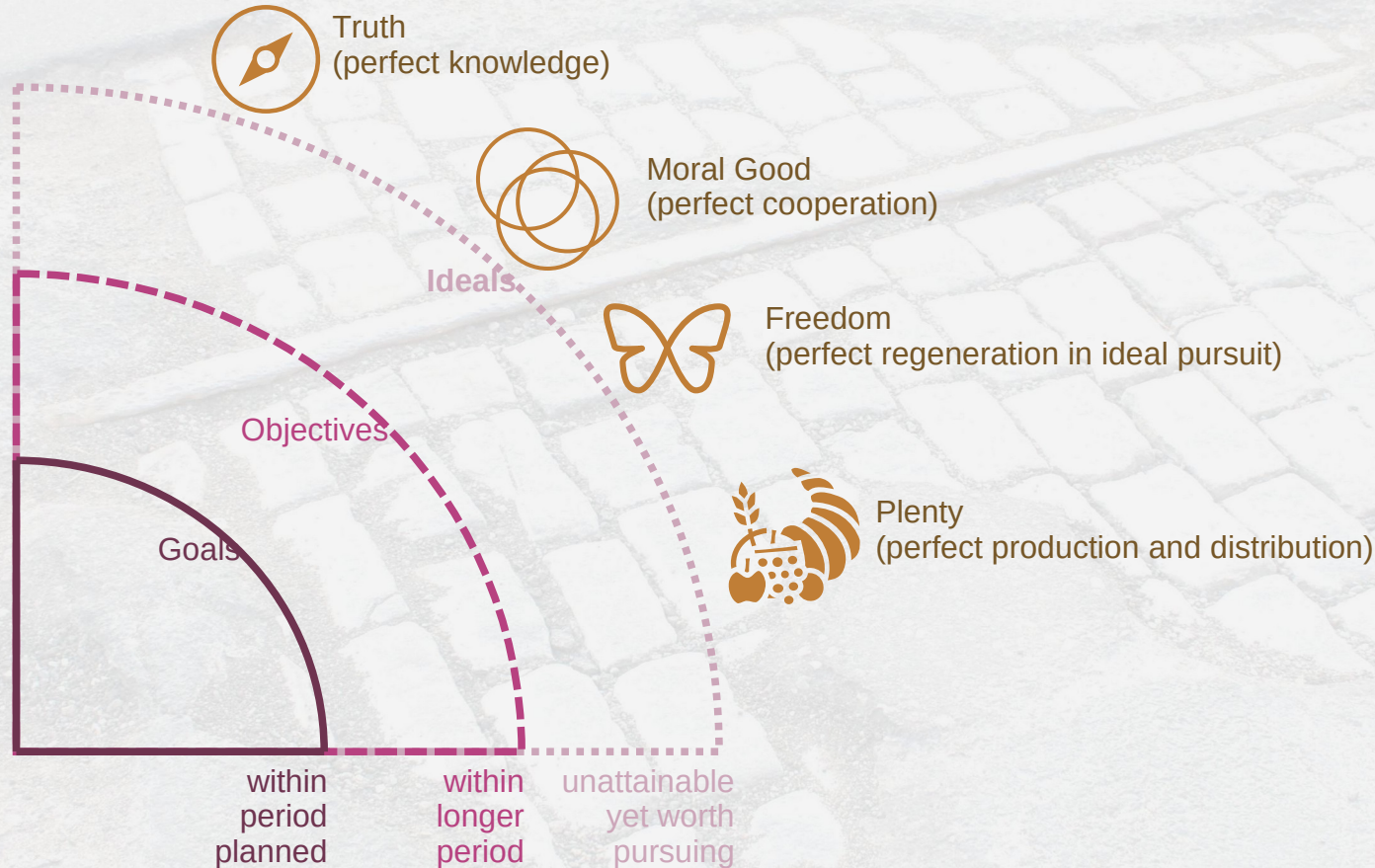
Churchman, C. West, and Russell Lincoln Ackoff. 1950. "Modern Synthesis: The Pragmatic Method." In *Methods of Inquiry: An Introduction to Philosophy and Scientific Method,* 193–258. St. Louis: Educational Publishers. https://catalog.hathitrust.org/Record/0057 57861.

Ackoff, Russell L., and Fred E. Emery. 1972. On Purposeful Systems. Aldine-Atherton. https://archive.org/details/onpurposefulsys t0000acko

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Western dualism (one or the other) contrasts to Classical Chinese contextual-dyadic (i.e. condition-dependent, 2-complements)

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.

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Synchronic emergence at a moment is in the sympathy of clocks; diachronic emergence is processual or dynamical in a floating market

Spontaneous Synchronization, by
University of Michigan Demo Lab (2022)

Cai Rang Floating Market, Mekong Delta, Vietnam by Elisabeth Frette (2020)

Dombrowski, Maciej. 2024. "Processual Emergentism." *Erkenntnis* 89 (1): 439–61. https://doi.org/10.1007/s10670-022-00539-5.

Daojia was named ex-post c. 110 BCE, with Yinyang School as the first of six, predating standardized writing from Qin 221 BCE

Heraclitus
(540 – 480 BCE)

Socrates
(470 – 399 BCE)

Parmenides
(515 – 450 BCE)

Plato
(427 – 348 BCE)

1000 BCE	800 BCE	600 BCE	400 BCE	200 BCE	0 CE	200 CE

Western Zhou Dynasty
(1045 – 772 BCE)

Eastern Zhou Dynasty
(771 – 256 BCE)

Qin
(221–206
BCE)

Western Han
(202 BCE –
9 CE)

Eastern Han
(25 - 220 CE)

Warring States
(475 – 221 BCE)

Yinyang School (770 – 221 BCE)

Legalism as
state
philosophy
(231-206
BCE)

Confucianism
as state
philosophy
(141 – 87 BCE)

Six philosophical lineages (Sima Tan*)*:
Yinyang, Confucian, Mohist,
Legalist, School of Names, Daoist

Daoistm
as
state
philosophy
(712 –
756 CE)

Fuxi
(c. 2000 BCE)

Zhou Yi (300 BCE, in
Shanghai Museum)

Yijing Mawangdui
Manuscript (168 CE)

Wen Wang
(1100 – 1050 BCE)

Daodejing (Laozi) (300 - 400 BCE)

Zhou Gong
(1090 – 1052 BCE)

Kongzi Confucius
(551 – 479 BCE)

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In authentic systems thinking in the West, synthesis precedes analysis and the containing whole is appreciated

a containing whole (system)

(2)

behavior or property of containing whole

(1)

the thing to be explained

(3)

behavior or property of the thing as role or function within whole

Synthesis precedes analysis

1. Identify a **containing whole** (system) of which the **thing to be explained** is a part.

2. Explain the **behavior or properties** of the **containing whole**

3. Then explain the **behavior or properties** of the **thing to the explained** in terms of its **role(s) or function(s)** within its containing whole.

Ackoff, Russell L. 1981. *Creating the Corporate Future: Plan or Be Planned For*. New York: John Wiley and Sons, p. 16
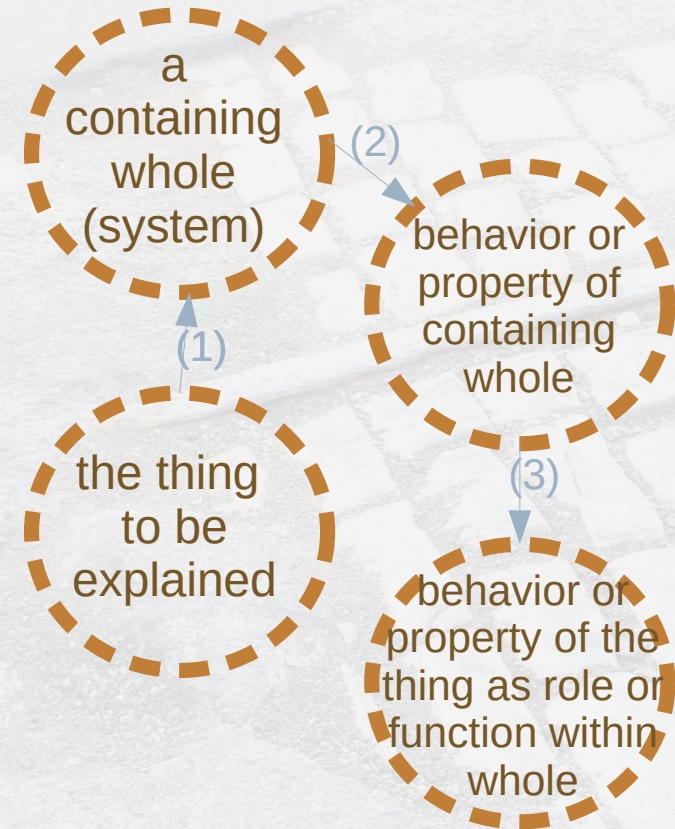
With systems thinking as "a perspective on parts, wholes, and their relations", what if we resequence arangement in time, before space?

a containing whole (suprasystem)

function (non-living)

role (living)

a part

structure

a part

another part

process

a part (t)

same part (t+1)

reaction?

response?

a system consequence

action? (autonomous)

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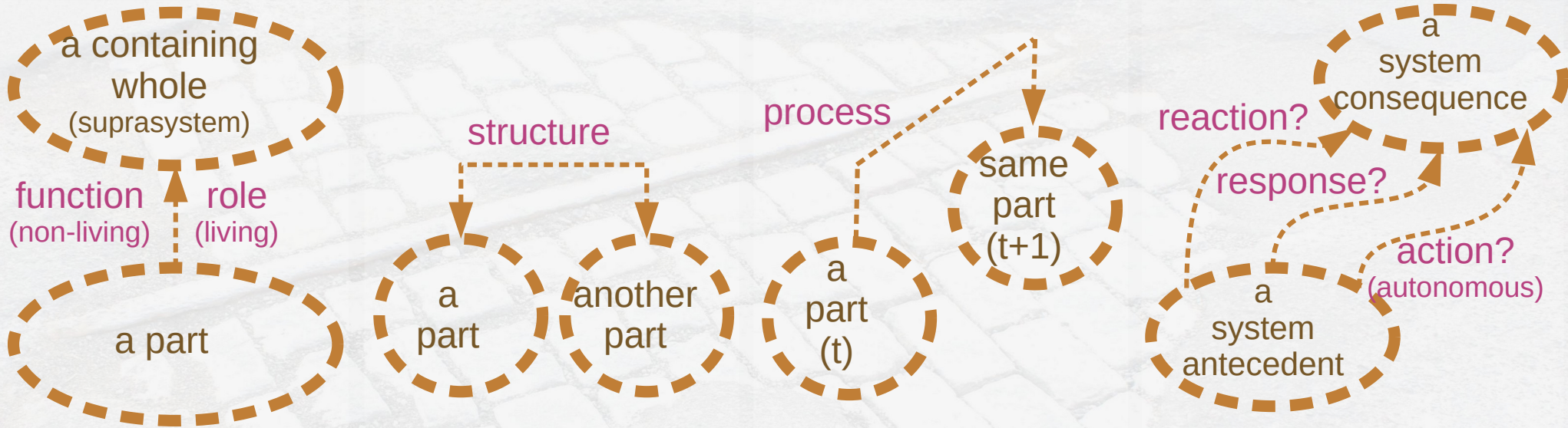
Function is a "contribution of the part to the whole"

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.

Can we deprecate systems thinking as a pursuit of ends (ideals, objectives, goals), and elevate as rhythms, contextual and dyadic?

How to Play Darts, by wikiHow (2021)

Beach Volleyball – London 2012 by IgCompany (2021)

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Ancient Greeks → Western science on straight lining (point-to-point); Classical Chinese → science as yinyang rhythmic complements
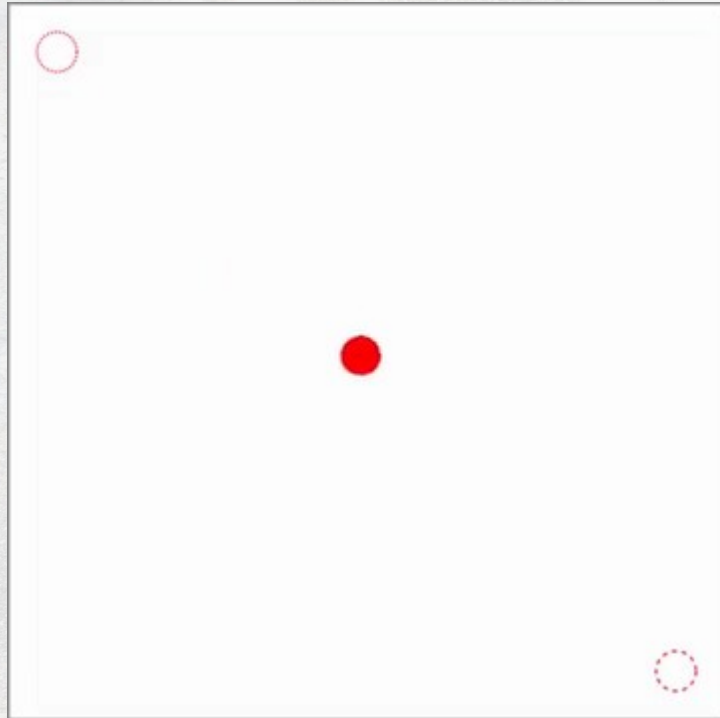
Square red dot straight line CC-BY-NC-SA David Ing 2024)
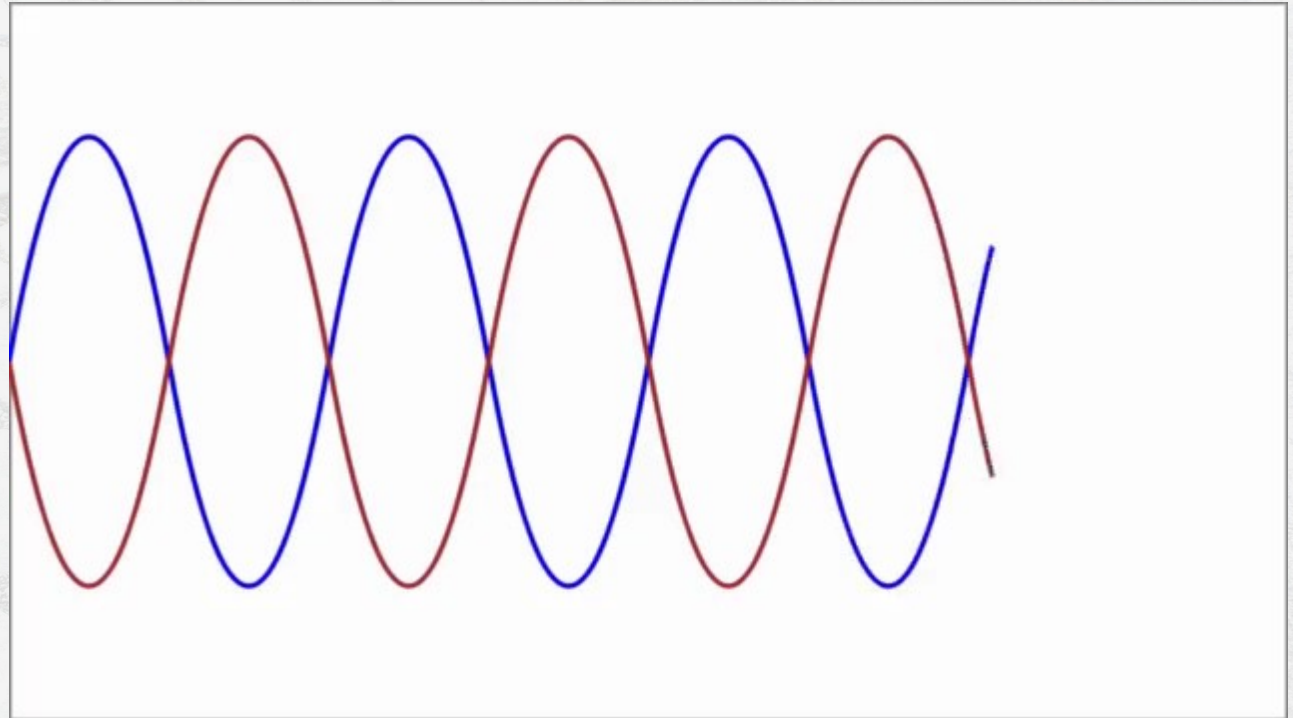
Sine Waves Blue and Brown CC-BY-NC-SA David Ing 2024

Yang and yin correspond to processes of change of brightening and darkening, complicated by extension to more phases

12pm
Utmost yang

Yang

6am
Sunrise

6pm
Sunset

Yin

12am
Utmost yin
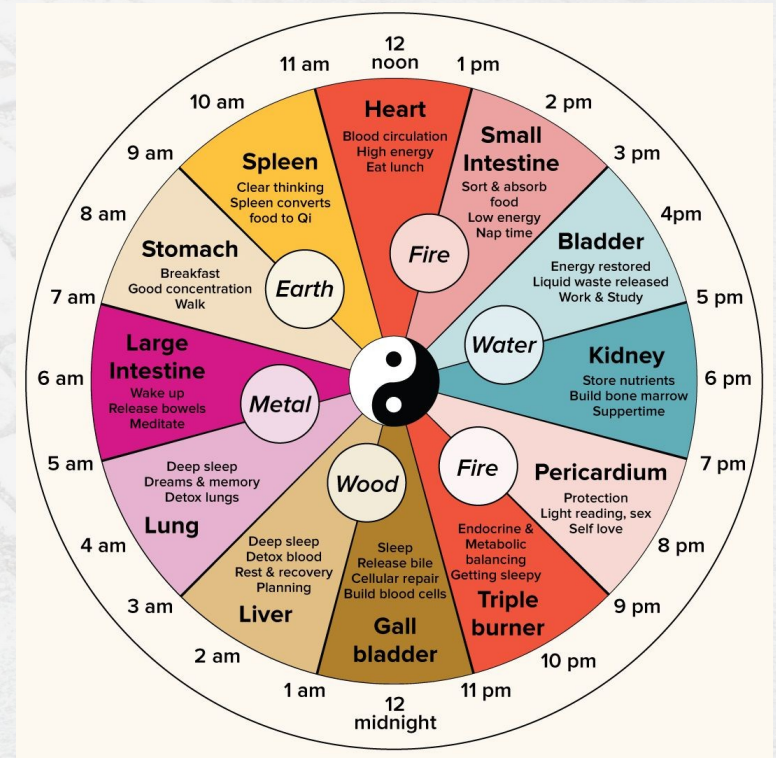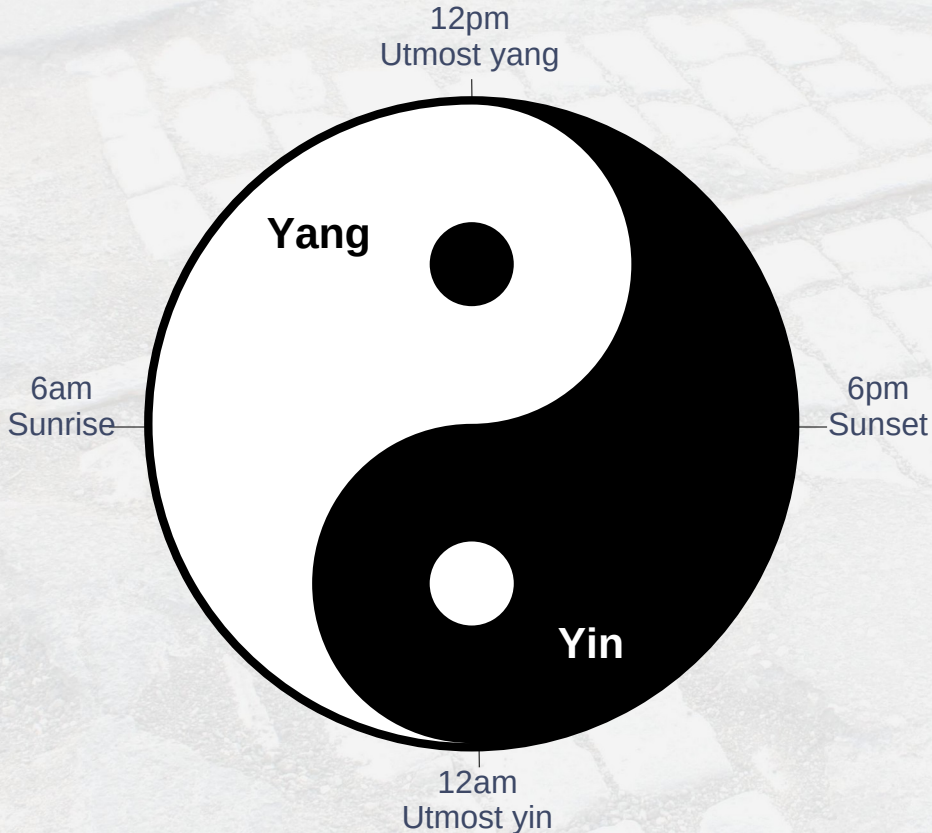
"All About the Chinese Body Clock", Healthline (2020) at
https://www.healthline.com/health/chinese-body-clock

Qi as "atmosphere" is both matter and not-matter, waxing with qi-in-dissipating mode; and waning with qi-in-concentrating mode

Greater Yang (taiyang)

Yang

Lesser Yang (shaoyang)

Qi-in-concentrating mode

Lesser Yin (shaoyin)

Yin

Qi-in-dissipating mode

Greater Yin (taiyin)
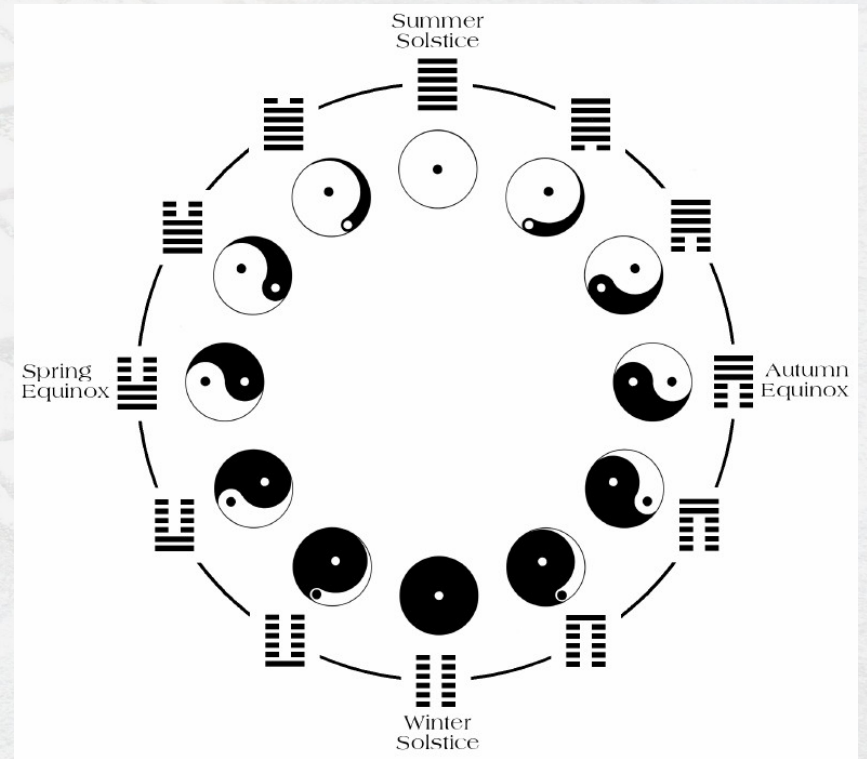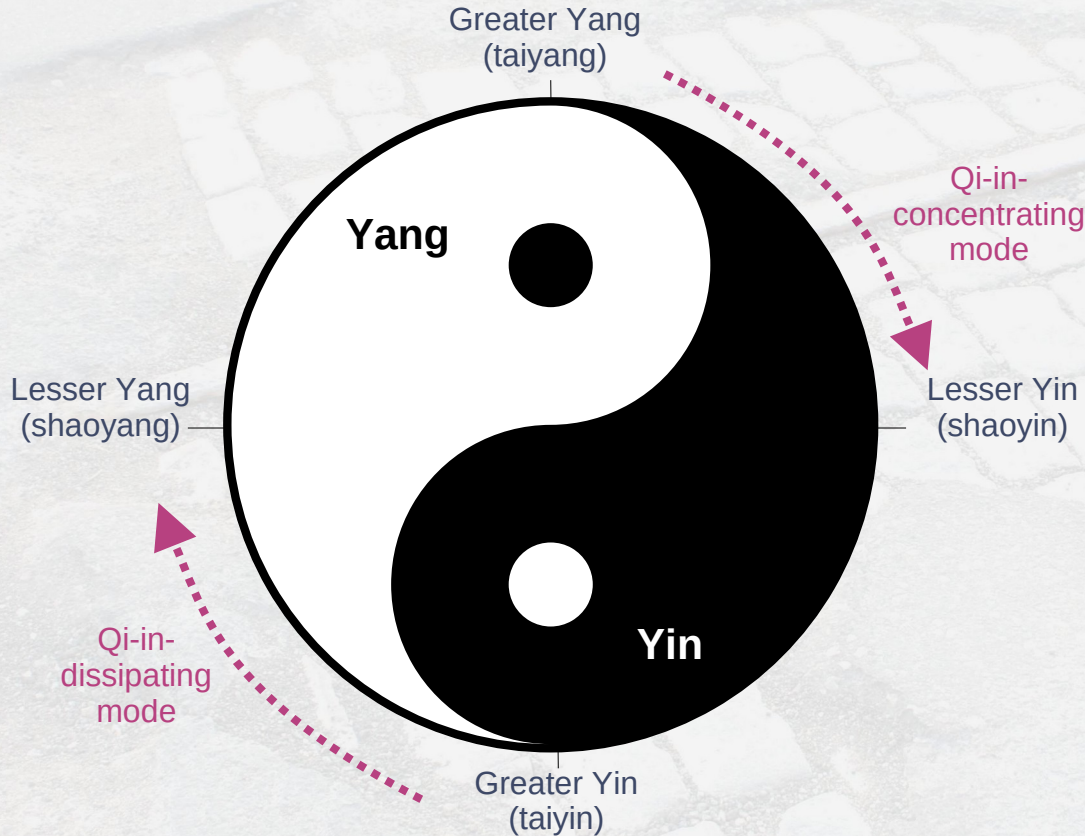
Dr Andreas Schöter (2011)
"Waxing and Waning – Yin and Yang Throughout the Year"

Dyadic processes of dissipating (to greater yang) and concentrating (to greater yin) are complementary in diachrony within (implicit) contexts
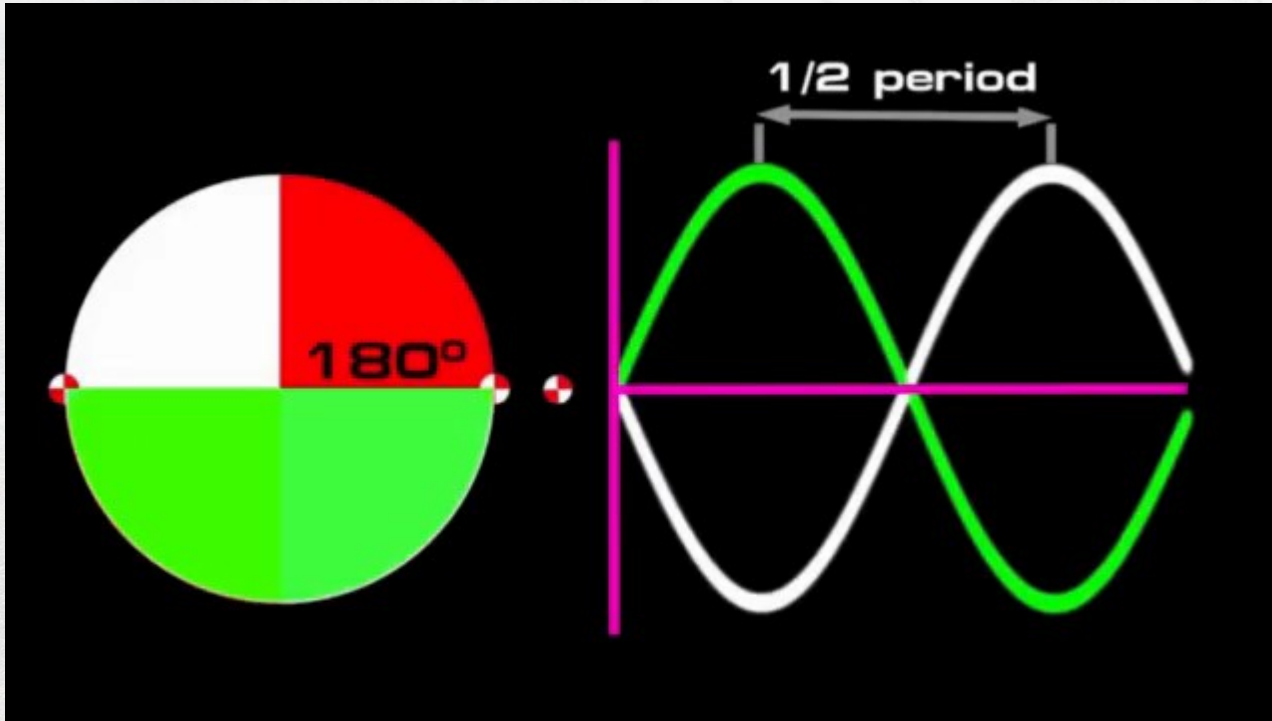
Yang	*Yin*
Illuminating	Darkening
Working	Resting
Warming	Cooling
Rising	Descending
Dissipating	Materializing
Scattering	Congealing
Generating	Growing
Expanding	Contracting

Sinusoid – Wave Form – Phase Difference CC-BY Dr. Chris Geoscience (2015)

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Organicism frames synthesis as parts-with-parts into wholes; contextualism weaves dyadicism inwardly, and diachrony outwardly

BMW Z4 GT3 - Car Assembly HD Time Lapse
by TeamWestCoatRacing (2010)

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

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Living systems transforming often focus development on unity; an ecological perspective sees threads co-respond with threads

Butterfly Metamorphosis
CC-BY Video Relaxation & Education (2021)

Dolphins Swimming Captured by Underwater Camera, NOAA via Reuters, 2021

Ancient Greeks → decisions towards controlling outcomes with action;
Classical Chinese → situational timing as favourable / unfavouable

Rank Vlog Working Cattle CC-BU Brown Ranch (2020)

How to Catch Trout with a Drop Shot by E Park Fishing (2020)

Aristotle considered causes and effects, with plans and action; Sunzi (Sun Tzu) looked for conditions when+where rhythms shift

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

Sudden Downpour in Glasgow Scotland by Wee Walks (2023)

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Systems Changes Learning centers on a hub of *knowing from within*, appreciated through a cycle of learning along four spokes

Recognizing contextural influences

is part of (consists)

Reordering pacing

is part of (consists)

Knowing from Within

is part of (consists)

Diagnosing rhythmic disorders

is part of (consists)

Prognosing likelihoods
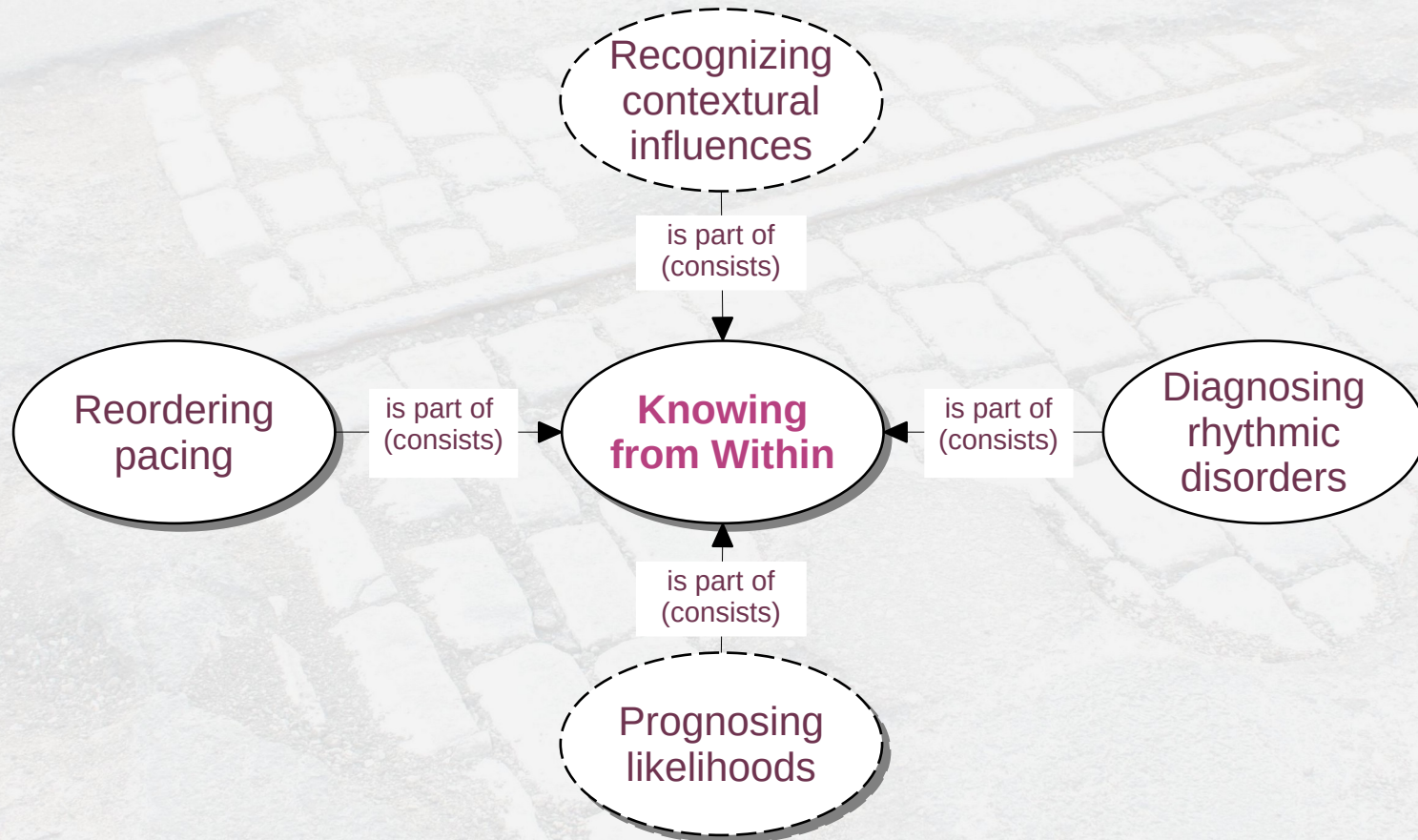
**Legend:
Object Process Methodology**

Essence Physical; Origin Systemic

Essence Informational; Origin Systemic

Essence Physical; Origin Environmental

Essence Informational; Origin Environmental

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	C2. ↓ Progressive Development; ↑ (Con)textural Threading		
	C3. ↓ Directional Control; ↑ Implicit Propensities		
D. Practising	D1. ↓ Unfreezing-Refreezing; ↑ (Con)textural Action Learning		D4. Exercise: ↓ Planning (Youwei); ↑ Doing No Harm (Wuwei)
	D2. ↓ Knowing What+Why; ↑ Situating When+Where		
	D3. ↓ Adaptive Problem Solving; ↑ Learning Better Questions		
E. Continuing			

Reseqencing Sysems Thinking -- at Year 6 of 10   June 2024   David Ing, 2024

2013

■ *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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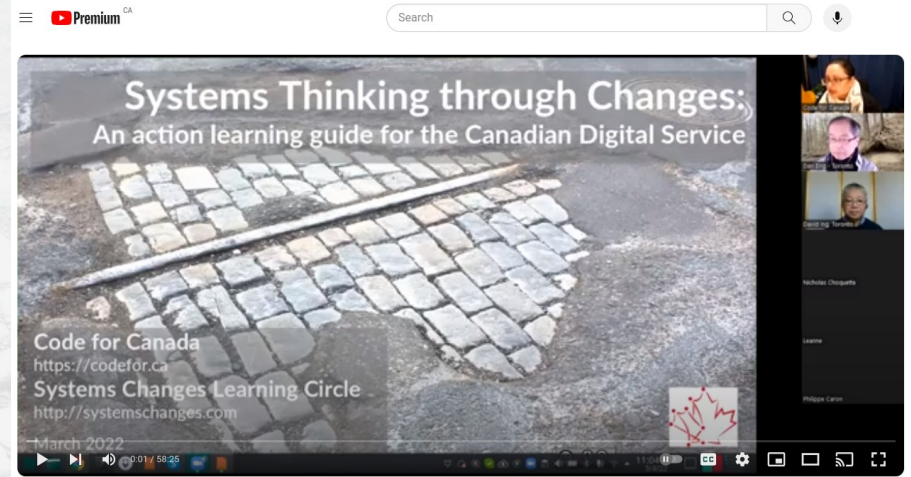
2022

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	~10m		• Prognosing likelihoods	~20m
				• Knowing from within	~20m		• Reordering pacing	~20m
				• Contextual influences	~20m		• Reflecting on progress + process(for retrospective)	~20m
				• Diagnosing rhythmic disorders	~30m		• Read-outs	~30m

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

June 2024   David Ing, 2024

2022

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

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

2023

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

2023

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 constructionism 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]

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[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. Festscrifts by colleagues and former students honoured C. West

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2024

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, contextual-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.

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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