

APPRECIATING SYSTEMS CHANGES VIA MULTIPARADIGM INQUIRY: ARCHITECTURAL DESIGN, ECOLOGICAL ANTHROPOLOGY, CLASSICAL CHINESE MEDICINE, SYSTEMS RHYTHMS

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Name David Ing

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 rigorous, 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.

Note: This version 0831 is a manuscript for an ISSS Category 1 paper. The author acknowledges the extended length, and welcomes comments from reviewers for appropriate shortening. (There's a lot of ground to cover with four philosophies abducting a fifth!) Embedded references can be removed.

Keywords

systems changes, appreciative systems, multiparadigm inquiry, 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 in 2017, points out the “(rare) use” by governments of systems approaches towards making public services more effective and resilient (Cook & Tönurist, 2017, p. 4). Their *systems approach* towards transformation is rather complete in reviewing theory, differences and complements with design thinking, systemic change processes, and systemic change cases in Iceland, the Netherlands, Canada and Finland. (OECD, 2020).
- *Systems change*, as led by Forum for the Future, was the key term for a convening of practitioners, academics and funders, at Wasan Island in 2018. On “What is systems change?”, the meeting “asked people attending and unable to attend to offer their definitions of systems change” without converging on an agreed definition, instead focusing on field building (Birney & Riddell, 2018, p. 5). This interest has is associated with the School of System Change, as a “global community of change agents” to “accelerate a transition to a sustainable future” (Forum for the Future, 2018).
- *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” to “solve the root causes” of these intractable problems (Seelos & Mair, 2018, p. 35). Towards enacting effective change in the cause-effect architecture of systems, two archetypes are

introduced: (i) “changing a system by building a system” that attracts by luring towards desirable properties in the new; and (ii) “changing a system by isolating a subsystem” by transforming a subsystem to alter behavior towards more desirable outcomes.

- *System change*, in a guidebook from the United Nations Development Programme in 2022, prescribes a three phase methodology: (i) sense and frame; (ii) engage and position; and (iii) transform (Wellsch, 2022, p. 1). This integrated portfolio approach to innovation was followed in initiatives to support circular economy transition in urban centers, as well as youth unemployment in Asia-Pacific. Ongoing work is proceeding in responses to COVID-19, climate action, blue economies and digital transformation, and access to financing.

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 plural. This recognizes that open systems are not isolated from their environments, so that changes are rarely completely contained within their boundaries.

Beyond each system as singular, and change as singular, the two-word agglutinative whole of *systems changes* is a recasting and reification of a neologism (Ing, 2022). Systems changes may be appreciated as moving spatially, sequentially, cyclically, or rhythmically. This elevation of attention may be better explicated through foundational work across a variety of philosophies of science. In section 2 below, (i) the appreciative systems framework is described as way of organizing inquiry, (ii) across four philosophies of science in (a) architectural design, (b) ecological anthropology, (c) Classical Chinese Medicine, and (d) rhythm. In section 3 below, the methods of (i) multiparadigm inquiry and (ii) open theorizing are reviewed. In section 4 below, systems changes are appreciated through the detailing of the four philosophies, leading to *a philosophy of systems rhythms*.

The theoretical contribution that a philosophy of systems rhythms adds to approaching systems change include: (i) not only recognition of the legacy of systems research in the 20th century, but also a philosophy compatible with ongoing progress in the systems sciences in the 21st century; (ii) a trajectory of complementary praxis, theoria and poesis so that systems changes learning can be adopted by practitioners, explored by researchers, and replicated by methodologists; and (iii) an exposition on open theorizing on online platform platforms initiated by a core team, open for extended participation. These contributions are detailed as conclusions in section 5 below.

2 | Appreciating Philosophies of Design, Anthropology, Chinese Medicine, Rhythm

Exploring systems changes from Western metaphysics has historical roots in ancient Greece: (i) reality defined by Parmenides of Elea as that which did not change, i.e., a “changelessness state”, can be compared to (ii) reality defined by Heraclitus as that what did change, i.e., “a state of change, not a change of state” (Hawk, 1999, p. 61). More practically, the dominance of a substance philosophy on *systems* in the West comes with presumptions not valid in a process philosophy of *systems changes*. Instead of centering on stability, order and being, the processual view centers on flux, transformation and becoming (Nayak & Chia, 2011).

Looking into a philosophy that would appropriately underlie systems changes can be less ambitious than the metaphysical. A predisposition towards philosophy of science acknowledges other branches such as ethics and aesthetics, while placing them into the background. In the interests of concreteness, philosophies of architectural design, ecological anthropology, Classical Chinese Medicine, and rhythms, can be centered on specific individuals as gateways into a larger appreciation.

This philosophical approach to the systems sciences thus relies more on the practical, rather than the universe of systems philosophies. The traditions of systems thinkers from the 20th century are respected. The breadth of research places systems luminaries into seven categories: (i) early cybernetics; (ii) general systems theory; (iii) system dynamics; (iv) soft and critical systems; (v) later cybernetics; (vi) complexity theory; (vii) learning systems (Ramage & Shipp, 2020, pp. xviii–xix). In the last decade, rethinking systems thinking for the 21st century was proposed (Ing, 2013). Continuing research sweeps in three new

perspectives across diverse philosophes of science. As a way to deal with incommensurability, the appreciative systems approach of Sir Geoffrey Vickers is used as a framework, as shown in Exhibit 1 below.

Exhibit 1. Appreciative Systems Framework, and Three Philosophies Leading to a Fourth Philosophy

	§2.1 Appreciative Systems		
	Reality Judgments	Value Judgments	Instrumental Judgments
§2.2 Philosophy of Architectural Design	§4.1.1	§4.1.2	§4.1.3
§2.3 Philosophy of Ecological Anthropology	§4.2.1	§4.2.2	§4.2.3
§2.4 Philosophy of Classical Chinese Medicine	§4.3.1	§4.3.2	§4.3.3
§2.5 Philosophy of Rhythm	§4.4.1	§4.4.2	§4.4.4
§4.5 Philosophy of Systems Rhythms	§4.5.1	§4.5.2	§4.5.3

In section 2.1 below, the appreciative systems framework, with (i) reality judgments, (ii) value judgments, and (iii) instrumental judgments, is described. Background on the philosophy of architectural design appears in section 2.2 below, and is explicated in sections 4.1.1, 4.1.2, and 4.1.3. The philosophy of ecological anthropology is reviewed in section 2.3 below, and explicated in section 4.2.1, 4.2.2 and 4.2.3. The philosophy of Classical Chinese Medicine provides a gateway into a non-Western philosophy of science in section 2.4 below, and is explicated in sections 4.3.1, 4.3.2 and 4.3.3. The philosophy of rhythm, generally recognized as underdeveloped by scholars, is outlined in section 2.5 below, and explicated in sections 4.4.2 and 4.4.3. A philosophy of systems rhythms in abduced in section 4.5 below, and explicated in sections 4.5.1, 4.5.2 and 4.5.3.

2.1 | Appreciative Systems

In the 1960s-1980s, Sir Geoffrey Vickers extended systems theories in distinguishing human systems as a subtype of systems in general, alongside natural and man-made systems (Vickers, 1983). Human activity has an inherent moral character in the organization and regulation of human systems, at individual and cultural levels. This scope features a practical understanding of the across epistemology, evaluation, and the world of action.

Alongside the flux of events and activities unfolding over time, a social process of appreciation leads to action.

‘Appreciation’ is occasioned by our ability to select, to choose. Appreciation perceives (some of) reality, makes judgments about it, contributes to the idea stream, and leads to actions which become part of the event stream. ... There is a recursive loop in which the flux of events and ideas generates appreciation, while appreciation itself contributes to the flux. Appreciation also leads to action which itself contributes to the flux (Checkland & Casar, 1986, p. 5).

Appreciation can be unpacked into two parts: reality judgments and value judgments. Action follows from instrumental judgments.

The exercise of appreciative judgment ... has three components.

- *The first is the making of reality judgments: those judgments concerning what is or is not the case -- ranging from basic cause-and-effect beliefs to more subtle and complex “facts.”*
- *The second facet is the making of value judgments: those concerning what ought or ought not be the case -- including imperatives, wants and desires, prudential or self-interested considerations, and individual and collective goals and norms.*
- *The third is the making of instrumental judgments: those concerning the best means available to reduce the mismatch between is and ought -- including the*

personal resources of time, attention, intellect, passion, money, and power, along with those social resources that can be marshaled and applied (by influence or command) through communication, coalition, and access to social institutions (Adams et al., 1995, p. xix, editorial paragraphing added).

These foundations are at the root of Soft Systems Methodology, and the development of social learning systems from the 1980s (Vickers, 2010).

For systems changes that may or may not lead to human action, the three judgments of appreciative systems is useful as framework for comparison.

2.2 | Philosophy of Architectural Design

The Centre for Environment Structure at Berkeley was founded to develop *pattern language* (Alexander et al., 1967). In the series of publications, *The Timeless Way of Building* (Alexander, 1979) provided the theory and instructions for use of the pattern language, while *A Pattern Language* (Alexander et al., 1977) detailed patterns for towns and neighbourhoods, houses, gardens and rooms. The third in the series, *The Oregon Experiment* (Alexander et al., 1975), defined the process to develop a master plan for a university campus, that might be modified for other communities. The last book published in the series, *The Battle for the Life and Beauty of the Earth* (Alexander, 2012), relates the story from 1981-1990 of the Eishin School project, from inception through design and construction, reflected in hindsight.

Pattern language was adopted by the software development community (Gabriel, 1996) with the founding of annual meetings (Coplien & Schmidt, 1995) that continue the tradition. Alexander himself focused on built environments, encouraging software developments to take greater responsibility for building and maintaining generative living structures (Alexander, 1999). While Alexander would continue to explore this challenge in built physical environments in the four-volume *The Nature of Order* (Alexander, 2002a, 2002b, 2004, 2005), the stronger emphasis on geometric forms has been less applicable to other domains. Pattern language remains Alexander's most popular influence.

Separating Alexander's approach to architectural design invokes a review of some history. At a conference in London in 1962, the *Design Methods Movement* was centered on the work of four figures: Bruce Archer, John Chris Jones, Christopher Alexander and Horst Rittel (Langrish, 2016, p. 9). While this led to many academics aiming to make the process of design "more scientific", Christopher Alexander wrote a disavowal from the movement of separating research from practice.

... I reject the whole idea of design methods as a subject of study, since I think it is absurd to separate the study of designing from the practice of design (Alexander, 1973b).

Broadening the scope on a *philosophy of design* introduces more complications. After considering alternatives of design as "the intentional creation" of "a new thing", and/or problem-solving, and/or planning, beyond just imagining and not constructing, a proposed definition is provided:

Design is the intentional solution of a problem, by the creation of plans for a new sort of thing, where the plans would not be immediately seen, by a reasonable person, as an inadequate solution (Parsons, 2016, p. 17).

This definition leads to ontological questions about the thing produced by designers, as substances or properties.

Epistemological problems also arise when considering design in relation to wicked problems (Rittel & Webber, 1973). The above definition is specifically challenged by the claim that "the problem can't be defined until the solution is found". A wicked problem is an ill-defined problem.

The challenge of planning resides entirely in deciding how to interpret the problem in the first place. But how to interpret the problem is a political choice, not a technical problem, since there is really no such thing as the problem (Parsons, 2016, p. 46).

In the pattern language community, Max Jacobson, as one of Alexander's original coauthors and a researcher in contact with Rittel, clarified that "pattern language is not for wicked problems" (Ing, 2018). This delimits the scope of Alexander's work to built environments.

For systems changes, the centrality of "Patterns of Events" (Alexander, 1979, Chapter 4), "Being Alive" (Alexander, 1979, Chapter 3) and "The Quality without a Name" (Alexander, 1979, Chapter 2) are

complementary. More current research in systemic design, from an axiomatic and epistemological basis (Jones, 2014b) and methods for shared practice and action (Jones, 2014a) is acknowledged, and less aligned with the primary interest in systems changes.

2.3 | Philosophy of Ecological Anthropology

In the context of systems changes, the work ecological may not mean what the layman thinks. Behavioral psychology in the 1950s, with stimulus-response approach to perception (e.g. Pavlov's dog salivating), can be described as understanding *what's inside your head*. The ecological psychology of J.J. Gibson, illustrated by fighter pilots successfully landing on an aircraft carrier despite motion parallax, can be described as understanding *what your head is inside* (Mace, 1977). A behavioral perspective to systems is outside-in, from wholes to parts. An ecological perspective to systems is inside-out, from wholes alongside other wholes.

Reading Gregory Bateson, in ecology of mind where "the mental world ... is not limited by the skin" (Bateson, 1972, p. 461), led Tim Ingold to consider an ecology of life.

... an 'ecology of life' ... all hinges on a particular answer to Bateson's question: what is this 'organism plus environment'? For conventional ecology, the 'plus' signifies a simple addition of one thing to another, both of which have their own integrity, quite independently of their mutual relations. A properly ecological approach, to the contrary, is one that would take, as its point of departure, the whole-organism-in-its-environment. In other words, 'organism plus environment' should denote not a compound of two things, but one indivisible totality (Ingold, 2000, p. 19).

This indivisible totality has a parallel in organizational ecology as a field. "Fields consist of systems and environments" (M. Emery, 2000, p. 625). "The field of these interwoven indirect relations constitutes the contextual, as distinct from transactional, environment" (Trist, 1977, p. 162).

In contrast to a philosophy that might follow a point moving over time, Ingold recenters thinking in terms of lines, in two classes. "A thread is a filament of some kind, which may be entangled with other threads or suspended between points in three-dimensional space" (Ingold, 2007a, p. 41). "In our terms the trace is any enduring mark left in or on a solid surface by a continuous movement" (Ingold, 2007a, p. 43). Threads and traces can become knotted into a texture, or a weave. "The verb 'to weave', in Latin, was texture, from which are derived our words 'textile' and – by way of the French *tistre* – 'tissue', meaning a delicately woven fabric composed of a myriad of interlaced threads" (Ingold, 2007a, p. 61).

This philosophy had a parallel development in the 1930s with contextualism. "A texture by its very nature is a complex whole having what are technically called internal relations. A strand is relative to a texture" (Pepper, 1934, p. 111). This led to research developed in the 1960s on Socio-Ecological Systems Theory. "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 (F. E. Emery & Trist, 1965, p. 21). This roots have continued into current management research "CTT [Causal Texture Theory] deals with systems trying to survive and thrive in their environments in a sustainable way" (Ramírez et al., 2008, p. 18).

While a network might be considered a complex of interconnected points, a meshwork is a complex of interconnected lines. "[It] is in the entanglement of lines, not in the connecting of points, that the mesh is constituted" (Ingold, 2007b, p. 81). With a reminder that lives can also be drawn as lines of becoming, the meshwork can be drawn as threads and traces over time.

Interaction is between; correspondence in-between. The life of lines is a process of correspondence. Thus for the between-ness of subjects, in Arendt's formulation, I substitute the correspondence of lines, and for the web of human relationships, the meshwork (Ingold, 2015, p. 154).

To reduce overloading of the noun "correspondence", a verbal form of "co-responding" may clarify meaning. A simile of two boats navigating down a river, in parallel, invokes co-responding in between the parties to avoid collisions. When lifelines co-respond, the meshwork rests on three essential principles: (i)

of *habit*, rather than volition; (ii) on *agencing*, rather than agency; and (iii) on *attentionality*, rather than intentionality (Ingold, 2017).

For systems changes, the concepts of lines, textures and meshworks well address parallel and intersecting synchrony of living systems in general. Human beings are living systems. Animals are living systems. The earth is a living system.

2.4 | Philosophy of Classical Chinese Medicine

In the history of Chinese classics, there is a *Book of Changes*, known as the *I Ching*, or *Yi Jing*. English-language translations have been published in the 1800s (Legge, 1899), the 1900s (Wilhelm, 1950), and the 2000s (Minford, 2014). While permutations of the 64 hexagrams in pairs is exhaustive, this work carries senses of divination not readily accepted in conservative philosophies of science.

Traditional Chinese Medicine (TCM) has roots in Classical Chinese Medicine (CCM), with a body of science that is incompatible with Western Philosophy. Keekok Lee has published works on the philosophical foundations of CCM that help to reduce misperceptions of researchers with Western-oriented education: “one should not judge a cat show by the standards of a dog show and conclude that a cat is a sub-standard dog, or indeed, not a dog at all” (Lee, 2017a, p. 4).

Practitioners of CCM base their science on *yinyang*. At a greater depth, they model on *Wuxing*, the five phases or five elements. With the shift to *yinyang* from Western philosophy already an intimidating challenge, the finer details of *Wuxing* are left to medical professionals. *Yinyang* immediately presents appeal as a strong foundation for appreciating systems changes.

To use today's language, one could say that change is the default mode; or to use more traditional Western philosophical vocabulary, we say that behind the Appearance of stability (no change) is the Reality of change. Behind No Change/constancy stands Change, just as behind Change stands No Change/constancy This indicates that at the core of ancient Chinese philosophy is the view that the polar contrasting terms in a pair of such terms mutually relate to each other in a complex, intricate manner, embodying a unique perspective ... (Lee, 2017e, p. 154).

This places CCM outside of the Western views of science that are based on a philosophy tracing back to ancient Greece.

Lee proposes an ontology for Chinese philosophy, called contextual dyadic thinking. This contrasts to the universalist orientation in “hard sciences” such as physics.

The Contextual Mode in general amounts to this: the two values, truth and falsity, have no proper application in the abstract or in a vacuum -- they only have application and meaning relative to a particular context. They are context-bound. The two instances of female beauty cited above make clear this point—they embodied beauty in the human context. If the beholder were not a human, but a fish, a bird, or a deer, they would even be repelled by such a sight which would inspire in them fear and flight (Lee, 2017c, p. 220).

With the contextual mode, dyadic thinking in Chinese philosophy is contrasted with dualistic thinking in Western philosophy.

2. *In dyadic thinking, strictly speaking, a term presupposes its opposite. For instance, “cat” implies the class of “non-cat.” An oppositional pair may then be drawn out, namely, cat and non-cat.*
3. *However, in the real world beyond that of strict logic, the class of non-cat is a very large class indeed, as it includes dogs, buttercups, humans, indeed, virtually everything else in the universe other than cats.*
4. *In the real world, therefore, depending on the context, that negative category is delimited to say dogs, such as when we are talking about a cat show as opposed to a dog show, or when we discuss the merits of keeping cats as opposed to dogs as pets. How we pick out “the other category” depends on the context; contextualism, in turn, means that the oppositional pair created is not a dualism but a dyadism.*

5. *Dualism implies permanence, as it is context-independent -- hence, men are (in all contexts) superior to women, mind/soul is superior to body (or body to mind in Biomedicine), humans are superior to non-humans, and so on. Under dyadism, as it is context-dependent, men are superior to women in certain contexts such as, in general, possessing greater physical strength, while women, in general, are superior to men, for example, in grasping nuances in emotional relationships; women can bear children but men cannot, and in this sense, men may be said to be “inferior” to women. Inherent inferiority or inherent superiority is not part and parcel of dyadic but only of dualistic thinking (Lee, 2017c, pp. 224–225).*

This explanation of contextual-dyadic thinking as foundational not only describes the variance of presumption with philosophy of science on which CCM is founded; it provides insight as to how *yinyang* is an entirely different worldview. Any pairs from the dualistic *yinyang* mindset that a natural to Chinese due to correlative thinking (Graham, 1986) won't make sense from a Western dualistic perspective.

While *yinyang* can be described as a process philosophy, the condition that drive change are different than in Western philosophy.

Heraclitus ... saw polar contrasts in terms of conflict, and that it was conflict between them which propelled change in the world. Opposites – such as king/ruler and ruled, slaves and free men, war and peace, satiety and hunger, winter and summer, and day and night – exhibited conflicting powers. This conflict was the basis of change and variety in the world. On the other hand, the Chinese saw polar contrasting states of affairs, not in terms of conflict, but of harmony and Wholeness, for instance, that yin and yang are both ontologically as well as functionally/causally entwined, propelling each other forward to achieve the next level of dynamic equilibrium (Lee, 2017d, pp. 207–208).

The entwining of *yin* and *yang* are often illustrated with the *taiji* (*taichi*) symbol of swirling teardrop shapes, where there is a dot of dark in the light, and a dot of light in the dark.

For systems changes, since contextual-dyadic takes a processual view that places change as omnipresent, when is attention merited? From Classical Chinese Medicine, we can look for pathologies of *yin-yang* imbalance (Maciocia, 2015f). Since the balance is not only dualistic, but also dynamic in waxing and waning over time, there is the complication of full and empty conditions (Maciocia, 2015e).

2.5 | Philosophy of Rhythm

In philosophy, rhythm has three main perspectives, or routes, on which genealogies of critical thought can be traced: (i) materialism; (ii) phenomenology; and (iii) language via semiotics (Crespi & Manghani, 2020, pp. 30–33). The lineages are not simple, and crossovers are evident.

- (i) The *materialist* perspective on rhythm traces from pre-Socratic theories of flux (Heraclitus) through Plato and Aristotle. This traces into the industrial revolution influences by René Descartes formulating the animal as machine (circa 1649). The rationalization of movement and rhythms towards efficiency and productivity in factories with Taylorism (circa 1880).
- (ii) The *phenomenological* perspective on rhythm appears as “immanent rhythm” with Hegel (circa 1807). The senses of (i) measured “form” and (ii) gestural “movement” by Nietzsche (circa 1872) can work together to constitute reality. This influenced early Lefebvre (from the 1930s) and Deleuze and Guattari (1987). Compounded with rhythm as a binding force in Bergson (circa 1896) and Bachelard (circa 1950), the Heraclitus seminar by Heidegger (circa 1966) shaped later Lefebvre (1992).
- (iii) The *linguistic* and *semiotic* perspectives on rhythm rose in the 1970s-1980s particularly in the French intellectual scene with the decline of structuralism. As a continuing strand, this distinct lineage was overtaken in the 1990s in combination with the materialist and phenomenological approaches, as with Deleuze (through to 2013) differentiating between cadence-repetition (at equal intervals) and rhythm repetition (with unequal inflections).

Rhythm via movement in the body came from German body culture with Rudolf Bode (circa 1920) and German expressionist dance with Rudolf Laban (circa 1922). In a polyrhythmic ontology (circa 1921), Ur-rhythm (as original or primitive rhythm) is expressed in terms of Eu-rhythm (as good, well or pleasing rhythm) or Kako-rhythm (as bad, wrong or evil rhythm) (Laban, 2014). An individual has the option to harmonize or connect his or her personal rhythm [*Eigenrhythmus*] by (i) hedging to exclude the kakorhythmic relative to their skills; or (ii) increase their skills to the ultimate, to experience as eurhythmic an all-encompassing rhythm [*Allrhythmus*].

Gaston Bachelard (circa 1950) is credited with coining the term *rhythmanalysis* in describing reality as duration, and constant motion and flux. Bachelard's view contrasted with Bergson's view of duration as continuous flow. The *rhythmanalysis* term would later be appropriated by Henri Lefebvre, published posthumously in 1992.

Philosophical development of rhythm in the 21st century, particularly associated with aesthetics, music and poesis, has been criticized as neglected. As a provocation, the question of "Why Do Philosophers Have No Rhythm?" (Judge, 2016) highlighted a new community of scholars focused on the philosophy of rhythm. Rhythm can be described as a perceptual "unfolding in time" (Simons, 2019, p. 62). Rhythms are a property of something, rather substances in themselves. Since rhythms are characterized by repetition, all rhythms are processes, while all processes are not rhythms. A case is made that musical rhythms can be seen in a static conception where movement is not essential, although this is not true for rhythms in general.

An interest in system changes, focused on living systems, leads favouring views of rhythm related to *kairos* (event time, subjective) over *chronos* (clock time, objective). The "human and living time of intentions and goals" in *kairos*, reflects the naming after the Greek god of opportunity. The "chronological, serial time of succession" of *chronos* measure the duration of some action, not with purpose (Orlikowski & Yates, 2002). The unfolding of life, both inward and outwardly, progresses with moments of fulfillment, in growth or decline (Tymieniecka, 2009, pp. 205–206).

3 | Method: Multiparadigm Inquiry, Open Theorizing

In this research, two principal methods are applied: (i) multiparadigm inquiry, below in section 3.1; and (ii) open theorizing, below in section 3.2. Multiparadigm inquiry is a way of productively recognizing and working across multiple philosophies. Open theorizing acknowledges and embraces the variety of orientations and predispositions to embrace criticism during ongoing scientific discovery.

3.1 | Multiparadigm Inquiry

From the late 20th century, management research has recognized an opportunity to learn, moving beyond a single paradigm to embrace multiple paradigms.

Despite their differences, most researchers on both sides of the Atlantic now recognize that a single paradigm is necessarily limiting, helping expose certain facets of organizations, while obscuring others (Burrell, 1996; Weick, 1999). This recognition has fostered growing interest in a provocative alternative – multiparadigm inquiry. Multiparadigm advocates use divergent paradigm lenses to contrast their varied representations and explore plurality and paradox (e.g. Lewis & Grimes, 1999; Schultz & Hatch, 1996; Ybema, 1996). Indeed Mingers (1997) praised organization studies for exemplifying reflexivity and encouraging multiparadigm interests in the 'hard sciences' (e.g. physics, biology, operations research) (Lewis & Kelemen, 2002, p. 252).

The seeds for multiparadigm inquiry originate in sociological paradigms (Burrell & Morgan, 1979). With aspirations beyond only human systems, we aspire towards systems paradigms more generally. A process of abductive theory creation (published from 2021) would support a synthesis of Western and Chinese philosophies of science.

Our central proposition is that abductive theory creation is usefully viewed as a cyclical process of identifying and confirming anomalies and generating and evaluating hunches at individual and collective levels We submit that abductive reasoning is not a single

flash of inspiration; instead, it is a sensemaking process (Weick, 1995) involving four steps that may recur to make sense of complex phenomena: observe anomaly, confirm anomaly, develop hunches, and evaluate hunches. These four steps are useful in articulating the moves of abductive reasoning, and in providing a discipline for enhancing the quality and novelty of theory creation ... (Sætre & Van de Ven, 2021a).

The description of hunches is further refined, in criticism of an interpretation centered on idea generation, with a reference back to (Weick, 1989).

A central tenet of our theory is that the individual process of abduction follows an evolutionary process of variation, selection, and retention, as Weick (1989) proposed. However, at the collective level, abduction is inherently dialectic—thesis, antithesis, and synthesis. The collective level is important because it can help in reducing the inherent bias and noise that are inherent in human judgement (Kahneman, Sibony & Sustain, 2021) (Sætre & Van de Ven, 2021b)

In appreciating both Western and Chinese traditions, the *comparative* philosophy approach could be seen as a “fix” for Westerners. More recently, a new paradigm of *constructionist* philosophy has been suggested.

... the discipline of comparative philosophy ... did not seek to establish the superiority of Western philosophy, but actively engaged Chinese philosophy as a corrective to Western traditions and as a viable content for dealing with philosophy’s fundamental questions.

There is an emerging third paradigm for the study of Chinese philosophy developing from the growing appreciation for the full range of Chinese philosophical traditions and the serious ways in which Chinese thought has been understood through the work of comparative philosophers. I call this paradigm “constructionist philosophy.” This third paradigm is not directed toward some new theory that unlocks all the riddles or solves all the quandaries arising from comparative philosophical work. Instead, the goal is to create a different sort of philosopher. These new philosophers bend language and culture. They do not so much inhabit one or both of the standpoints represented by the traditions from which they draw, as they give birth to an emerging standpoint different from both the history of Chinese philosophy and that of Western philosophy (Littlejohn, 2022, pp. 151–152).

Recasting *systems changes* as distinct approach is associated with a constructionist philosophy leading towards abducting a coherent appreciation of doing (*praxis*), thinking (*theoria*) and making (*poiesis*). With multiparadigm inquiry, developments in practice, theory and methods are performed with paradigm interplay, in three steps.

Interplay is explicated as a three-step process: First, separate analyses are conducted in each paradigm; second, the analyses are then contrasted, and in light of each other, they indicate possible improvements and point toward a venue for paradigm interplay (in our example, this is achieved with a new theoretical framework). Third, the analyses are placed in interaction in this framework, revealing implications for theory development in cross-cultural management research (Romani et al., 2011, p. 433).

Looking into the philosophies of architectural design, ecological anthropology, and rhythm, rooted in the West, and the philosophy of Chinese medicine clearly from the East, a philosophy of systems rhythms is abduced.

3.2 | Open Theorizing

Theory creation by an individual is a risk. Open theorizing is a way of validating discoveries through open access publishing, as the Systems Changes Learning Circle has practiced through collaborating on the Open Learning Commons, and sharing with Creative Commons Licensing.

Open theorizing occurs when loosely coordinated researchers realize they can draw on one another’s empirical, methodological, or theoretical material to develop theoretical contributions. These contributions can take various forms, including models, texts, and typologies (Sandberg & Alvesson, 2021) (Leone et al., 2021, p. 727).

Open theorizing may present in four processes: (i) coconstructing (within topic, within research program); (ii) branching out (between topics, within research program); (iii) hybrid theorizing (within topic, between research programs); and (iv) cross-pollinating (between topics, between research programs). In the first three years of collaboration within the Systems Changes Learning Circle, the emphasis has been in coconstructing, with the concentrating of vocabularies.

In “coconstructing,” researchers from the same research program draw on one another’s data, research material, or theoretical scaffolds to address the same topic. Coconstructing thus takes place among researchers who share the same analogy and topical interest. Research programs, as mentioned above, coalesce around a hard core of theoretical and methodological assumptions. Hence, sharing resources within programs to advance and fine tune theoretical explanations appears relatively straightforward, as researchers tend to assign similar meanings to the concepts they develop (Leone et al., 2021, pp. 730–731).

With an espoused collective journey of 10 year, the type of open theorizing is expected to shift to “branching out”, with the extension of vocabularies.

In a general definition of theory, five types have been elaborated: (i) explaining; (ii) comprehending; (iii) ordering; (iv) enacting; and (v) provoking (Sandberg & Alvesson, 2021). In this typology of theorizing, the work of the Systems Changes Learning Circle can be seen as provoking.

Provoking theory does not aim primarily to provide explanation, comprehend meaning, order or articulate the dynamics of phenomena. Instead, its main purpose is to show alternative, often eye-opening and disruptive ways of seeing phenomena. Its focal concern is to challenge established mind-sets and open up other modes of thinking through dialectics between existing theory and a counterpoint. Provoking theory thereby suggests not only ‘that things [phenomena] could be otherwise than they are, but that things are already otherwise than the ways in which they are represented’ (Linstead, 2016, p. 171). This means that what appears to be a ‘given’ phenomenon is challenged by reconstructing it through theorizing (Sandberg & Alvesson, 2021, p. 504).

Systems research has a rich legacy, that has primarily been oriented based on a Western philosophy of substances. Systems Changes Learning provokes by surfacing not only processual perspectives, but also the rhythms inherent with living systems. In shifting the theoretical foundations, some practices and methods may be adapted, while others may be impacted on internal consistency.

4 | Analysis and Results: Systems Changes via Four Philosophies → Systems Rhythms

Implicit in any approach to systems change(s) is a philosophy. In the journey of the Systems Changes Learning Circle, a non-exhaustive wayfaring through four philosophies was experienced. The appreciative systems framework is applied to highlight orientations is philosophies of (i) architectural design in section 4.1 below; (ii) ecological anthropology in section 4.2 below; (iii) Classical Chinese Medicine in section 4.3 below; and (iv) rhythm in section 4.4 below. Interplay across these philosophies leads to an abduction of a philosophy of systems rhythms for systems changes, in section 4.5 below.

4.1 | Systems Changes Appreciated through a Philosophy of Architectural Design

Systems changes are often likened to the construction and evolution of built environments. From the published work on construction of human dwellings, neighbourhoods and cities, the pattern language developed Christopher Alexander and members of the Centre for Environmental Structure has been cross-appropriated into software development and social change. An outline of the three appreciative judgments of architectural design appears in Exhibit 2 below .

Exhibit 2. Appreciating Architectural Design

	Appreciative Systems		
	Reality Judgments	Value Judgments	Instrumental Judgments
Philosophy of Architectural Design	Differentiating space	Living order (Quality Without A Name)	Unfolding patterns, constructing, repairing, systems generating systems

Approaches presuming a philosophy of architectural design, with the Christopher Alexander legacy, embed (i) reality judgments of differentiating space; (ii) value judgments of living order; and (iii) instrumental judgments of unfolding patterns.

4.1.1 | Appreciating Reality Judgments on Systems Changes via Architectural Design

The architectural design of Christopher Alexander stems from his doctoral research into the “synthesis of form” (Alexander, 1973a). Throughout his career, Alexander would invoke systems language to pursue a theory of “living structure”.

Design is often thought of as a process of synthesis, a process of putting together things, a process of combination.

According to this view, a whole is created by putting together parts. The parts come first: and the form of the whole comes second. (Alexander, 1979, p. 368)

It is only possible to make a place which is alive by a process in which each part is modified by its position in the whole.

.... In short, each part is given its specific form by its existence in the context of the larger whole (Alexander, 1979, p. 369).

With parallels drawn to biological maturity, complexification in design is seen as process of differentiating space.

Within this process every individual act of building is a process in which space gets differentiated. It is not a process of addition, in which preformed parts are combined to create a whole: but a process of unfolding, like the evolution of an embryo, in which the whole precedes its parts, and actually gives birth to them, by splitting.

It views design as a sequence of acts of complexification; structure is injected into the whole by operating on the whole and crinkling it, not by adding little parts to one another.

In the process of differentiation, the whole gives birth to its parts: the parts appear as folds in a cloth of three dimensional space which is gradually crinkled. The form of the whole, and the parts, come into being simultaneously. (Alexander, 1979, p. 305).

In this view of architectural design, the reality shows up only in the form of the built environment. The design was not in abstract blueprints, “the site plan was done on the site itself” (Alexander, 2012, p. 180). In construction of the Eishin school, flags were put on top of 6-foot-long bamboo poles so that the differentiated spaces could be seen. In software development, a parallel view could be argued for the reality of a design, reading the programmed code. Extending this idea over to human social systems, where intimacy is not always measured in physical terms, is beyond the scope originally envisioned by Alexander.

4.1.2 | Appreciating Value Judgments on Systems Changes via Architectural Design

While a builder might aspire to put “life and beauty” in the home or commercial space within the scope of the project, those attributes are not within the four walls constructed, but instead the larger neighbourhood or town. Christopher Alexander described “living order” in “the slow emergence of a town” (Alexander, 1979, p. 510), but the pursuit would become known as “The Quality Without a Name”.

There is a central quality which is the root criterion of life and spirit in a many a town, a building or a wilderness. This quality is objective and precise but it cannot be named (Alexander, 1979, p. 19).

In that chapter, alternatives that didn’t capture the spirit that Alexander sought were abandoned: alive, whole, comfortable, free, exact, egoless, eternal. It was “not only simple beauty of form and color”, “not

only fitness to purpose”, nor “spiritual quality” (Alexander, 1979, pp. 29–39). With form, morphology was seen as an “ageless character” over time.

And as the whole emerges, we shall see it take that ageless character which gives the timeless way its name. This character is a specific, morphological character, sharp and precise, which must come into being any time a building or a town becomes alive: it is the physical embodiment, in buildings, of the quality without a name (Alexander, 1979, p. 511).

In later writings, the “Quality without a Name” would become more technically described as “wholeness-extending transformations”, leading to “living structures” (Alexander, 2007).

In the cross-appropriation of pattern language to software developers, Alexander would exclaim that programmers were missing the point!

It could be thought that the technical way in which you currently look at programming is almost as if you were willing to be ‘guns for hire.’ In other words, you are the technicians. You know how to make the programs work. ‘Tell us what to do, Daddy, and we’ll do it.’ That is the worm in the apple (Alexander, 1999, p. 80).

The value of builders is in producing great outcomes, not just going through the motions to synthesize a result. The value is not that to the builder, but to those who have to live with the systems and changes that endure over time.

4.1.3 | Appreciating Instrumental Judgments on Systems Changes via Architectural Design

While the vision of a whole built structure may be kept in mind, the form is constructed in a process of synthesis, towards completion. Each project has multiple patterns that make up a language, yet a timeless way of building sees additions of “One Pattern at a Time” in Chapter 20:

The process of unfolding goes step by step, one pattern at a time. Each step brings just one pattern to life: and the intensity of the result depends on the intensity of each one of these individual steps (Alexander, 1979, p. 385).

Suppose now, that for a given act of building, you have a pattern language, and that the patterns in this language are arranged in proper sequence.

To make the design, you take the patterns one by one, and use each one to differentiate the product of the previous patterns (Alexander, 1979, p. 390).

A pattern catalog generally lists from large to small, yet giving form will require a progression of foundational prerequisites on which features are added, as in “Shaping One Building” in Chapter 21:

From a sequence of these individual patterns whole buildings with the character of nature will form themselves within your thoughts as easily as sentences (Alexander, 1979, p. 401).

A collection of buildings may be constructed in parallel, or sequentially, towards a final coherence in “Shaping a Group of Buildings” in Chapter 22:

In the same way, groups of people can conceive their larger public buildings, on the ground, by following a common pattern language, almost as if they had a single mind (Alexander, 1979, p. 22).

From the conceptual “shaping” towards working with the reality of the land and buildings-in-progress, three-dimensional representation are inferior to direct experience onsite, as advised in “The Process of Construction” in Chapter 23.

Once the buildings are conceived like this, they can be built directly from a few simple marks made in the ground -- again within a common language, but directly and without the use of drawings (Alexander, 1979, p. 55).

The description of practices demonstrated in the construction of the Eishin School followed the sequence of developing a pattern language unique to that project, and then wrestling with shaping the collection of buildings concurrent with site visits.

As each edifice is finished and occupied, the pursuit of living structure and beauty continue in “The Process of Repair” described in chapter 24, at the levels both of separate structures, and the evolving generated neighbourhood.

Next, several acts of building, each one done to repair and magnify the product of the previous acts, will slowly generate a larger and more complex whole than any single act can generate (Alexander, 1979, p. 475).

... several acts of building, in a row, will generate an even more coherent and more complex whole, piecemeal -- by making sure that every act contributes to the order of the previous acts (Alexander, 1979, p. 479).

In theory, according to chapter 18, every act of building is, with respect to its larger context, an act of repair: a part of the much larger process in which several acts together generate the larger wholes from which a building complex or a town is made. (Alexander, 1979, p. 479).

This process, like the simple differentiating process is able to make wholes in which the parts are shaped according to their place.

But this process is still more powerful: because it can make groups of buildings which are larger and more complex.

And it is more powerful above all, because it leaves no mistakes: because the gaps get filled, the small things that are wrong are gradually corrected, and finally, the whole is so smooth and relaxed that it will seem as though it had been there forever. It has no roughness about it, it simply lies there stretched out in time (Alexander, 1979, p. 492).

From the seeds of patterns, into each building, into the group of buildings, through piecemeal repair, we see “The Slow Emergence of a Town” in Chapter 25.

Finally, within the framework of a common language, millions of individual acts of building will together generate a town which is alive, and whole, and unpredictable, without control -- this is the slow emergence of the quality without a name, as if from nothing (Alexander, 1979, p. 493).

The final shape of any one particular oak tree is unpredictable (Alexander, 1979, p. 508). And a town which is whole like an oak tree, must be unpredictable also (Alexander, 1979, p. 508).

It is vastly more complex than any other kind of order. It cannot be created by decision. It cannot be designed. It cannot be predicted in a plan. It is the living testament of hundreds and thousands of people, making their own lives and all their inner forces manifest.

And, finally, the whole emerges (Alexander, 1979, p. 510).

For an architect of a built environment, the complexity in a living structure that aspires to a positive Quality-without-a-Name accumulates as piecemeal increments, on which instrumental judgment can be continually exercised.

As a lifelong pursuit, Alexander first articulated the challenge in systems generating systems in 1968, about the same time that he cofounded the Centre for Environment Structure at U.C. Berkeley (Ing, 2014).

1. There are two ideas hidden in the word system: the idea of a system as a whole and the idea of a generating system.

2. A system as a whole is not an object but a way of looking at an object. It focuses on some holistic property which can only be understood as a product of interaction among parts.

3. A generating system is not a view of a single thing. It is a kit of parts, with rules about the way these parts may be combined.

4. Almost every ‘system as a whole’ is generated by a ‘generating system’. If we wish to make things which function as ‘wholes’ we shall have to invent generating systems to create them (Alexander, 1968, p. 59).

With ongoing instrumental judgments that see patterns unfold in a material reality, it is apparent that reality judgments evolve, and that value judgments might shift as presumed features are not as originally envisioned. With Alexander’s pattern language approach, the job of the builder is not done when blueprints are completed and signed off by a customer.

4.1.4 | An influence of architectural design orients towards improving dwelling materially, and over time. The phenomenology of Martin Heidegger is common in the training of architectural designers. The experience of dwelling is accomplished in activities of cultivation and construction. An explanation of the meaning of *bauen* from German is reflected by architectural scholars.

1. *Building is really dwelling.*
2. *Dwelling is the manner in which mortals are on the earth.*
3. *Building as dwelling unfolds into the building that cultivates growing things and the building that erects buildings (Heidegger, 1971, p. 146).*

A philosophy of architectural design, in a theoretical, axiological and practical sense, centers on dwelling not just in a place (e.g. a building), but also in time (i.e. unfolding).

4.2 | Systems Changes Appreciated through a Philosophy of Ecological Anthropology

Systems changes often involves attentionality towards shifts happening in the world, and affordances that might be at hand to deal with them. In the lineage from the ecological epistemology of Gregory Bateson and the ecological psychology of J.J. Gibson, Tim Ingold has developed an ecological anthropology into correspondences (i.e. co-responding) processually. The three appreciative judgments of ecological anthropology are reflected in Exhibit 3 below.

Exhibit 3. Appreciating Ecological Anthropology

	Appreciative Systems		
	Reality Judgments	Value Judgments	Instrumental Judgments
Philosophy of Ecological Anthropology	Lines of becoming, meshworks	Continuity of living alongside other beings	Form-giving as weaving

Approaches consistent with a philosophy of ecological anthropology embed (i) reality judgments of lines of becoming, and meshworks; (ii) value judgments of attending (wayfaring) alongside other beings; and (iii) instrumental judgments co-responding through habit, agencing and attentionality.

4.2.1 | Appreciating Reality Judgments on Systems Changes via Ecological Anthropology

Whereas architectural design emphasizes place and placemaking, ecological anthropology makes primary the movement of living beings. For the Inuit, a trace that terminates at a point suggests a animal that has died.

The animic world is in perpetual flux, as the beings ... do not exist at locations, they occur along paths. Among the Inuit of the Canadian Arctic ... as a person moves he or she becomes a line. People are known and recognised by the trails they leave behind them. Animals, likewise, are distinguished by characteristic patterns of activity or movement signatures, and to perceive an animal is to witness this activity going on, or to hear it. [...]

Wherever there is life there is movement (Ingold, 2011b, p. 72).

A (life)line is more than a series of points, or dots. Movement represented as an assembly of isolated and compacted moments can be joined up with connectors, but the sense of movement is lost. Walking, that might be described as destination-oriented transport, can be reframed as wayfaring along paths of travel, where movement is a way of becoming.

To an ever-increasing extent, people in modern metropolitan societies find themselves in environments built as assemblies of connected elements. Yet in practice they continue to thread their own ways through these environments, tracing paths as they go. I suggest that to understand how people do not just occupy but inhabit the environments in which they dwell, we might do better to revert from the paradigm of the assembly to that of the walk (Ingold, 2007b, p. 75).

With living systems, we should consider lines as threads through time. Each living being is on his or her own (life)line. Where lines intersect, knots can be formed. With multiple lines of becoming, a meshwork is formed.

... the line of the web does not link the spider to the fly, neither does the latter's 'line of flight' link it to the spider. Ensnared at the centre of its web, the spider knows that a fly has landed somewhere on the outer margins, as it sends vibrations down the threads that are picked up by the spider's super-sensitive, spindly legs. And it can then run along the lines of the web to retrieve its prey. Thus the thread-lines of the web lay down the conditions of possibility for the spider to interact with the fly. But they are not themselves lines of interaction. If these lines are relations, then they are relations not between but along. Of course, as with the spider, the lives of organisms generally extend along not one but multiple lines, knotted together at the centre but trailing innumerable 'loose ends' at the periphery (Ingold, 2011a, p. 85).

The reality in ecological anthropology is lines of becoming, and meshworks. Living beings are oriented first processually (i.e. arranged in time), and then structurally (i.e. arranged in space).

4.2.2 | Appreciating Value Judgments on Systems Changes via Ecological Anthropology

An ecological perspective that respects other species in our shared world values continuity of living beyond the human race. Seeking sustainability of a whole socio-ecological system takes neither (i) an extreme anthropocentric position of “very weak sustainability” whereby natural resources are substitutable with manufactured capital; nor (ii) an extreme biocentric position whereby preserving the environment diminishes social and economic concerns such as poverty (Gallopín, 2003). Shifting to a non-anthropocentric stance recognizes a “blind spot” in our shared lives in marginalizing or suppressing diverse species of nonhuman animals and plants.

... so far as our theorists are concerned, these animals and plants are the wrong kinds of nonhumans. They lack the characteristics of fixity, durability and emplacement that entitle them to admission to the collective. As forms of animate life they are intruders on the stage of world history, and should not be there (Ingold, 2022a, pp. 302–303).

Just as the lifelines of human beings can cross, a non-anthropocentric perspective recognizes that nonhumans are also in continual negotiations of movement. As we acknowledge the inherent nature in other species, we might recognize the challenge of “arrogance of humanism” amongst humans (Ehrenfeld, 1981).

The term “social” in a human sense includes properties of freedom, agency, and self-awareness. Social relations are typically within species, and not across species.

For me, social relations are human relations because I happen to be human. Were I a baboon, or a reindeer, then my social relations would be with other baboons, or other reindeer, and not with humans. If I were an ant, they would be with other ants (Ingold, 2022a, p. 304).

An illuminating story of cross-species interdependence comes from the traditional of upland foresters in Japan, where the trees have a “second life”.

Traditionally, Japanese foresters would look after trees for a generation, and then cut them for use as house timbers. In the house, the timbers enjoy what the foresters call a second life. In this phase the direction of care is reversed. For where foresters had nurtured trees in their first life, it is now the trees that nurture the foresters and their families in the second, by furnishing the warmth, shelter, and comfort of the dwelling. During this time, the foresters are looking after a new generation of growing trees, which will eventually, in their turn, become replacement house timbers. And so it would continue, generation after generation (Ingold, 2022b, p. 330).

In contemporary Japan, societal values have shifted. The multigenerational continuity of traditions amongst upland foresters has declined, as family heirs move away from the region. In parallel, trees are deprived of a “second life” as timberwood used for houses, as the forests are largely forgotten. The villages are now “dead”.

... the forest trees recall the village parents whose children have left for the city, and who are therefore redundant as parents. They have been rejected by those they should be

parenting. In the case of empty houses (akiya), this abandonment is literal. The nurturant second life of trees — as the supporting beams of sheltering houses — has not come about or materialised. The plantation conifers are not living the second lives they should be, they are living first lives which are too long. What might appear an impressive longevity is actually an overextended adolescence. They are suffering from an excessive tree longevity, which is ultimately false because real longevity is secured through a transformative felling, and the prospect of a kind of near-immortality (Knight, 1998, p. 215).

The continuity of foresters and trees living alongside each other has been broken. The phenomenon of domicide (i.e. killing of the family) is present not only with human heirs ceasing to be aware of ancestral roots, but also in a generation of trees “condemned to a wretched spinsterhood”, while Japanese sawmillers opt for foreign timber. Village houses are now constructed with ferroconcrete or cheaper foreign timber, rather than wood from the family forests.

A view of ecological sustainability as continuity of life is different from humans setting goals (e.g. 10-year plans) as weak social contracts that are frequently not achieved. Biological life can be characterized with cycles of growth, maturity and decline. Anthropocentric ecological sustainability focuses on progressive development towards improving socio-economic conditions for fellow human beings. Ecological anthropology challenges the dominant human-centric mindset, towards placing human beings at a level alongside other species sharing the Earth.

4.2.3 | Appreciating Instrumental Judgments on Systems Changes via Ecological Anthropology

In contrast with appreciating an idealized “timeless” aesthetic, human beings are seen as in (life)lines, judging actions ahead in anticipation of lines of others. Anthropology has an interest in materiality, that is expressed processually as form-giving.

In his notebooks, the painter Paul Klee repeatedly insisted that the processes of genesis and growth that give rise to forms in the world we inhabit are more important than the forms themselves. ‘Form is the end, death’, he wrote. ‘Form-giving is life’.... It does not, in other words, seek to replicate finished forms that are already settled, whether as images in the mind or as objects in the world. It seeks, rather, to join with those very forces that bring form into being. Thus the line grows from a point that has been set in motion, as the plant grows from its seed (Ingold, 2011c, p. 210).

Form-giving works more than with just a single thread; it is a generative action that produces a texture that can be more than three-dimensional.

Two ways in which form is given is through (i) making; and (ii) growing. Making is commonly seen as a human activity that produces artifacts. Clothes are made by weaving together threads. Growing involved a material accumulation for a living plant or animal, in a process of self-making or autopoiesis. Human beings may supplement nature through nurturing conditions, as a forester cultivate trees, or silk grower feeding mulberry leaves to worms. *Making* may be preceded by *growing*, as *being* is preceded by *becoming*. At first glance, unmaking seems possible but ungrowing does not. We get some insight by considering the opposites.

What is the opposite of making if things cannot be unmade? What is the opposite of growing if things cannot ungrow? The immediate answer to the first question is breaking or dismantling, the answer to the second is decomposition or decay. And whereas the first may call for a remedial response in the form of repair, the second calls for healing. Yet just as it is hard to draw the line between making and growing, so the distinctions between breakage and decomposition, dismantling and decay, and repair and healing, are all problematic in their various ways. Moreover all making, in a sense, entails breaking, just as all growth entails decomposition (Ingold & Hallam, 2014, p. 8).

Modern thinking generally sees the production of artifacts as making, and the production of organisms as growing. Tied into this inquiry are anthropological threads of (i) bodies, (ii) materials, and (iii) temporality.

Instrumental judgments on materializing involves not only synthesis (i.e. placing together) but also kairos (i.e timing to the right, critical or opportune moment).

4.2.4 | An influence of ecological anthropology orients humaning as living alongside others

The field of anthropology has been challenged to not be anthropocentric, but ecological. This puts that task of humaning – what we as humans make of ourselves – forging an existence not only for ourselves and others within the matrix of a common Earth (Ingold & Thomas, 2020).

4.3 | Systems Changes Appreciated through a Philosophy of Classical Chinese Medicine

Systems changes, approached from a biological predisposition, can benefit from the rich legacy developed in medical practice. While Western biomedicine can fall into a trap of mechanistic thinking, Classical Chinese Medicine (CCM) follows from a philosophy of science not derived from ancient Greeks. After many years of research environmental philosophy, Keekok Lee has made a great contribution in clarifying a dyadic-contextual philosophy underlying CCM, in contrast to Western dualistic-universalistic traditions. With three appreciative judgments in Exhibit 4 below, presuppositions from Western philosophy of science are surfaced.

Exhibit 4. Appreciating Philosophy of Science of Classical Chinese Medicine

	Appreciative Systems		
	Reality Judgments	Value Judgments	Instrumental Judgments
Philosophy of Classical Chinese Medicine	Diseases as internal, with external causes	Wei, wuwei	Sequence treating root(s) or manifestation(s), tonifying yin or yang, expelling pathogenic factors

Approaches influenced by a philosophy of science underlying Classical Chinese Medicine form (i) reality judgments of diseases as internal, with external causes; (ii) value judgments of wei and wuwei; and (iii) instrumental judgments of tonifying yin or yang, and expelling pathogenic factors.

4.3.1 | Appreciating Reality Judgments on Systems Changes via Philosophy of Chinese Medicine

From a systems perspective, Classical Chinese Medicine is internal medicine. The oldest known book, the *Huangdi Neijing* (i.e *The Yellow Emperor’s Classic of Internal Medicine*) dates back to 2600 BCE. In an English-language review of *Traditional Chinese Philosophy as a Philosophy of the Body*, the distinction inherent with the Western premise of consciousness, as the mind as separate from body, is dissolved (Wang, 2009). Thus, the structure of Chinese philosophy as body-gender-family/kinship differs from Western philosophy of consciousness-concepts-universe.

One of the fundamental tenets of Chinese diagnosis is that the ‘outer reflects the inner’: that is, that the outer appearance of the patient, the pulse and his or her symptoms reflect the internal disharmony. Western medical diagnosis is very much based on ‘looking inside’ with X-rays, scans, blood tests, endoscopies, laparoscopies, etc. Chinese medical diagnosis is based on ‘looking at the outer’: that is, observing the complexion, the tongue, palpating the pulse and asking questions. [...]

Chinese diagnosis has traditionally four major parts: diagnosis by observation (‘to look’), by interrogation (‘to ask’), by palpation (‘to touch’) and by auscultation (‘to hear and to smell’). (Maciocia, 2015a, p. 298).

The health of an individual is judged by a Chinese doctor conventionally through (i) examining externally the patient’s skin, eyes, ears, and tongue; (ii) interpreting the patient’s pulse with three fingers on left and right wrists; (iii) listening and smelling to determine organs out of balance, and (iv) conversing with the patient about his or her symptoms and feeling. Western tools such as stethoscopes and blood pressure cuffs complement the diagnosis, as non-invasive.

Pathogenic factors may be (i) introduced from external factors that invade the body’s exterior, penetrating into the interior and transforming into disease; and/or (ii) generated internally as disharmonies

between the subsystems in the body. The Chinese doctor may then assess the factors relative to *Upright Qi*, the life force that protects the body from exogenous pathogens. Conditions can be categorized (i) full, with severe, intense pain, where the *Upright Qi* is strong and fighting the pathogenic factor; (ii) empty, with aches of slow, chronic development, where the *Upright Qi* is deficient; (iii) full/empty where the pathogenic factor is weak, and the *Upright Qi* is strong; and (iv) full/empty where the pathogenic factor is weak and the *Upright Qi* is weak (Maciocia, 2015b).

Identification of patterns of disharmony is at the core of Chinese medical diagnosis and pathology. This philosophy of science contrasts to that underlying Western biomedicine.

Rather than analyzing symptoms and signs one by one in trying to find a cause for them, as Western medicine does, Chinese medicine forms an overall picture taking all symptoms and signs into consideration to identify the underlying disharmony

In this respect, Chinese medicine does not look primarily for causes but patterns. [...] Therefore the 'pattern' (also called 'syndrome') is a picture formed by the clinical manifestations of the patient which point to the character, the site and the pathology of the condition. The art of the identification of pattern lies in seeing the picture formed by the clinical manifestations of the patient ... (Maciocia, 2015c, p. 440).

Coming from the contextual-dyadic philosophy of science underlying Classical Chinese Medicine, the reality judgment should be relatively consistent across practitioners experienced in these arts, and in stark contrast with that of Western-trained physicians.

4.3.2 | Appreciating Value Judgments on Systems Changes via Philosophy of Chinese Medicine

Exploring value judgments, originating from the philosophy of science underlying Classical Chinese Medicine, is difficult to decouple from its associated metaphysics. The *Huangdi Neijing*, describing *yinyang*, *qi*, and five elements, is dated as early as 400 BCE and 200 BCE. The Daoist classic *Daodejing* (Tao Te Ching) credited to Laozi (Lao Tze) was written around 400 BCE. The metaphysics of the *Dao* are therefore close by in the background to traditional Chinese behaviour.

... the Dao is everywhere as it is above xingerxia and even xingershang, although both the Dao and water act via wuwei/无为 (happenings in accordance with the Dao, which in sinological discourse is translated literally as "non-action"³⁷). One knows therefore the benefits of following wuwei. [...] "Dao abides in non-action / Yet nothing is left undone"

... the metaphysical concept of the Dao and its related concepts such as wu/you and wuwei ... contrary to what positivist philosophy says, cannot entirely be divorced from scientific observations, no matter how humble and lowly these discoveries and findings might seem to our modern sensibility (Lee, 2017b, p. 91).

³⁷. Depending on the context, "Dao-informed action" may or may not require intervention or action on the part of the human agent. No action/interference/intervention would be required when the Dao is applied to understanding an ecosystem deemed to be entirely self-regulating or autopoietic, a situation which could be found plentifully in very early times in ancient China

- Xingerxia/形而下/ that which exists at the level of shape and size
- Xingershang/形而上/ that which exists at the level above or beyond things with shape and size
- Wuwei/无为/ action in accordance with Tianren-heyi, with the Dao
- Tianren-heyi/天人合一; tianren-xiangying/天人相应/ Macro-micro-cosmic Wholism (but sinologically translated as "Correlative Thinking")

In the sense of human action, a better interpretation is *wèi* as "conscious action", and *wú wèi* as "unpremeditated, nondeliberative, noncalculating, nonpurposive action (or more accurately, behavior)" (Schwartz, 2009, p. 187).

With Classical Chinese Medicine, an alternative where treatment “nudges” the body as a system to heal itself via *wuwei* would be preferred. This does not deny that a radical invasive procedure might be effective in a *wei* style, but that unintended consequences might be pre-empted by deeper consideration of the *dao*. As compared to a Western oriented with a bias-for-action (Peters & Swisher, 2018), favouring *wuwei* may require more patience.

4.3.3 | Appreciating Instrumental Judgments on Systems Changes via Philosophy of Chinese Medicine

In a systematic approach to systemic issues, a Chinese doctor formulates a plan of action based on patient’s conditions, acute and chronic. The Root (*Ben*) and Manifestations (*Biao*) may be treated concurrently or sequentially (Maciocia, 2015d). Treating the Root, as primary, suffices to clear all Manifestations, if those Manifestations are not too severe or life-threatening. Treating both the Root and Manifestations could include a combination of methods (e.g. herbal therapy for the Root, acupuncture for the Manifestations). Acute cases might call for treating the Manifestations first, and then the Root, later. There are more complicated situations where multiple Roots give rise to multiple Manifestations that overlap, and one Root giving rise to multiple manifestations.

If the ailment is internal, tonifying the Upright *Qi* (e.g. with acupuncture, herbal treatment, exercise and/or diet) suffices. However, expelling the pathogenic factors (e.g. with acupuncture, herbal treatment, bleeding and/or cupping) removes obstructions to allow the strengthening of Upright *Qi*. The treatments of tonifying and expelling pathogenic factors may be applied concurrently or sequentially.

Treatments following the techniques from CCM clearly show the judgment of the medical professional, with a systemic outcome achieved through systematic steps. While the human body has its own processes for healing, a visit to a Chinese doctor can catalyze or remove obstructions towards health.

4.3.4 | An influence of Chinese Medicine orients resynchronizing internals with externals

Medical care and the judgment of physicians are recognized as a part of everyday life. Classical Chinese Medicine is an internal medicine (Lam, 2020) that comes founded in a non-Western philosophy of science. Each human being has predispositions, and internal subsystems deal in complex synchronies and dyssynchronies. The dispositions towards accepting diagnoses and following treatment plans can be a longer story with medical professionals.

4.4 | Systems Changes Appreciated through a Philosophy of Rhythm

Systems changes as one-time events might be viewed processually, but living systems that exhibit repetition that both inform and constrain the range of resulting shifts. Acknowledging rhythms explored from aesthetic orientations such as music and dance, an interest in living material systems leads us towards insights from Henri Lefebvre. Three appreciative judgments on the rhythms of living systems are outline in Exhibit 5 below.

Exhibit 5. Appreciating Rhythm

	Appreciative Systems		
	Reality Judgments	Value Judgments	Instrumental Judgments
Philosophy of Rhythm	Repetition in time as <i>kairos</i> (alongside <i>chronos</i>)	Collective polyrhythmia, with individual eurhythmia or arrhythmia	Isolating by individuals to the personal (<i>eigenrhythmus</i>) or enskilling to the whole (<i>allrhythmus</i>)

Approaches presupposing a philosophy of rhythm come with (i) reality judgments of repetition of time as *kairos* (alongside *chronos*); (ii) value judgments of eurhythmia or arrhythmia in polyrhythmia, and (iii) instrumental judgments of hedging by individuals or enskilling to the whole.

4.4.1 | Appreciating Reality Judgments on Systems Changes via Rhythm

The reality for living systems is one of repetitions over time. A being without a pulse is declared as dead. Each human being can experience *kairos* as an individual and coordinate with others on the *chronos* of clock time.

A philosophy of architectural design appreciates phases (e.g. constructing, occupying, maintaining), and doesn't conceive of rhythms in dwelling. A philosophy of ecological anthropology is based on the processual passage of time, without much apparent interest on rhythm. A philosophy of Classical Chinese Medicine appreciates well the rhythms within bodies, and extends into both material and non-material rhythms in the contexture.

The conventional thinking in organizational change management that unfreezing and refreezing is possible is counter to the intuitions we gain from rhythm.

4.4.2 | Appreciating Value Judgments on Systems Changes via Rhythm

With an independent system, rhythms operate within a normal range, with an alternative condition of discomfort.

Rhythms unite with one another in the state of health, in normal (which to say normed!) everydayness; when they are discordant, there is suffering, a pathological state (of which arrhythmia is generally, at the same time, symptom, cause and effect) (Lefebvre, 2004, p. 16).

A living system would find living under arrhythmic conditions internally difficult. In a group, the multiplicity of rhythms present as polyrhythmia. This leads to a classification of rhythms in two dimensions: (i) secret or public; and (ii) internal or external.

- a) **Secret rhythms:** First, physiological rhythms, but also psychological ones (recollection and memory, the said and the non-said, etc.).
- b) **Public (therefore social) rhythms:** Calendars, fêtes, ceremonies and celebrations; or those that one declares and those that one exhibits as virtuality, as expression (digestion, tiredness, etc.).
- c) **Fictional rhythms:** Eloquence and verbal rhythms, but also elegance, gestures and learning processes. Those which are related to false secrets, or pseudo-dissimulations (short-, medium- and long-term calculations and estimates). The imaginary!
- d) **Dominating-dominated rhythms:** Completely made up: everyday or long-lasting, in music or in speech, aiming for an effect that is beyond themselves. (Lefebvre, 2004, p. 18)

Interests to alter, or respond to changes of, the rhythms of a social group may be perceived differently by insiders when compared to outsiders. The alignment of values across a social group is likely to require engagement. A changed rhythm for the group may impact individual members to a lesser or greater degree.

4.4.3 | Appreciating Instrumental Judgments on Systems Changes via Rhythm

As an instrumental judgment, each individual can be well-ordered in the flow around himself or herself, or out of order in *kakorhythmy*.

The individual has two options in order to harmonize or connect their personal rhythm [Eigenrhythmus] with the rhythm of all other happenings. They can either close their mind to what is alien to them or beyond their level of development, that is, to whatever is kakorhythmic relative to their skills; they will hedge themselves around with rules and practices, impose technical schematas on what is natural, and install security measures in order to exclude what they perceive as kakorhythmic. Or they can aspire to increase their skills to the ultimate in order to comprehend, and thus experience as eurhythmic, as large a part as possible of the all-encompassing rhythm [Allrhythmus] (Laban, 2014, p. 76).

If the individual chooses to be out of step with others, he or she will reduce their personal scope to exclude that perceived as *kakorhythmic*. If the individual chooses to be part of the group, he or she has to develop the skills to participate in the *allrhythmus*.

This appreciative judgment is most apparent in physical aesthetic arts such as dance or music. As part of a broader philosophy, maintaining a differentiating mental position could also be seen as an instrumental judgment.

4.4.4 | An influence of rhythm orients towards finding order across multiple systems

A philosophy of rhythm can be contrasted with framings where reality is seen either as (i) approaching an unchanging eternity, or (ii) fleeting in an endless flow of time. A rhythmic pattern is presumed to recur, although in less than perfect precision. Smaller rhythms in parts of a system don't have align in synchrony with the greater rhythm perceived of the wholes. For systems changes, some sense of normal rhythms can be contrasted with the abnormal.

4.5 | Abducing a Philosophy of Systems Rhythms for Systems Changes

An emerging philosophy of systems rhythms draws from the four philosophies described above, synthesized into a new branch. Framed into the three appreciative judgments in parallel with the prior analyses, a philosophy of systems rhythms is abduced in Exhibit 6 below.

Exhibit 6. Appreciating Systems Rhythms

	Appreciative Systems		
	Reality Judgments	Value Judgments	Instrumental Judgments
Philosophy of Systems Rhythms	Rhythmic shifts, in textures	Propensity	Reordering pacing

A philosophy of systems rhythms sees (i) reality judgments of rhythmic shifts, in textures; (ii) value judgments with propensity; and (iii) instrumental judgments of reordering pacing.

4.5.1 | Abducing Reality Judgments on Systems Rhythms for Systems Changes

Moving from a substance-based philosophy to a processual philosophy can raise a challenge that “everything is always changing”, that leads to inaction through paralysis. A philosophy that focuses on rhythmic shifts put the mundane normal cycles into the background, surfacing the outliers that draw attention. Beginning with a rhythmic shift as a thread that top-of-mind, conversations then naturally ensue about the texture in which the thread is woven.

Facilitations espousing systems thinking typically begin with an exercise of identifying a system of interest, and then confirming a collective understanding of the boundaries. Focusing instead on rhythmic shifts obviates the drag of having to get clear definitions of what is and what is not a system. A presumption of interest on living systems precludes examples of systems that are mechanical in nature and do not exercise free will. As a simile, visits to a family doctor outside of regular wellness checks don't usually review systems features that are operating functionally. There's much more interest on “what's wrong”?

4.5.2 | Abducing Value Judgments on Systems Rhythms for Systems Changes

Following the cues of “knowing from the inside”, and “internal medicine”, rhythmic shifts happen (or don't happen) within the primary system of interest, potentially in response to rhythmic shifts in systems correlates of influence. Value judgments are made on propensities for rhythmic shifts, acknowledging that some parts are motivated for change, while others resist in the status quo.

This perspective is in contrast with the “set the mind, and the body will follow” presumption of Western philosophy. Similar is gathering a “coalition of the willing”, and then pressuring the unwilling to come on board. Chinese philosophy draws on *propensity* from the writings of Sun Zi (Sun Tsu) where every battle is won before it is even fought (Jullien, 2015).

4.5.3 | Abducing Instrumental Judgments on Systems Rhythms for Systems Changes

On instrumental judgements, changes can be differentiated from systems changes through a recognition of pacing layers (Brand, 2018) and hierarchy theory (Allen, 2008). In the metaphor of “how buildings learn”, we might differentiate between changes as “rearranging the furniture”, and systems changes as “knocking down walls”. A small rearrangement is an adaptation, whereas systemic change usually refers to transformations with shifts in both structure and function.

Separating out espoused systems changes from material systems changes might be judged through a filter separating whether rhythmic shifts are or are not evident. Small changes can be spurious. Many change programs result in a temporary adaptation, with a return to the rhythm that was previously in place.

4.5.4 | An influence of systems rhythms orients interpreting shifts when and where auspicious or not
With rhythms innate in living systems, it's rhythmic shifts that get attention. Those rhythmic shifts may be fortunate or unfortunate. When choice is conditional, we can choose times and places where conscious action may or may not be auspicious.

5 | Conclusions: Contributions that Systems Rhythms Offer to Systems Changes

A philosophy of systems rhythms for systems changes aims to contribute towards systems theory, systems practice, and systems methods, without compromising the legacy of luminaries who advanced General Systems Theory. Living systems are a subtype of systems that extend the emphasis on process -- as changes over time -- with a recognition of natural rhythmic pulses. Acknowledging the four antecedent philosophies reviewed above, here are five contributions that a philosophy of systems changes proports to make.

5.0.1 | Systems rhythms emphasize the processual in textures and contextures

Multiple rhythms portrayed as (life)lines or threads in time are readily compared to a weave coming off a loom, or a flotilla of small vessels making their way downstream together. As a collective, they move together as a texture. From the perspective of a single (life)line, the co-respondence with others are a contexture. This builds on recent research by Tim Ingold, and prior references by Tavistock Institute researchers into C.S. Pepper.

5.0.2 | Systems rhythms embrace the embeddedness of changes in layers

Rhythms of primary interest may be in or out of synchrony with contextural rhythms at a larger and slower layer, and with rhythms at a smaller and faster scale. This consistent with the pacing layers model of Stewart Brand, panarchy by Buzz Holling and Lance Gunderson, and hierarchy theory of Timothy F.H. Allen.

5.0.3 | Systems rhythms encourages a constructive dyadism over a reductive dualism

A systems approach where synthesis (i.e. putting parts together) precedes analysis (i.e. taking wholes apart) is more constructive in dyadic philosophy where reduction to a single part is antithetical. The contrast between Chinese dualistic foundations and Western dualistic presumptions is clarified in the writings of Keekok Lee.

5.0.4 | Systems rhythms reflect teleonomy over teleology

Animate systems that exhibit conscious choice over movement (e.g. mammals) can be described by anticipation in evolving foresight based on prior programming and information, rather than conscious idealized ends-directedness and purpose. This respects the biologically-inspired research of Ernst Mayr and Rosen.

5.0.5 | Systems rhythms recognize a variety of alternative changemaking actions

Conscious action on systems changes can recognize the breadth of modes, including (i) unfolding nature; (ii) fixing problems; and (iii) making history. In a more phenomenological orientation, this is compatible with Martin Heidegger, Christopher Alexander, Hubert Dreyfus and Fernando Flores.

This philosophy of systems rhythms is believed to be compatible with many well-established systems practices and systems methods, and not incompatible with most systems theories. Systemic practices of inquiry and intervention should easily adjust to a rhythmic primordality. Systematic methods of facilitating and modeling can adapt to rhythms from the presumptions of unfreezing → moving → refreezing. Systems theories are provided a distinction between the living and non-living by rhythms.

An important feature of systems thinking is to reorient groups working through issues from simplistic, linear and mechanical framings. The reframing of a situation at hand towards an organic and biological perspective can opens up insights, while introducing of a risk that metaphorical conceptions can mislead (e.g. social systems don't really have organs such as brains and hearts). Every human being experiences systems rhythms even before birth. Systems changes appreciated as systems rhythms do not deny the body of work in the systems sciences, while offering a gateway into improved collective sensemaking.

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