
coming back to Life

a study of generalized complexity, or,
the search for the missing middle

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PhD in Complexity Science

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December, 2025

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abstract

abstract (PT)

A humanidade encontra-se em apuros, numa metacrise existencial de proporções cósmicas. Uma das suas próprias criações. O nosso modo de realização introduz um conflito interno no sistema operacional da nossa biosfera.

Na sua raiz, este conflito é o de autopercepção—uma visão míope de si mesma e do seu universo. A nossa tradição intelectual ocidental perpetuou uma epistemologia incompatível com a natureza complexa do nosso universo, incapacitada pela sua própria natureza fraturada.

Este estudo aborda o nascente campo da complexidade generalizada para descobrir as suas qualidades implícitas. Qualidades às quais deveriam aspirar os sistemas sociais humanos. Molda uma abordagem à epistemologia e à investigação imbuída destas qualidades. Uma abordagem com capacidade teórica suficientemente complexa para tornar um universo em sua dimensionalidade mais completa. Uma dimensionalidade potencialmente traduzível para o âmbito ecosocial, em que surge a pergunta: o que significaria ser plenamente humano?

A pesquisa visa compreender a complexidade generalizada em seus próprios termos, numa tentativa de conciliar o conflito interno. Adota uma abordagem aberta, inspirada na aproximação progressiva da tradição filosófica natural, para trazer cada vez mais clareza ao funcionamento do nosso mundo e ao nosso lugar nele.

Este estudo confirma a sua intuição de que a forma como percebemos a nossa realidade é a que repetidamente a traz à existência. Nós somos o Universo em forma humana, ansiando compreender-se a si mesmo, em todo o seu significado. Isto implica que temos um papel cósmico a desempenhar na manifestação consciente da nossa própria realidade. Já desempenhámos este papel antes; será que nos atreveremos a desempenhá-lo novamente?

palavras-chaves. complexidade generalizada, autorrealização, dimensionalidade implícita, desenvolvimento regenerativo, plenamente humano, meio ausente

abstract (EN)

Humanity finds itself in a pickle—an existential metacrises of cosmic proportions—one of its own making. Our mode of realization introduces an internal conflict *into* our Biosphere's operating system.

At its root, this conflict is one of self-image—a myopic view of itself and of its Universe. Our Western Intellectual tradition has perpetuated an epistemology incompatible with the complex nature of our Universe, an epistemology currently incapacitated by its own fractured nature.

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This study broaches the nascent field of generalized complexity to discover its implicate qualities. Qualities that human social systems ought aspire to. It shapes an approach to epistemology and inquiry imbued with these. An approach with sufficiently complex theoretical capacity to render a Universe in its fullest dimensionality, dimensionality potentially translatable to the ecosocial realm, where the question arises: what would it mean to be fully Human?

The research aims to understand generalized complexity on its own terms, in an attempt to reconcile the internal conflict. It takes an open-ended approach inspired by the natural philosophical tradition, progressive approximation, to bring ever-greater clarity to the workings of our world and our place within it.

This study confirms the initial intuition that how we perceive our reality is how we repeatedly bring it *into* being. We are the Universe in Human form, yearning to understand itself in its fullest significance. This implies that we have a cosmic role to play in consciously manifesting our own reality. We've played this role before; will we dare play it again?

key-words. generalized complexity, self-realization, implicate dimensionality, regenerative development, fully human, missing middle

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abbreviations and conventions

abbreviations

a

Aim: a specific Regenerative Development Aim

c

CAD: Change Agent Development program

CLIs: community-led initiatives

Complexity: Universe-of-complexity

Continuum: continuum-of-experience

CoPI: communities of place

CoPr: communities of practice

e

EU: European Union

Experience: Continuum-of-experience

f

Fields: fields-of-relation

g

GEN: Global Ecovillage Network

p

Parts: parts-in-relation

r

RDA: an individual Regenerative Development Aim

RDAs: Regenerative Development Aims

Relation: parts-in-relation

s

SDGs: Sustainable Development Goals

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t

TRP: The Regenerative Practitioner learning community

u

UN: United Nations

Universe: Universe-of-complexity

w

Work: work in the world

Workings: workings of the world

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acknowledgements

I dedicate this dissertation to the Cosmos and its *creative* Life-force, which radiates *through* me as I engage in my life's Work. May we see the Life-force flourish *across* this Earth by the understanding in our hearts, by the sweat of our brow, and by the joy of our two hands immersed in the living soil. To the ancestors, *all* that came before, those who knew *their* place in the living fabric of the Biosphere, and *all* that lost their way; I am grateful for having brought me *here into* a dramatic Universe, to the place and time to which I was born, that has shaped my essence *into* who I am today. I could choose *no better* time to be alive, and in which to attempt to be *fully* Human; an *extraordinary* moment where *each* and *every* one of us has the power to *consciously* choose what kind of future will unfold. May we find our pathways *forward*, collectively as one species, whose role as *conscious* transformers of energies¹ has become integral to the development of *greater* aliveness in the whole of the Biosphere.

I dedicate this effort to my family constellation.

To my parents, who emigrated to Southern Florida, found *each* other *there*, and brought me *into* existence.

My mother, Emita Guardia, a *child-like* being, gifted me with play, *upside-down* thinking, and a spirit of wildness, my *true* nature. And, who *unknowingly* exposed me *most* acutely to *many, singularly* human pathologies, such as American hyper-consumerism, and *everything* it entailed. Indeed, to *everything* I eventually rejected, the restraining impulses that have shaped my life, and *through* it *all, through all* my "weirdness," she loved me unconditionally. To her mother, my grandmother Alicia, who we called Ita, who was the *most* fun and playful playmate five boys (including cousins) could have! To her father, my grandfather Manuel, who worked his way *up* the corporate ladder, to head honcho at Esso, Latin America, who was so cool, and whom I resonated with *very much*; and whose legacy as an oil company executive is guiding my dharma, my *work in the world*.

To my father, Mario, Jr., a rational, strategic, and patient soul, who gifted me the powers of observation and manifestation. Although his patience *didn't* rub off on me, he brought me a *pioneering* sense of agency and responsibility to make systemic interventions in my life, for which I am eternally grateful. To his life partner, Jeanine, who completes him in *every* way, I'm grateful for her *steadfast* commitment and resilience; it couldn't have been easy to meld *into* our *less-than-functional* family constellation and to show such *deep* caring for us. His mother, Cari, which we just called Abuelita, was the *true, motherly* energy for my brother and I, she gifted us with the example of love as caring, she was an oasis for us as children; and, her *extreme* selflessness, at the expense of losing herself, a pattern I recognize in myself, and have been compensating for in my *own* relationships. To his father, Mario, Sr., my grand-

¹ The role of Humans is attributable to Gurdjieff according to Sanford (n.d.).

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father, who suffered *great* bitterness *throughout* his lifetime, or at least when I knew him, for having given up his *true* calling in Life, singing. His resignation has fueled a fire in me *to-wards* staying true to my *own* calling!

My brother, Rick Yanez, is a *beautiful* and *sensitive* being, with whom I played, fought, and made so *much* mischief as a child. He gifted me the opportunity to practice my *upside-down* design thinking, albeit for *nefarious* purposes, and accompanied me *throughout* the madness of our *suburban* adventures. Although we were raised in a *totally dysfunctional* "family," I remain in awe of how he and his partner, Varinia, are lovingly raising their two wonderful children.

To my ex-partner of 18 years, Sara Valle, she gifted me the one *most precious* thing another Human can, our daughter, Uma, for whom she did *all* the heavy lifting as a parent. Although we had a *complex* relationship, I am *eternally* grateful to her for giving me the space to find my pathway *forward*: Work that I could truly call my own.

And, of course, Uma, my alter ego, we are so opposite and *yet so much* alike. From the day she was born, she came *into* the world wide-awake, aware of everything around her, with a mind of her own, and an *expressive* wit that would spare no one. She's tough *on the outside* and tender *on the inside*, and *somehow* resilient *enough* to survive the rollercoaster ride of our *dysfunctional* family life patterns, unless *consciously* interrupted, and has become a *discerning* and *judicious* young person. One, who is *all too acutely* aware, and struggles regularly with the fact that she has come *into* a world that is dying, the motivation for me to re-direct my life's Work. I trust she has the wherewithal to develop the capability to navigate the Complexity, make sense of her place in it, and find her *own work in the world*! She's brilliant, as her name implies, and has *often* guided me with wisdom *beyond* her years.

I dedicate this to my lifelong friends—they know who they are—I can't mention everyone, but Robert Ruano, Vince Vazquez, Raul Cardona, and Eddy Chavez are representative. They *always* accepted and loved me for who I am, *even* though they *didn't* understand what the hell I was becoming...to be fair, *neither* did I.

I dedicate this effort to those with whom I shared my life at different moments *throughout* the time I have been engaged in this scholarly endeavor, for believing in me and enabling me to give it my *all*; they know who they are. And especially, Ruth, who is inspiring me in the practice of consciously giving love to who/what I care for. The adventure awaits!

All, family, friends, and partners have accompanied me well *through* the first half of my life journey. They held me in check *while* giving me space to uncover my uniqueness. They encouraged and inspired me to express myself *through* this Research that I'm *now* engaging in, so I could *even begin* to understand what my Work is genuinely about. Although I have moved to a *different* continent and embraced a *very different* way of life, leaving them behind to deal with the madness, I love them *all deeply*.

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To my friends-in-the-work, whose role it is to hold each other accountable in our own development. Whether early on in my awakening—Pat Siemen, Bradford Stocker, Joyce Dibenedetto Colton, Mac Smith, to name but a few. Or *more* recently, my CAD and TRP community like my Sacred Play group or especially my Resourcerers—Max Zahniser and Karryn Olsen, who meet almost weekly for the *last* five years—and handful of other colleague-friends, like Joseph Mfutu and Markus Moltz, who regularly practice regenerating a field together, call *each* other out on being *less than rigorous*, keeping *each* other aligned with the living systems paradigm and practices of our *shared* lineage, collaborating and co-creating together, reading *each* other's works, and so *much* more. And of course, the being formerly known as Carol Sanford, whom I owe any amount of rigor I apply to my Work. I feel like I am *truly* part of *something* that's readying the system with them!

Gil Penha-Lopes, a good friend and friend-in-the-work, was one of the *main* reasons I settled in Portugal, rather than elsewhere in Europe. We met in Cuba at an International Permaculture Convergence in late 2013 and have stayed connected since then. On arrival here, he connected me with projects where I could develop my potential and with people I could collaborate with! And now, he's guiding me in this PhD thesis.

To *all* those who go unmentioned and to *all* my *new* friends and collaborators, I am grateful to have you in my life!

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preface

Personally, I think that there is at least one problem...that interests all persons who think: the problem of understanding the world, ourselves, and our knowledge inasmuch, as it is part of the world.
Karl Popper

*There's a crack in everything,
that's how the light gets in.*
Leonard Cohen

The salvation of the human world lies nowhere else than in the human heart, in the human power to reflect, in human modesty, and in human responsibility.
Václav Havel

the early days

My earliest memories are of me, as a child, looking out at the world, pondering *it all*, eyes *wide open*, *speechless*. Of course, I couldn't make sense of *any* of it then. However, looking *back* at what was going on *inside* the *vast* interiority of that small child, and the *tumultuous* goings on *outside*, I can trace *back* to the seed of what has brought me to this juncture on my journey.

I came *into* the world *during* the Summer of Love, June 1967, to parents who had each separately restarted their lives in South Florida as exiles from the Cuban Revolution. I am a child of the Cold War and the Space Race: at age two and a half, I was present for the launch and the first moon landing of Apollo 13.

My early childhood was spent adventuring in the remnants of pine rocklands of a rapidly disappearing Everglades wildness at the edges of suburbia, which was about to succumb entirely to the scourges of overdevelopment. It was *all* my brother and I could do to avoid being dragged to the mall, the *immense* bastion of consumerism that felt so *instinctively* wrong to me *even* then. The *absolute* boredom of *encroaching* suburbia activated my creativity, as I took on the role of *sinister* mastermind, *strategically* hacking the system of parental order by enticing my brother and cousins, *all* boys, to engage in acts of *ever-evolving* intensity for disturbing the status quo. Of course, *they* invariably executed the deed, so I *rarely* got caught!

I grew up Hispanic in a *predominantly* Anglo neighborhood, where an *older* bully was continuously insisting I *go back to Cuba!*?! I was clueless about what that meant... until *later* in my childhood, when the *larger* world I lived in came *into* my awareness: Cold War, Vietnam, Beatles and rock music, hippies, Watergate, anti-gay crusades, drug lords and car bombs... *mass* confusion!

In 1976, in Miami, where "winters" are usually mild—one or two weeks of *colder* temperatures *annually*—my dad awoke us to see our *first* snowfall. Who knew the climate catastrophe was on our doorstep? The following year, I started high school, which was *no less confusing*. The Mariel Boat Lifts and race riots marked the remainder of my *next* decade. I didn't fit in with the mainstream *during* high school... I resisted for *some* time.

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And, *eventually*, I was seduced by the sameness: *first* university experience, *first* job, *first* marriage. I was asleep at the wheel. Until I heard the calling. Nature, *my* nature, stirred up *something inside* me that had remained unresolved since childhood. The notion that there is *something greater than* us, and the *widespread* confusion we've created *around* us, a confusion that keeps us in *sleepwalking* mode.

my nature: pathway toward authentic selfhood

It was the mid-1990s, at the tail-end of a decade of *less-than-meaningful* employment, that I began sailing and farming, the two activities that became my *most outstanding* teachers, the *greatest* analogies for a life *well lived*. And, a pivotal step on a path *toward* rediscovering my *truest* nature; two *intertwined* strands: the inner, a *deep* search for my authentic self; and the *outer*, attempts at regenerative fooding in the tropics.¹

The *inner* pathway consisted of a decade-long exodus from the system, which included work in not-for-profits, ecologically based informal learning, writing funding proposals, and formal teaching at *every* level from pre-school to university. The *outer* pathway includes farming, growing food using ecological practices, organizing a local food system, designing edible/productive landscapes, and participating in social-change movements.

Each strand of life experience brought with it both *hard* lessons about the realities of the *industrialized* (educational, food, and healthcare) systems, where I learned the *hard* way, about the futility of *incremental*, *non-systemic* interventions. And, in 2003, in the depths of my despair, a *wonderful* colleague, Pat Seimen, arranged for me to undergo a transformative experience—Earth Literacy Immersion at Genesis Farm—which awakened me to the *present-day* Earth reality: the *awe-inspiring* Complexity present in living systems and *simultaneously* to what destructive force we as Humans were inflicting on our Biosphere—this *singular* endowment of cosmic aliveness. In this moment, I also discovered the whispering—and *now* crescendoing—of gentle voices that have for at least the *entirety* of the *knowable* human trajectory, pointing to a different path we might take.

To say this experience disrupted me, my thinking, and my life path is a gross understatement. I emerged unable to communicate with *almost* anyone I knew, save a handful of others who had also undergone this experience. It left me one pathway *forward*: to dedicate my essence, my energies, and my life's Work to awakening the *grossly* underdeveloped seeds of human potential—*mostly* hidden, *definitely* ignored, *often* feared, *sometimes* purposely suppressed—that await the *right* conditions: a *necessary* evolutionary shift—a *fertile* ground for this potential to germinate and take root.

¹ Fooding is a term from the field of regenerative development that refers to building capacity in a local food system and purposely in verb form.

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growing on the edge of the edge

I grew up in the fringes of a *complex* layering of ecotones: suburbia overlapping with remaining fragments of pine rocklands; on the edges of a receding wildness of an Everglades, *mostly* overtaken by farmland. The Everglades itself was a continuous dance of water and earth, spanning *most* of the peninsula. Southern Florida, from Lake Okeechobee *down*, juts *into* the Caribbean, a *transient* land that had been underwater for *most* of its existence.

My awakening to Earth reality was also a *profound* awakening to Everglades reality. I had taken my Life-place for granted *too* long and began a *new lifelong* relationship with what was left of her wildness. I learned that her nature was that of a *very* young ecology formed from sediment from the Appalachian Mountains to the north. One that emerged from the sea *most* recently, some 5,000 years ago. Her delicately balanced ecosystems, shaped by the play of a slowly flowing river of grass fed from rain clouds, *not* mountains, where six inches of elevation made *all* the difference *between* two *distinct* habitats.

The original Everglades, I discovered, flowed freely from its source, a network of natural lakes 150 miles north, the land where I was born: Lakeland. Its headwaters overflow from the Okeechobee water basin, whose freshwater flow stretched across the peninsula, some 80 miles wide, from coast to coast, to finally empty *into* Biscayne Bay, the body of water that gave significance to the Life-place where I would spend the first half-century of my life.

My awakening was a *very* rude one indeed, when I learned that the place I called home had been *grotesquely* transformed by the US Army Corps of Engineers just some 50 years *prior* to my arrival to make way for real estate, a "developer's paradise." They straightened rivers, dammed Lake "O", and *severely* disrupted her natural flows of Life potential by building a network of canals that permanently drain *away* over a billion gallons of freshwater daily.

I was as much a child of ecological destruction as I was of war and institutional violence. The war on the Everglades resulted in the Miami I was raised in, which was mainly "developed" after WW II as a place for returning war veterans to settle *into* inexpensive box-shaped dwellings, ordered *into a nondescript* patchwork of neighborhoods, and crisscrossed by a grid system of streets that radiated *ever westward* from Biscayne Bay as they devoured more and more of the Everglades' wildness. This was the Miami, in the midst of the Cold War, that welcomed my parents, who took refuge from the political upheaval of the Cuban Revolution. The *main* reason I was born in Lakeland was that my father, who was drafted *into* the Air Force at the outset of the Vietnam fiasco, was posted north of Cocoa Beach, where the family initially settled, and the *nearest* hospital was there. But, as I was to discover, this was by far the *only* reason.

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a lifelong bioregional journey

I *now* see it was *no* coincidence that the geography of my life stretches from the headwaters of the Everglades, where I made my *grand* entrance *into* this world, to Homestead, the *southern-most* gateway to the Everglades National Park, where over a span of 22 years I transformed an old tropical fruit tree grove *into* a *highly-productive, extraordinarily-complex* edible forest garden. And, looking *back* humbly, it was *I* who was transformed.

Although I came to farming in South Florida's tropical climate, naively at first, it taught me *everything* I needed to know about *complex* ecological relationships. In the *early* years, I discovered, quite intuitively, how to farm organically and was inventing my *own permaculture-like* approach before I would more formally discover permaculture a decade *later*. And it was a reaction to the *bodily* shock of discovering the extent of the devastating agribusiness practices that were causing desertification *all around* me and the absence of a local food system, which was hindering small-scale producers from reaching local markets.

All this broke open for me in 2003, with the Genesis Farm experience, and in particular *through* the works of Thomas Berry, where I discovered the notion of bioregion, which marked the beginning of a *profound* learning journey and has framed my life's Work to this day. The *most straightforward* description of a bioregion is a geography at a scale somewhere *between* local and global that coincides loosely with a given ecological and cultural system. Bioregions are examples of *missing middles*.

My *very first* intervention *along* my pathway was to gift my bioregion, which naturally spanned from the headwaters of the *original* Everglades *down* to the Florida Keys—almost two-thirds of the Florida peninsula—with its identity: The Greater Everglades. Although a *seemingly trivial* act in the moment, I *now* realize it was a *pivotal* occurrence for what was to unfold.

Over the next seven years, although I was working in a diversity of *indirectly relevant* jobs, I would dedicate *all* my *spare* hours to bringing about a sense of place *within* the Greater Everglades. I launched an NGO, Earth Learning, an organizational umbrella for these interventions, which consisted of giving talks, hosting weekend workshops, leading bioregional immersions, and organizing annual festivals.² These interventions culminated in perhaps my *most* nodal intervention to date: The Greater Everglades Food Summit.

pathway to bioregion: self-organizing of local food systems

The Greater Everglades Food Summit, a truly *co-creative* design intervention *between* colleagues who were improvising, produced a *dynamic*, some say *magical*, gathering of 120 local food activists, entrepreneurs, and small-scale producers. It was the turning point that

² Yanez, 2006.

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launched an *authentic, self-organizing*, food re-localization movement in the bioregion. From here, *extraordinarily* collaborative projects and community-led initiatives (CLIs) ensued.

One such project landed squarely in our laps: Verde Gardens. This was a 55-acre site entirely overrun with invasive vegetation, part of the *former* Homestead Air Force base destroyed by Hurricane Andrew, which incidentally also demolished my *first* home, a few blocks away, a decade *prior*. This decommissioned air base was to be developed as housing for homeless families, 22 acres of which were to be a working farm. Our group was chosen to lead the farm project.

At the same time, a funding proposal I had written six months earlier to the US Department of Agriculture for training food system entrepreneurs was *fully* funded for \$750,000 over 3 years. This was written *well before* we knew *where* we would train them. This influx of potential energy was crucial to making the *pending* farm project viable.

Along with County funding, we developed the *highly-disturbed* landscape *into* The Farm @ Verde Gardens, a learning center for regenerative agriculture, hosting six-month long paid apprenticeships, where apprentices were exposed to a variety of farm enterprises: 6-acre vegetable production (both annual and perennial, 10-acre animal husbandry for milk production, plant propagation, 2-acre multi-layered food forest (fruits and perennial vegetables), a production kitchen for value-added processing, a cafe for serving food produced from the farm, a retail market, mobile market, mobile kitchen for workshops/events, on-farm events: *pop-up* local food dinners, workshops, tours, courses, etc.

These were *simultaneously* the *most exciting* and *challenging* three years of my work life: People (staff, volunteers, apprentices, etc.) are *not* as easy for me to work with as are plants! And, it proved enriching and satisfying *beyond* measure. Beyond the *lasting* friendships and *vibrant* collaborations, the overall effect it had was *immeasurable*: over 40 apprentices were trained, *many* of which are active in the field to this day, as food system entrepreneurs, educators, activists or small-scale producers; *countless* audiences (school children, course participants, visitors, market goers) were exposed to a *different* way of producing an abundance of edible and useful crops, in ways that regenerated the soil, land and people; and developers and public officials witnessed what was possible in a three-year window of time, with *relatively few* resources.

For me, leading this *extraordinary collaborative, transdisciplinary, multi-year* design intervention—my first *intentional* design intervention *ever*—changed me. Not *only* did I set *into* practice regenerative design of productive landscapes, which *most seasoned* designers are capable of, but *more* importantly, I was tuned *into* the significance of designing ecosocial systems—*how* a productive landscape would be lived *into* over time by those that might have a *stake in what will be*, which is *rarely* considered by *most* designers. This moment decisively launched me *into* a *professional* design-build practice of what I termed “foodscape design.”

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why not food? foodscapes for every scale

A foodscape is a designed approach to *any* landscape, where *most* of the plants are productive—grown for food, fuel, fiber, forage/feed, pharmaceutical (medicinal purposes)—*many* of these perennial, and some of these supporting species—to fix nitrogen, provide mulch, feed wildlife, ward off or attract specific insects, etc. Yet all are integrated to bring about a *highly productive*, ecosystem-like effect.

We started on a micro scale, people's backyards or homesteads, then *rapidly scale-linked* to churchyards, schools, housing developments, inner city lots, tourist attractions, redevelopment projects, living museums, indigenous land, and public parks. What I discovered *early on* is that the plants in an edible forest garden, for instance, naturally organize themselves *into* a *vibrant* whole, each in relation to the other, and all to their context. Humans in Western societies don't default to this. Therefore, our foodscapes *often* integrated patterns of human inhabitation over time, thereby expanding the range of potential actualizations for *on-going* regeneration.

And it didn't stop there. I began attending urban/community forestry conferences, where the *main* aim for participants was to regreen their localities with *random* trees and plants. I realized I could *hack that system* at the social movement level by posing a *nodal* question: *Why not food?*

I asked it repeatedly for several years, until it landed! I was funded to implement a demonstration project and to develop an online platform to facilitate planners in creating foodscapes in *underutilized* public spaces. The result was twofold: a foodscape in a public park (Concrete Plant Park, Bronx, New York) planned as the first of *many* foodscapes in a foodway—a corridor of *contiguous* productive landscapes (Bronx River Foodway)—in the *middle* of what is *typically* known as a food desert.³ And, FoodPlaces (<http://yanez.earth/foodplaces>), was developed as a working prototype that enabled *anyone* to assemble foodscapes in a *variety* of *underutilized* and *uncontested* public spaces (medians, verges, roundabouts, sides of highways, etc.), which could add up to hundreds, or *even* thousands of acres, *even* in the *most crowded* cities.

In that moment, I realized the potential to intervene at *even greater* scales across social movements.

moving the movement: translocal and personal

Over the years, as an *active* participant in *various* social change movements—permaculture, transition, ecovillages, regenerative agriculture, and so on—I came to see how *extremely* insular and *inward-facing* they were. It's understandable to *some* degree, since changemakers *regularly* experience resistance and are *often* pushed to the edges of society in their at-

³ Foodway was our Foodscape Design land use innovation published in Mundsell et al. (2022).

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tempts to model a *qualitatively different* mode of living from mainstream culture. In these occasions, it is *difficult* for these initiatives to maintain their identity and principles and remain viable in an environment hostile to their presence. And yet, it seemed both counterintuitive and counterproductive to me that this segregation of movements should be so!

For *some* time, I have been particularly attracted to Europe because the social change movements I wanted to collaborate with had a *formidable* presence there. So, *after* testing the waters in the *early* part of 2019, I decided to move there. And, I wasn't sure where, until one rainy day in Riga, surfing the web for the *most seemingly* transdisciplinary PhD program I could find, I discovered one in Portugal, a place I had fallen in love with *repeatedly during* my *previous* travels. I knew that there were *many* CLIs *throughout* the country. And so it was that I came to Portugal, *even* though I could have completed the program *online* from *anywhere*.

A year *before* leaving the US, I discovered and joined a learning community led by Carol Sanford, known as Change Agent Development (CAD), also informally referred to as the Developmental School. One *highly influential* branch of the School's *several* lineages brought squarely to my attention the teachings of Gurdjieff and the works of his disciples, *most prominently* John G. Bennett, P.D. Ouspensky, Thomas de Hartmann, and Maurice Nicoll—disciples who have collectively established the lineage as the Fourth Way tradition. The School creates learning processes for its participants (seekers) to have *firsthand* experiences navigating Complexity from *within a living systems paradigm*. One of the *many* techniques they learn is to use *relational maps* as instruments for navigating and participating in the *complex workings of the world*, on its *own terms*, *without* the *perceived* need to dumb down that Complexity. It is a School of will, where we practice living systems thinking; we practice collectively and use the Socratic method to practice sourcing from a regenerative paradigm, a cosmic *imperative to serve something greater* than ourselves, an implicate order, the relational world *behind* the visible world, as described by David Bohm and others. Another of the School's lineages comes from Native American wisdom traditions, from which we derive the Seven First Principles that guide our Work. I mention this here because it continues to have a profound influence on me and, in *many* ways, is *directing* me as I unfold my research; more forthcoming in Chapter 3.

One thread I can see clearly as I look *back* at my adult life, or perhaps *further*, is my parallel Work of escaping the confines of capitalism, or, as Nora Bateson would put it, *releasing each other* from the *paradigms that no longer serve*. It has been a *conscious* effort of three decades, for me, which has culminated in my move to Portugal, where, in *many* ways, I can live *outside* the confines of that paradigm to a *great* extent, and direct my energies *towards* Work that brings me—and the *greater* wholes I serve—*intensified* Aliveness.

My first intervention *upon* arriving in Portugal exemplifies both being in service to *greater* aliveness and practicing living systems thinking: the Regenerative Development Aims

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(RDAs), an endeavor I continue working on, or rather is *still* working me, one which will take its *prominent* place *within* this Inquiry. This endeavor came about *through* an EU project collaboration with the Global Ecovillage Network (GEN), in which I was tasked with developing a set of practices for each of their five organizational values and linking them to the UN Sustainable Development Goals (SDGs). I couldn't bring myself to do it. Having been exposed to the field of regenerative development, a body of work pioneered by Regenes Group, a group, incidentally, that emerged from the *same* developmental lineage, and the Regenes Institute for Regenerative Practice, with whom I study, I couldn't, in *good* conscience, do this.

I knew intuitively that GEN's members had *collectively surpassed many* of the *grossly inadequate* UN Goals and Targets, which set a *very low bar* for Humanity. So, *after* wrestling with this dilemma, a reconciliation emerged: the *next* morning, I set about rewriting the SDGs' 17 goals and 171 targets in one go. The result was a direct re-language sourced from a regenerative perspective, infused with *Life-affirming* wording, including a shift from the *restrictive* language of "goals" and "targets" to *more open-ended* language of "aims" and "pathways." The effect was aspirational, albeit still prescriptive. This first version was adopted by GEN's board of directors as is. And, as one of my Regenes colleagues, Ben Haggard, in his *gently disruptive* manner, pointed out, they were *not* developmental. This weighed on me. And over the *last* few years, they have *undergone several* iterations, emerging as instruments for guiding communities in designing their *own* pathways *forward*.

The second intervention *upon* arriving in Portugal led to the development of the Regenerative Knowledge Commons (RKC: <http://regenerative.wiki>). I was engaged in two *parallel* EU-funded projects as a member of the Portuguese team, tasked with developing a participatory action research and mapping system, which might have resulted in *yet another* static directory and online map of initiatives in Europe. I couldn't bring myself to do this either, as I was guided by the regenerative principle of *working from potential* rather *than* need. Conspiring with a handful of colleagues, who understood this and had been involved in a first, *less-than-dynamic* iteration, we designed and developed a second iteration of a *wiki-based* knowledge commons. We were driven by our experiences of the *limiting* form of "project", in general, and of EU-funded projects, in *particular*, whose resourcing seems to end *well before* they have a chance to be *remotely* transformational, and whose products lay rotting *away* in the "EU graveyard" of past projects.

The result: a working prototype designed as a living system—an *uncontested opening*—of which participants are required to inhabit if they wish to render visible both their Work and their relatedness to others engaged in *similar* change-maker initiatives. By rendering visible the constellations of change-maker activity, in *communities of place* (CoPI) and across *communities of practice* (CoPr), it is *more* likely to have a transformative effect over time, allowing others to join existing, *broader-scale* (geographical and temporal) initiatives.

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I subscribe to the notion that the bioregion is likely the *most appropriate* scale for self-organizing of *integral* Human-and-more-than-Human communities to develop, and also subscribe to the premise that regenerative development *ought* to be guided by and sourced from place. It was good to intervene at these macro scales, and I had *yet* to land in Portugal authentically! I longed for my *next* Life-place to find me, so I could root deeply and concretely here, perhaps *more profoundly* than the shifting sands of the Greater Everglades would have allowed me.

Mira bioregion: place-sourcing myself⁴

And then, there was São Luís, in SW Alentejo! I've known of it since I arrived in Portugal; it's one of the places I visited repeatedly, since then. Its vibrant energy and magnetism attracted me! By the sense of community I experienced here, *even* with my *brief* visits. And, in July of 2024, *all* the *right* reasons aligned, and here I am, starting to root *deeply* in this Life-place!

I have been actively working *towards* being here, perhaps subconsciously. For several years, I had been submitting the *same* funding proposal year after year to connect rural youth with regenerative livelihoods and bring about an economy of aliveness here. This *last* time, we were funded!

As in other rural areas of Southern Europe, *many* people, especially youth, flee to cities because they don't recognize the potential of their Life-places to support their personal or professional development. They go to university *mostly* to prepare for careers in service to the *dominant* Capitalist economy, which *all* but ensures they will *not* return to their places to grow a life, and so the rural exodus intensifies. And yet, this formulaic pattern is *less* appealing to the younger generations. So *now* I find myself investing my energies in a bioregion, beginning to organize itself *around* the Mira River, one of two rivers in Portugal that flows *upstream*, so to speak! That *subtle* irony doesn't go unnoticed.

My bioregion is *not* without its challenges, *yet* there is *something different* going on here compared to other parts of Portugal. Alentejo is the *largest*, *most rural* region of Portugal, and its SW portion is blessed with a *dramatic*, *unique* natural beauty that stretches *along most* of the Alentejo coast. Its *vastly varied* topography provides a wealth of microclimates and, therefore, a (genuine) wealth of possibilities. People from *elsewhere* have been coming here for millennia, *Finnae Terra*, they called it—the end of the world. At least since the time of the Phoenicians, *inventive*, *resilient* cultures have been developing in this Life-place.

Portugal attracts *many* people from *elsewhere*, like me, who come to live a *wholly different* way of life. And activists in SW Alentejo, over the *last* decade, have begun to attract young people from *various* parts of Portugal, Europe, and *beyond*. São Luís and its environs

⁴ The concept of sourcing from place is a guiding principle found in the practice of regenerative development as found in Mang et al. (2016), which means that the interventions we make ought to be guided by the unique essence, genius loci of that place.

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are *vibrant* and *alive*, *rich* in cultural activity, and *strong* in social cohesion. São Luís serves as the *magnetic center*, naturally assuming the role of bioregional hub. I believe that it is leading the way *towards*, as Nora Bateson would say, *readying the system* for *more profound* social transformation *yet* to occur.

This is what calls me to continue *developing my own potential here*, aligned with, in service to, and sourced from the potential of *this* Life-place.

my work in the world

Why have I recounted these threads of my story here? This Research, in *almost every* way, is *not some random* research topic that caught my fancy, but rather, the conscious formalizing of an inquiry that has been, to varying degrees, *present with me*, and embodied with who I am, for *most of my life*. The earliest part initiated the thread of profound observation and of figuring out what in the world was going on. And, the inability to fit in with “business as usual”. A related thread that developed *early on* was my *creative, beyond-the-box* approach to intervening in my world, which *later* evolved *into* whole-systems thinking from a design mind, *always* tempted to *hack “the system”*.

My adolescence, as was that of *most* teens, was characterized by a rebellious streak; however, mine went *much further* than my peers' in questioning the institutionalized order and the legitimacy of the authority imposing it on me. My *early* work life brought together *all* these threads, amplifying my tendency to see *everything* in terms of patterns, though the explicit language to express it was still lacking. Here also, my *deep-seated* need to find meaning in my life, via my life's Work, emerged *most* forcefully, and my response-ability, the agency to right things *somehow*, is *something* I have *never* recovered from. And, I was awestruck by the *magnificence* of the Life force that permeates the *entirety* of the Cosmos, the nature of the Biosphere, and my *own true* nature.

As I participated in *multiple* ways with the living systems *around* me, I began to consciously shape my interventions in the world so that they might *mimic* ecological processes. I started perceiving my Work as a set of *ongoing experiments* in bringing about *greater* self-organization at *increasingly* progressive scales, which contextualized it, probably because it and I were *rapidly* evolving. In my practice and in my lived experience over the years, I have gained so *many extraordinary* insights that, to this day, *continually light my mind on fire*. This was *eventually* impossible to contain and is what led me, at this more mature stage in my life, to engage in scholarly endeavor, for no *other* reason than to bring *further* coherence to these insights, and to place that coherence in service to the universal Life force, whose cosmic imperative expresses itself in *myriad* ways *throughout* our Biosphere, and whose *delicate* balance, we as Humans, seem determined to disrupt at *all* costs.

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Pre(con)text: What's going on?

My daughter's generation was the *first* to be born on a *dying* Planet. This realization has *profoundly shaped* my life and my life's Work. Since the day she came *into* the world, I have been *deeply* aware of the ecological devastation *everywhere around* me. Simply put, human social systems are directly implicated in unraveling the *extraordinary* Complexity of the *entire* web of Life. I have dedicated *most* of my adult life to healing the rift *between* human and natural systems that lies *at the root* of this destruction.

More than 20 years ago, for my master's thesis, I wrote *extensively* about the *global* ecological crisis in the context of a bioregional study of an *endangered* wetland ecosystem in Cuba.⁵ It was already apparent then that there was cause for alarm. Unfortunately, there *still* is, and *much* more so. Because it is a *highly relevant* point of departure for my doctoral thesis, I summarize it here.

I opened by demonstrating that there was an *abundance* of *credible evidence* that planetary-scale metacrisis were real. *And, there was no scarcity* of proof of the *active* role of Humans in damaging the Planet's Life support systems, severely eroding the quality of Life for human societies, and endangering the future of *complex* Life on Earth. The *unprecedented* Complexity of the metacrisis, a milieu of *intertwined global* phenomena—climate catastrophe, loss of biodiversity, extreme inequality, food/material insecurity, and political instability—is affecting every domain of human existence.

I detailed how "...ecological devastation has become an inseparable part of human culture." That is *culturally reinforced* by "...*self-perpetuating distinctions between* Human and Nature...".⁶ A *pervasive* paradigm that holds Humans *apart from* the *rest* of the natural world.⁷ Indeed, we have built an *entire* civilization on this *false* notion, which justifies the collective devastation of communities and ecosystems to feed *unfettered* economic growth.⁸ This mode of realization—of ordering and organizing the world—is "reaching the limits of its usefulness and the negative effects of the associated worldview and *resulting* behaviour are beginning to impact Life as a whole."⁹

our cosmic role: a *fully* Human potential

Unlike *most other* scholarly works, this Study is *not intended* to predict or prove *anything*. It is dedicated to *describing* the *workings of the world*, so that we can understand and participate with them in their *fullest* Complexity. An understanding that might *propel* us *towards* finding *potentially-transformative pathways forward* in every field of human endeavor, *especially* in

⁵ Yanez, 2004.

⁶ Yanez, 2004:7.

⁷ Wahl, 2016.

⁸ Ibid.

⁹ Wahl, 2016:91.

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scholarly research and inquiry, pathways with which we might complexify human social systems, that is, imbue them with the *requisite Complexity* so that they may gracefully enmesh themselves *within* the Living web.¹⁰

It will *not* be the *first nor* the *last* occasion I speak of this! This is *very clearly* what my practice, my scholarship, and especially, this Inquiry are in service to: to discover, accept, and *vigorously* embody our cosmic role as a *now* planetary force of nature on this Planet. It is *no evolutionary accident* that we are here in this moment in time. Although we have allowed ourselves to be divided and misguided by those who practice *mass* manipulation, our hearts know better.

I am convinced that Humankind is *collectively capable* of so *much* more. Our species, *perhaps uniquely*, is endowed with a *proprioceptive consciousness*—an ability to become aware of the emergence, evolution, and interdependence of systems in which we are *intimately* embedded. It is the *innate* capacity to find, or lose, ourselves in this *vast* Universe of which we, and *all* that we *meet in experience*, so integrally constitute. Even though we keep losing our way, let us aspire to be *fully Human*, to *celebrate all that we are*, a fulfillment of our *highest* potential as the mind of a Universe that *through* us is just beginning to reflect on, perceive, and perhaps *even* understand itself with *ever greater* clarity. Let us *not back* away from our *potentially* cosmic role as a species: to consciously regenerate and upcycle the Life-giving energies *all around* us, so that we may bring *ever greater* complexity *into* Being.¹¹

¹⁰ Transformational change was differentiated by Gregory Bateson in the context of learning in Lutterer (2012). The following summarizes three orders:

1st order: Improvement, or incremental mode, is about routine, habit, or repetition of something that has worked in the past, at best by adjusting it to the situation at hand. This type of intervention is often referred to as business-as-usual.

2nd order: Innovation, or problem-solving mode, means testing different courses of action from a limited set of alternatives. Although there is a shift away from automatic, the set of alternatives is derived from a given framework without an awareness of the underlying assumptions. Reforms, for instance, are an example of institutional problem-solving.

3rd order: The transformative or systemic intervention mode is the highest order change we can make. Transformative literally means that something moves from one form to another. In the case of systems, this implies that something definitively new emerges, the system acquires new qualities or capabilities—there is a change at the systemic level. It has evolved, it has new components and new relations, and there's no going *back*. Complex systems do this on their own, since they naturally tend to **self-organize—self-order**. However, change-makers can choose to intervene, toward catalyzing, or tending to the conditions for systemic change to unfold.

¹¹ Sanford, n.d.

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chapter 1. general introduction: our predicament

Oh, what a catastrophe for man when he cut himself off from the rhythm of the year, from his unison with the sun and the earth. Oh, what a catastrophe, what a maiming of love when it was made a personal, merely personal feeling, taken away from the rising and setting of the sun, and cut off from the magic connection of the solstice and equinox! That is what is the matter with us. We are bleeding at the roots...
D.H. Lawrence

The task of modern civilization is to live in a wall-less world. ...if we cannot create a wall-less world our civilization will die.
Lewis Mumford

Western culture has spent decades drawing lines and boxes around interconnected phenomenon, our safety and future depend upon whether each of us can step outside our boxes and participate intelligently in a world of complex interconnections.
Meg Wheatley

1.1 unraveling the web

In the *intervening* years since I published my master's thesis, the situation has *dramatically intensified*. We are becoming *more keenly aware*, as a global community, of the ecological devastation, and we are beginning to see the *devastating* effects of the climate catastrophe unfold. And, we have yet to respond in *any* coherent manner.¹ According to projections, the global temperature will rise by at least 1.5 degrees Fahrenheit on average, *further* amplifying and accelerating the unraveling of living complexity, an unraveling precipitated by a *particular* mode of realization of human activity.² Climate catastrophe is but *one* symptom of the *now much-talked-about* metacrisis threatening *all* of Life in the Biosphere.

1.1.1 pathology of separation³

Over the sweep of centuries, two *intertwined* movements are evident: Humanity's growing separation from the living web and an *intensifying* concentration of power in the hands of a *few* Humans. The separation is *exemplified* at *every* scale: from the land that sustains, from other Human and more-than-Human communities, from *each* other, and finally, from *within* our *own* selves.

As walls were erected *around* cities for protection, so too were walls erected *around* modes of knowing that serve to *fragment the collective mind*. As the distance from the places where material Life was sourced grew, Life was *forcefully* reordered and reorganized *around* profit and machines, and so too our bodies, as reconcilers *between* Earth and Cosmos, *between* sensing nervous systems and sense-making minds, were made *increasingly* obsolete.

¹ WWF, 2018.

² IPCC, 2018.

³ Mumford (1938) chronicles the dominance of Western civilization via the development of cities from the Middle Ages until the present; I summarize it in my own words here.

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Human settlements that had emerged *organically* were also *eventually* ordered and organized *by force into* cities—those *permanent bastions of separation* that facilitated the centralization of power. Cities intensified mass powerlessness among the multitudes *through* artificial divisions that segregated collective bodies *into* social classes. The growing class of industrialists *without* a landed power base shifted control from the city to *newly forming* states. States whose war apparatuses became necessary to ensure the flow of materials, *now* in *high* demand, from faraway ecosystems. With the advent of a *reductionist, positivistic* scientific tradition, the separation amplified. With the divorce of the *production of knowledge* from everyday life and a focus on the *parts* at the *expense of the whole*, came *power over* wild ecosystems, which justified the exploitation of objectified matter. See *Annex A* for Mumford's Six Stages of City Development.

The "... *dominant* urban environment of the past century has been mainly a *narrow* by-product of the machine ideology."⁴ The machine age has resulted in a sprawl of *blighted, fragmented* landscapes feeding an *overwhelming* sense of alienation in every direction. Beyond its social toll, the pathology of separation⁵ continues to have *disastrous* ecological consequences.

⁴ Mumford, 1938:10. Emphasis is my own.

⁵ A well-developed phenomenon described in depth by Edgar Morin *throughout* his body of work.

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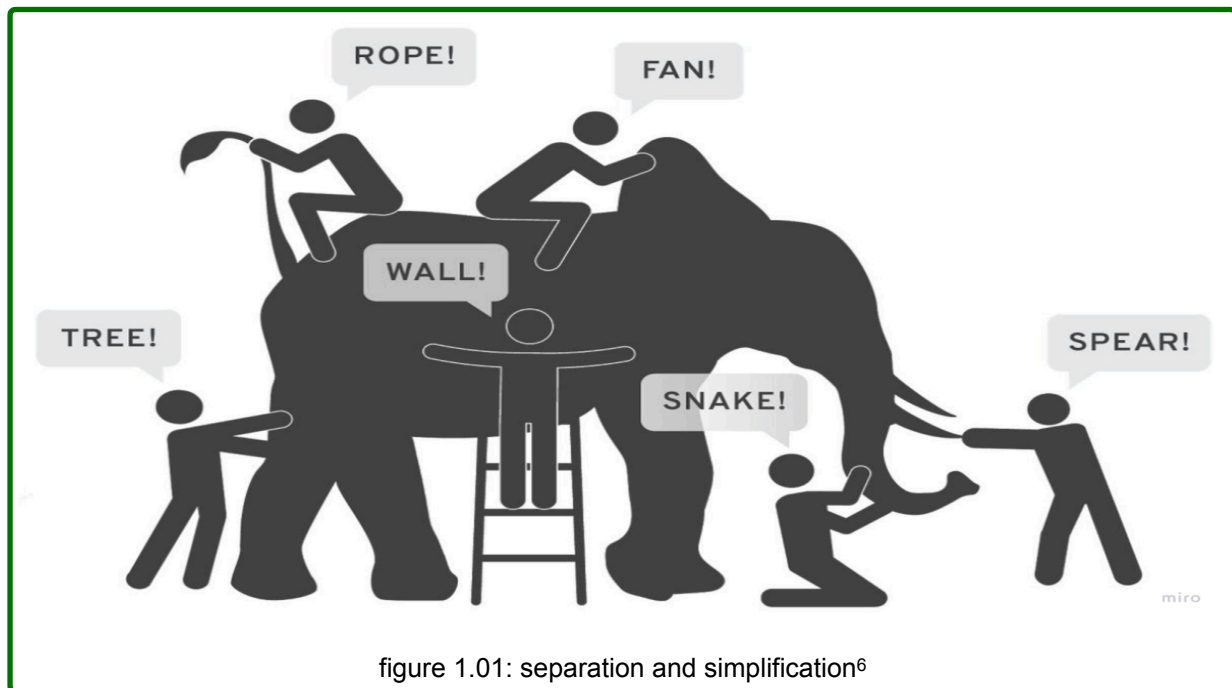


figure 1.01: separation and simplification⁶

1.1.2 paradigm of simplification

Life on Earth is one of the *most* marvelous, unimaginable complexities that has evolved over 3.8 billion years.⁷ Earth's Biospheric economy is composed of countless *interpenetrated* species, wholes whose interchanges continually regenerate Life at *every* scale. And yet, in the span of a few hundred years, one species—Homo sapiens sapiens, the *wisest of the wise*—has evolved a dominant and dominating mode of realization that contradicts, and therefore threatens the health and *intricate* complexity of, these living processes.

This mode of realization fails to embody Earth's biospheric complexity and is therefore detrimental to it. Although global and seemingly complicated, it is based on an oversimplified perception of the living complexity as a collection of objects, a heap of resources just waiting to be exploited. The simplification characteristic of the global economy is a product of an *all-pervasive mechanistic* paradigm perpetuated by a *reductionist* scientific tradition.⁸

The principles of disjunction, reduction, and abstraction dominate us. Together, they constitute what I call the "paradigm of simplification." Descartes formulated this master paradigm of Western civilization by disjoining the thinking subject (ego cogitans) and the thing being thought of (res extensa), in other words, philosophy and science—and by positing "clear and distinct" ideas as principles of Reality—in other words, disjunctive thought itself. This paradigm has dominated the adventure of Western thought since the seventeenth century. It has, without doubt, enabled very significant progress in scientific knowledge and philosophical re-

⁶ Image found in Iyer (2018).

⁷ Yanez, 2006; Berry, 1988 & 1999; Capra, 1996; Suzuki, 1997.

⁸ Bohm, 2017; Morin, 2008; Berry, 1988 & 1999; Capra, 1996; Suzuki, 1997; Yanez, 2004.

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flection. Its ultimately noxious consequences did not begin to become clear until the twentieth century.⁹

...

The only way to remedy this disjunction was another simplification: the reduction of complexity to simplicity... fragmentation inflicted on Reality was reality in itself...behind the apparent complexity of phenomena, a perfect order, regulating a perpetual machine (the cosmos), which was in turn made up of micro-elements (atoms) diversely assembled into objects and systems. ...knowledge necessarily built its rigor on... measurement and calculation. ...Simple thought unifies abstractly, canceling out diversity. Or, conversely, it posits diversity without conceiving of unity. ...In this way, we arrive at blind intelligence. Blind intelligence destroys unities and totalities. It isolates all objects from their environment. It cannot conceive of the inseparable link between the observer and the observed.¹⁰

One reason this worldview persists is that, as complex systems, we have the self-corrective survival capacity to shut down parts of our perception that would otherwise allow us to participate in Life's complexity.^{11,12} In other words, it takes a conscious effort to recognize and systematically integrate Life's complexity.

1.2 the way¹³

In the West, we are socialized *into* a tradition and thought system—paradigm—whose **ordering—organizing** principle is guided by a general mistrust of Nature—in Western parlance, the term “nature” is *often* applied in a limited way to refer to the uncontrollable wildness found in the living world *around* us—one, that seems imperative for Humans to control, that is, to *artificially* order and organize. In the same way, we learn to fear our own uncontrollable natures. We are so entrenched in this mode of thinking that we allow ourselves to maintain an illusion. This meta-narrative externalizes us from the Living web and divides us from *within*, from our own *inner* natures.

Any inquiry whose aim is the understanding of our place in the scheme of things, ought to study Chinese philosophical traditions, especially thought systems such as Taoism, whose foundational principle is that *all* of Nature, and *especially* human nature, is a Nature to be trusted, a Nature we ought to submit to and allow to guide us, if we are to live skillfully.

⁹ Morin, 2008:3.

¹⁰ Ibid:4.

¹¹ I think it is important, at this point, to clarify the difference between the terms “capacity” and “capability,” the usages of which are quite intentional. Capacity is a measure of inherent potential; in other words, any individual of a certain species has the same capacity, that is range of potential abilities. Capability has to do with the degree to which that potential is developed within an individual of the species, and this is dependent on the will applied to an individual entity.

¹² Bateson, G., 1972.

¹³ This section is sourced in its entirety from Watts, 2000.

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1.2.1 *tzu-jan*: of-itself-so

Tao, or the Way, has two meanings: the first implies a path to follow, as in the pathway *forward*; the other refers to Nature, *anything* that is *of-itself-so*, and therefore capable of having an essence—a *singular* essential nature. Everything is said to have its *own* Tao, *some* aspect that is *entirely* elusive and undefinable, that which makes it *somehow* different from *everything* else that came *into* existence *before* it. That which makes *something uniquely what it is*.

Tao recognizes that *everything*, and therefore *every* thing, is alive to *some* degree, be it the *simplest* dynamism found in the *most* elemental particle that is *continually* popping in and out of existence—the *of-itself-so*—that which is happening *of its own accord*. In scientific terms, we can equate this to the self-realizing Complexity—the self-so process—that patterns our own Universe at *every* scale, which I refer to as Physis.^{14,15}

1.2.2 *jen*: humanness

Chinese traditional thinking wholeheartedly embraces human nature. This is exemplified in the Confucian notion, *jen*, which translates as humanness or human-heartedness. This notion is essential to this Study, which aspires to awaken what is self-so in our collective humanness, that we might bring human social systems *back* in synch with the Way. In this Inquiry, we are applying the notion of *jen* to elucidate the significance of the term “*fully Human*.”

Western tradition has sown a mistrust of Nature and of our *own* nature. I suspect it is based on its *profound* fear of the unknown, and *especially* the unknowable. Indeed, there is *always some* element of Life that is undefinable and therefore uncontrollable. We can't get *outside* of ourselves to define or to control ourselves. Humans are integral to the natural Universe. And our natures are *inextricably* linked to *who we are*. Any impulse to control Nature, as if it were *some* external object, is futile.

1.2.3 *wu wei*: non-interference

Taoist tradition is organized *around* a second principle: the practice of *wu wei*, the *not*-forcing or *not*-grasping of what is *of-itself-so*. This is the practice of *not* getting in the way of the Way, and therefore, in our *own* way, in essence, allowing *all* things to develop themselves, each in their own way. This is the impulse *behind* the aforementioned tradition, the Developmental School, and its Fourth Way tradition.

¹⁴ Throughout this Study, where appropriate, I have substituted the more general term “self-realization” instead of the more commonly used term “self-organization,” because the process of self-realization includes both self-ordering and self-organizing—this will be expounded shortly.

¹⁵ Morin (1977) resuscitates the Greek term Physis to differentiate a living physics from an inanimate Newtonian physics, and to begin the process of reconnecting Humanity to what is self-so in our own natures.

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This is difficult for us Westerners, who have been socialized *into* a limited cosmology, one that reinforces a belief in an illusion. This illusion sees the world as *controllable* external objects. This creates a *conflict within* the system. The conflict is *between* our ideas of how things are (epistemology) and how things really are (ontology).¹⁶ This takes us *out of accord* with the Way and sets us up to manipulate and interfere with it.

that this could happen is entirely understandable. For, at the heart of our humanness, to understand *anything*, we must necessarily contrast it with *something else*. However, when we attempt to describe the *entire* Universe, we have *nothing* to compare it with, and we are at a loss for words. Something we intend to remedy herein.

1.2.4 *tsu*: the order of things as measured

In our attempt to make sense of Life, Western tradition approaches the world as if it were a collection of words or signs, but in reality, beings such as animals, rivers, mountains, stars, and galaxies are *neither* symbols *nor* signs. Attempting to fit the complex order and organization of Nature itself *into* a *very simple* system of language, without the requisite Complexity *only* exacerbates the internal conflict. It gets us *into further* difficulty and confusion. The Chinese language has a term “*tsu*”, which represents the *order of things* as measured or written down. This *only* refers to the *order of things* as we can pick them out from their context, *think them in words*, or *quantify them with numbers*.

*"...we have been trying to fit the order of the universe to the order of words, but it simply doesn't work ... The order of the world is very different from the order we create with the rules of our syntax and grammar. The order of the world is extraordinarily complex. The order of our words is relatively simple, and to use the order of words to try to explain life is really as clumsy and operation as trying to drink water with a fork."*¹⁷

In the Western tradition, we are conditioned to make sense of ourselves, to rationalize ourselves, and *everything around* us in words. We develop a second self *inside* us, known in Zen as the *observing self*. This is what sociologist George Herbert Meade refers to as the *interiorized* other, which produces a running commentary *within* ourselves that can be helpful to a degree, but is *often* problematic. It works to turn us *into* calculating creatures who get in our own way. This getting in our own way locates itself at the heart of the internal conflict.

¹⁶ The interplay between **epistemology—ontology** is a notion also attributed to Gregory Bateson.

¹⁷ Watts, 2000:59.

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1.2.5 *yin-yang*: inseparable opposites



figure 1.02: uniduality of yin yang¹⁸

In Chinese traditional thinking, they have devised a system for navigating the whole of what's going on in our Universe, which I refer to here as the *workings of the world*. With the Yin Yang symbol, the entirety of the universal process of Reality is represented by a great circle. However, Taoism recognizes that for us to understand *any* part of Reality, we must make comparisons—set ideas in relation with *each* other—as polar opposites: **{yang—yin}**, **{positive—negative}**; **{light—dark}**; **{male—female}**, **{father principle—mother principle}**, and so on. Yet there is *no* choice being effected, *no* privilege being assigned.

Even though the tradition divides the world *into* opposites to facilitate our thinking, it understands intuitively that these opposites are complementary, inseparable, bound dynamically together, *always* going together, thereby evidencing a *larger* underlying unity. A uniduality, in the words of Morin, which will prove an *essential* insight to be explored in the course of this Study.¹⁹

1.2.6 *li*: complexity of organic pattern

We know intuitively that we are *somehow* part of *some* coherent whole we call the Universe, but we can't really define what it is. There is *always something* going on in our Universe that is elusive, unknowable, and *beyond* our reach. It exists a priori to *any* tradition or thought

¹⁸ Composed by this author (unpublished).

¹⁹ “Uniduality” is a term coined by Morin, described at length in Yanez (2023).

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system. This is significant because it means that *no* system of thought could ever reach *back far enough* to define its *own* basis.²⁰

The Tao realizes itself. There is a Chinese word, *li*, that stands for the actual order of Nature, that translates as the *infinite Complexity of organic pattern*—a notion we'll be delving more deeply into in Chapter 4—an infinite Complexity we find *everywhere*: our *own* bodies, the living world *around us*, and *throughout* the Cosmos. All the time, we are actually relying on the strange and unintelligible self-so order. And, because it is organic, *li* is *not* compatible with formulation in order of words; it is *not* a linear pattern. For example, we know what beauty is, but we'd be hard-pressed to formulate laws for creating beauty. Following the Way is the art of feeling our way *into* our *own* nature as Humans. This capability is *precisely* what I aspire for in this Inquiry *into* the *highest-order* potential of human nature.

1.2.7 pattern and causality

With *any* tradition, there is *always* the hazard, over time, that a dynamic understanding of natural phenomena becomes a rigid structure, which eventually *excludes* the recognition of novelty. This can be true of *both* the scientific and the Chinese traditions. However, the Chinese Book of Changes, the source of the Yin-Yang system of divination, offers a mode of perceiving Life that helps us move *beyond* linear thinking, based on causal relationships *between* events, as prescribed by the *order of words*. And, it enables us to generate mental images of a *pattern of events* as a whole. This *non-fragmented* mode of perceiving the *workings of the world*, we might call the *order of image*, where *all* of the elements of a whole present themselves *all at once*. It understands events by taking a holistic view of phenomena in intimate relation to their context. Imaging as a technique is applied *throughout*, and its Workings are described in Chapter 3.

By relying on *li*, the patterned relations *between* events, Taoist thinking strives to understand *every* event in terms of what moves and flows with it. With *li*, the *extremely subtle*, complex patterns open the possibility for comprehending a *large* field of events *all* happening together *at once*. This is precisely what I am striving for with this foray *into* generalized Complexity.

This marks a *significant* shift in thinking, recognizing that *each* event is enmeshed in *larger* patterns that govern and guide the development of *every* phenomenon. This speaks to the relative nestedness of wholes, whose profundity will be explored as this Inquiry unfolds. The traditional Chinese view of life *suggests* a *new* mode of perceiving the workings of our world,

²⁰ In this sense, systems of thought are similar to the notion of energy, which, can neither be defined, nor is there basis for its understanding, and yet we participate with it daily.

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one that is in accord with *new* modes of thinking developing in our *own* Western scientific and philosophical traditions. These and others *will* continue feeding this Inquiry.

1.3 pathways forward

There is an *unstoppable* wave of blessed unrest reverberating *across* the Planet—*mainly small* organizations in *every* part of the world forming a movement of movements, described as the Biosphere's immune system activating itself to *resist* a viral attack from the *inner* conflict.²¹ I am blessed to be part of *several* movements and networks *globally* that are part of this wave. Unfortunately, it is *nowhere near* as coherent as it is characterized to be. This is fueling my *search for the missing middle*. And, my practice, scholarship, and activism are *all* dedicated to finding pathways to it. As mentioned earlier, the promise of that coherence was what brought me *here* to Europe.

Some of the movements I participate in include: permaculture, transition initiatives, earth economics, urban greening and rural re-wilding, agroforestry and regenerative agriculture, bioregionalism, food security/sovereignty, ecovillages and intentional communities, self-governance, and local living economies. Fortunately, this is *only* a representative sampling of tens of thousands of groups that pursued *alternative* modes of realization to counter the *dominant* mode. Unfortunately, *most* of these are still operating from a pathology of separation, which divides and conquers, which walls off each from the other, and a *paradigm of simplification*, whose systemic effect is an epidemic of anemic, *grossly underdeveloped* human social systems, incapable of being *in accord with* the complexity of the living web.

1.3.1 my work in the world

I am a whole systems design practitioner, which means, I aim to heal the capacity of systems for complex self-realization, *across* a continuum that *includes* the physical (Physis), the biological (Bios), and the anthroposocial (Anthropos). It is vital to point out that I don't design Complexity; instead, I design interventions that move a given system *toward* realizing itself, thereby orienting it *toward greater* complexity. There is *often* a clear moment in a system where I have intervened to complexify, when one can sense it has transformed from being a *mere* collection of individual elements—soil, plants, water, animals, people—that is, *suddenly* burst *into* being a *cohesive* living whole, in this case, an edible forest garden. A transformation from fragments to fractals occurs, seemingly magically, forming a *constellation of interrelatedness among* living entities, whose essences differentiate and intensify.

Paradoxically, with this intensification of essence, *each* entity's capability for relationality grows, opening more so *towards* the other, revealing the *unique* value each brings to the *greater* whole, of which it is *now* participating. These parts-in-relation actively surrender *into*

²¹ Hawken, 2007.

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a “*larger self*” that, in *that* moment, *is* self-realizing *into* a *higher-order* self, a bit like water molecules turning *into* ice *seemingly all at once*, but that were *readying themselves* imperceptibly for *some* time.²² Of course, the *order of words* does *not* do justice to this developmental process. However, this, along with several other *key* insights gained *through* decades of lived experience and practice at *various* scales, has led me to engage in this Study.

1.3.2 relevance to the research

Although I enjoy doing this Research immensely, I have been drawn to it *magnetically* by an *overwhelming* calling to participate in it, as a *conduit for Aliveness*. To *consciously* dedicate whatever embodied understanding I can cultivate, make myself, as a *microcosmic, yet intimate* member of an *extraordinary communion of Life*, to *complete* that communion.²³ In this way, I contribute, in my *own unique* way, to reorienting our human social systems *towards higher* orders of complex self-realization. This work, in turn, retroacts on me—moves me *toward greater* self-realization.

Over time, as a practitioner, and myself as a complex living system, I have honed my intuition, that is to say my nervous system, to read the subtle qualities of a place, to recognize potential, to see in which direction *it* wants to evolve. I have intervened on *many* occasions to accelerate this transformation on the land with a *high* degree of *momentary* success. And yet, these interventions have proven ineffective in bringing about the *larger* paradigm shift necessary for human social systems to gain the capacity to integrate the qualities inherent to a requisite Complexity.

I have followed my *clear intuition* into this PhD program in Complexity Science because I am ready to deepen my understanding of the qualities of *complex* living systems, with the aim of applying them to the reconstitution of human social systems. Once again, *not just* for its own sake, but for the express purpose that these may be able to fit elegantly *within* the natural systems—shorthand for the *infinite Complexity of organic pattern*—from whose limits they have *momentarily* escaped. Many, including myself, believe this is the *most graceful* way *forward* for Humanity over the coming decades of uncertainty, enabling an emergency landing *rather than* a fatal crash.

I must pause for a moment here to focus on the limitations of language. I find myself struggling with the need to speak of living or natural systems, and to refer to non-human-dominated systems, as if human systems were *somehow* unnatural. I have had this debate with *numerous* friends and colleagues. And the *sad* fact is that Humans, in their *current* mode of realization, have indeed, in *some* sense at least, *forfeited their natures*: that which makes

²² With this way of seeing Complexity, there are no more isolated parts, only parts-in-relation, purposefully hyphenated to provide a constant reminder that they are participating in, partaking of, something *greater* than themselves, the whole in which they are intimately nested.

²³ Berry (1988) presents this phrase to bring a sense of the sacred to a grouping of a whole host of terms utilized to refer to living systems.

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them *fully Human, fully primate, fully mammal, fully animal, fully living being, fully existent*. Quite expectedly, this has introduced a conflict *within* the whole Biospheric system. A *conflict*, this Inquiry aspires to reconcile.

Within this *vast* field of generalized Complexity, I am drawn to ways of revealing *complex* patterns of self-realizing in the Cosmos, but particularly in the *more proximate* living systems, so that these may be applied *within* the context of ecosocial systems. I am using the term “ecosocial” to connote an already-shared, **(Human—more-than-Human)** reality, *as of yet* unactualized; an *uncontested* opening—the *missing middle* where Physis, Bios, and Anthro-pos can meet, bleed *into each other*, and co-evolve.

1.4 the dissertation

I had no idea what would unfold over the course of the six years I have been engaged with this study. This section provides a map of sorts for navigating the dissertation.

1.4.1 ordering of the dynamic whole

The dissertation is ordered by two complementary movements in dynamic relation with *each other*, which serve to generate the whole.

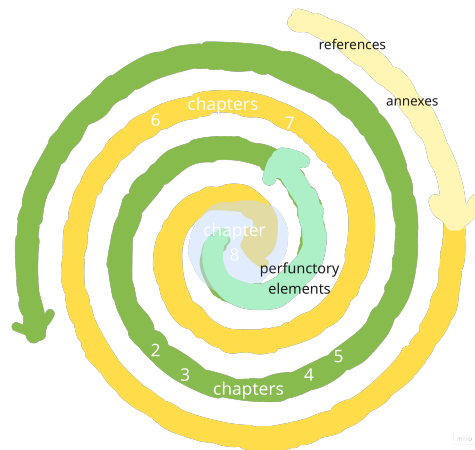


figure 1.03: dissertation movements²⁴

The *first* movement has a *bottom-up, inside-out* directionality, whose opening spiral differentiates generalized Complexity as it unfolds across Chapters 2-5. The *pure* potency of theory, if you will. The *second* and complementary movement has a *top-down, outside-in* directionality, whose closing spiral consists of the harvesting of lived experience as it enfolds in Chapters 6 and 7.... The concreteness of practice, if you like. These two movements—theory and practice—come together and reconcile in Chapter 8, with an incomplete completeness,

²⁴ Composed by this author (unpublished).

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which I suppose, is the nature of *all* research projects. It is both a closing of sorts and also an opening, pointing *towards* the *next* turn of the spiral.

Prior to any movement, what initiates movement in the first place is that which readies the system for what's to come, the seemingly perfunctory elements, without which this Dissertation would not be possible: contents, figures, abbreviations and conventions, acknowledgments, preface, and introduction. Eventually, these two movements fade into the larger background from whence they arose, leaving behind the traces of their deeper roots: the references and appendices that nourished their growth.

1.4.2 organizing of the parts-in-relation

The *parts-in-relation* take the form of chapters, which have self-organized *into* sections and subsections. Chapter titles are bolded, centered, and announced at the inception of *each* chapter. Section headings are bolded, left-justified, and commence at the top of a page. Subsection headings are *not* bolded and are separated by a page-width line *underneath*. See the following section for chapter summaries.

1.4.3 chapter summaries

The following serve as chapter summaries.

chapter 2. generalized complexity. With chapter 2 and the subsequent three chapters, I aim to arrive at a *higher-order* theoretical understanding of the *workings of our world*. In this chapter, the reader will find the *main* body of the state-of-the-art of the *nascent* field of generalized Complexity, although, as will become clear, there are *other* portions of the literature review *more appropriately* located in subsequent chapters. Generalized Complexity is *everywhere* active and can be *best characterized* by distinct *yet* interrelated implicate qualities of generalized Complexity, qualities that this Research seeks in our human social systems.

These qualities are brought to Life through a thorough interpretation of developmental principles and a *dimensionalized* notion of selfhood, revealing a *missing middle*, where it is premised that our *fully human* potentiality awaits. Our search for this potential leads us to survey the *so-called* human sciences for signs of Life—the implicate qualities of generalized Complexity. Along the way, I present a proposed meta-epistemological framing to reintegrate the human element at the heart of a *complex*, self-realizing Universe *through* the *complex* reorganization of living knowledge. And lastly, I consider what might be required of us, if we were to re-engage with the *inherent* complexity of the **{Human—more-than-Human}** realm of the ecosocial.

chapter 3. approaching generalized complexity. Chapter 3 describes our approach to this Study of generalized Complexity, which the Study has striven to embody its implicate qualities vigorously. One that remains inaccessible via reductive or prescribed approaches to in-

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quiry. Therefore, our approach aligns with the age-old tradition of natural philosophy and its method of progressive approximation, both *of which are optimally suited* to the open, exploratory nature of our subject of study. Here, generalized Complexity differentiates itself *into* a Universe-of-complexity.

This Research locates the Human in a participatory Universe-of-complexity, where our *increasingly anemic* perception of its Workings perpetuates an impoverished version of Reality. This Research aspires otherwise. Here, I identify the *missing middle between* Reality and how we know that Reality, as experience. This chapter lays the ground for a *deeper* understanding of the elements of experience and the nature of phenomena that present themselves to us in our experience. Together, we explore re-inhabiting the missing middle to reestablish a body of *direct* lived experience of the Universe-of-complexity. To do so, I articulate a complexified notion of embodied inquiry with the aim of understanding ourselves, *not just* as *exquisite* examples of Complexity, but also as portals *towards* understanding the self-realizing Universe. The chapter concludes by describing the *techniques* demanded by this approach; foremost among them is imaging the *workings of the world*.

chapter 4. theoretical foundations for a Universe-of-complexity. Chapter 4 is the first of two chapters devoted to building the living soil, a *fertile* theoretical ground, cultivating a *richer* understanding of the Universe. We begin with the Neoplatonic tradition and the thinking of Plotinus. Specifically, we weave together insights on insight, seeing *beyond* a surface reality with the *mind's eye*, the subject of *inner* vision, the Source of the universal patterns from which *all* gradations of being emanate. And we land on the workings of imaging and of the whole and its *parts-in-relation*, thinking that continues to evolve to this day.

This Inquiry proposes and develops the notion of the implicate dimensionality of the patterning underlying *all* phenomena, which must *necessarily* be present to guide them *into* existence. A notion I use to shape the theoretical meta-framing, in which the implicate qualities gain *even greater* concreteness, enabling us to attain a *multidimensional, all-at-once* image of the Workings of complex phenomena.

chapter 5. Universe-of-complexity. Chapter 5 comes to terms with the fact that we inhabit an *undefinable* Universe, which *presents itself* to us in its *totality* as a Continuum-of-experience. Here we encounter the *monumental* work of Bennett, with which we *transcend and include* the otherwise limiting *enclosures of the mind* inherited from Western intellectual tradition: concepts, categories, words, definitions.

Through the method of progressive approximation, we are enabled to unfold a *complexified* image of the Continuum-of-experience, both as a *relative* totality and as *differentiated* gradations of wholeness. We approach the unfathomable with 12 *interpenetrated* steps, and we begin to understand the Workings and significance of its gradations. A *dimensionalized* description of the elements of experience renders a *clearer* image, from which I am able to

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present a progression of *relational maps* for navigating the Universe *now* presenting itself to us as a differentiated Continuum-of-experience.

chapter 6. sacred play. With Chapter 6 and the chapter that follows, we effectuate a change of directionality. While previous chapters were mainly theoretical, they were supported by and tested *through* lived experience. These chapters emerge primarily from lived experience, are supported by, and are generative of theory. This chapter presents a *radical* reinterpretation of the UN Sustainable Development Goals (SDGs), written as if Life mattered. It prepares the ground for their sorely needed renewal by describing their shortcomings and transcending their *inherent internal conflict* of *misguided*, unsustainable development. What emerges are the Regenerative Development Aims (RDAs), a *radical* revisioning of human social systems that integrate the implicate qualities. The implicate dimensionality, which we surmised as *essential* to reawakening our *fullest* humanness. Here, we explore how the self-realization of a meta-framework emerged from the composted remnants of their *less-than-adequate* predecessors.

The RDAs themselves surprise us with their emergent capabilities as *Life-affirming* instruments endowed with the *inherent* potency to guide *collective, community-scale* processes *towards* generating pathways *forward* in what we call sacred play. In this chapter, we develop a *comprehensive* understanding of this notion of sacred play, in which our search for a *missing middle* is *further* fulfilled: a *fully human* ableness that we have exemplified for *most* of our existence as a species. This is the capability for playing with *alternative* modes of realization, *continually* renewing a sense of meaning in how we self-organize as integral communities.

chapter 7. pathways of potential. Chapter 7 is structured *into* two acts, separated by an intermezzo. It zooms in on two RDAs in particular to image their potential Workings. Act 1 directly addresses RDA 11, the self-organizing bioregion. It presents a paper with the same title, the self-organizing bioregion, which explores what we have in common as cosmic beings, *how* we might self-organize *around* this, and specifically, *how* we engage in the praxis of commoning *living* knowledge in a pluriversal, *already-shared* reality. Act 2 takes on the controversial SDG 8, now RDA 8, living economies. It presents economies of scale-linking, part 1, directed *towards* re-thinking how we co-create value in a Universe.

The Intermezzo, the economics of aliveness, serves to bridge the first and second acts, reconciling the two seemingly disparate subjects of bioregion and economy by *loosely* laying the groundwork for RDAs 2 and 12. Each part attempts a *very practical* exemplification of the implicate qualities we've established, and in so doing, each, in its *own* way, deepens our understanding of them. We are witnesses to their transformative potential when aimed at reorienting human social systems.

chapter 8, on the prospects of being *fully* Human. Chapter 8 brings it *all* together by attempting to reconcile the two movements of theory and practice, spiraling *toward each other*

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and culminating here at the vortex. This final chapter offers an overall restatement of this Study of generalized Complexity; it reflects on the surprising discoveries along the way and brings them together to reveal *even* greater significance. It culminates with an exploration of what is emerging next as a natural continuation of this Research.

This Research has been, and continues to be, a *wild adventure of discovery*. It is in this spirit that I invite the reader to journey with me, as we explore together the *mostly uncharted* territory of generalized Complexity.

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chapter 2. generalized complexity, a first pass at a state-of-the-art

What is essential is invisible to the eye.
Antoine de Saint-Exupéry

Designing for wholeness is to begin to heal our separateness from the living world.
Regenesis Institute

Everybody has to be a designer. What we're calling for is massive creativity. The fundamental issue we're trying to address is the rightful place of humans in the natural world. How can we go about being part of the natural design?
William McDonough

In this chapter, the reader will find the *main* body of the state-of-the-art for the nascent field of generalized Complexity, although, as will become clear, there are *other* portions of the literature review more appropriately located in *subsequent* chapters.

2.1 recognizing complexity

We lack *agreed-upon* definitions of Complexity; such definitions may *not even* be possible or necessary.¹ Some authors have attempted a definition of complex systems as if, these were *somehow* isolatable units of experience that could exist *outside* of the *entirety* of a universal process; a process, which *includes* and envelops us, *all* we encounter in experience, as well as, the wellspring of infinite potential, that we can *only assume* exists, which must be necessary for such a Universe to continually come *into* Being.² Any such attempts of defining—that is, of bounding the boundless—are, and I suspect, will *forever* be futile and *wholly* inadequate! And yet, as Humans, it seems *deeply* ingrained in our nature; we are compelled to understand ourselves and our place *within* the *workings of the world*. This Inquiry aspires to provide *another* approach to generating understanding, one that is woven from the *very same* fabric of Complexity of its subject of study.

¹ Mesjasz, 2010:713.

² Some authors, particularly those coming from a restricted complexity tradition, including West (2017) and Mitchell (2009) submit to this mode of thinking.

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figure 2.01: generalized complexity literature³

2.1.1 generalized complexity⁴

A *crucial* distinction can be made *between* restrictive and generalized Complexity.

restrictive complexity. As the name implies, restrictive complexity bounds itself *within* the disciplinary confines of complex systems science; this is adequate for recognizing Complexity as it expresses itself *locally*, in particular systems that we may be studying. And, because of confinement, it is *incapable* of seeing *beyond* localized phenomena, including seeing and reflecting on itself as a discipline—we should recall here that our *highly* developed capability for self-reflection is indeed one trait that distinguishes us as Humans.

generalized complexity. Generalized Complexity recognizes that the Complexity of self-realizing processes—self-ordering and self-organizing—are present *everywhere* in our Universe, albeit *intimately* entangled. It *includes* and *transcends* restrictive complexity. As such, it is a *wholly* transdisciplinary approach—it cuts across and binds together *all* disciplines and reaches *shamelessly into* and stretches *well beyond other* modes of experience. This Inquiry ventures *boldly into* the unknowable. However, it does so by starting from what is *already* known, intuited, and understood. And, more importantly, it does so in good company, benefiting from some of the more *generously prodigious* and *prolifically insightful* minds we have access to.

You might ask, how does one wrap their mind *around* a field so seemingly boundless? We do so *iteratively*, beginning *here* with a surface-level attempt at a "state-of-the-art", which, at best, promises to move us *simultaneously* in two directions: deeper *inwards*, to reveal a

³ Composed by this author (unpublished).

⁴ Morin, 2006b.

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more *elusive* set of qualities at the heart of complex self-realization, from which I base this Inquiry. And as we deepen, we also expand *outward*, in a spiral motion, *progressively* uncovering common ground for understanding generalized Complexity.

When I first began this Research project on generalized Complexity, I had a strong intuition that Wholeness was an *active* quality, and that understanding it would be central to this Inquiry. The notion of Aliveness also emerged, demanding that I differentiate it from Wholeness. Eventually, Centeredness made its grand entrance *into* the mix.

Here, it is vital to acknowledge and survey the work of Christopher Alexander, which has proven *foundational* to my research. To date, few scholar-practitioners have done more to elucidate coherently what I am referring to as the implicate qualities of Wholeness, Aliveness, and Centeredness.

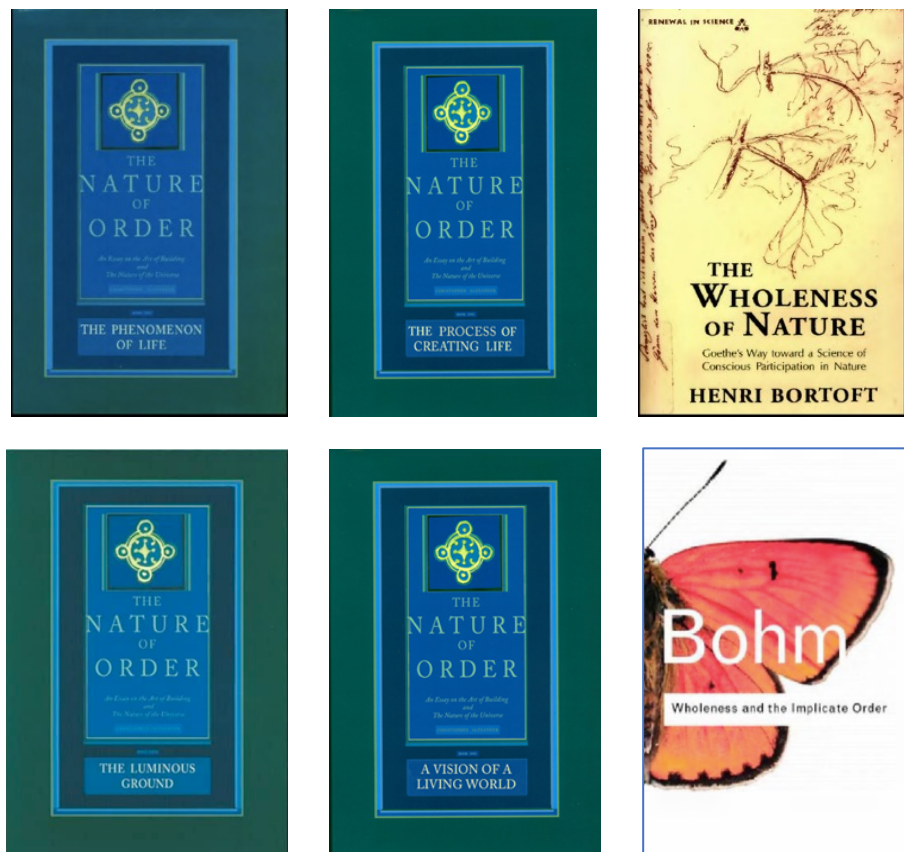


figure 2.02: phenomenology of wholeness literature⁵

2.1.2 a phenomenology of wholeness

Alexander is a brilliant architect and thinker whose life's Work has been dedicated to developing a phenomenology of Wholeness.⁶ Wholeness is the “source of the coherence which

⁵ Composed by this author.

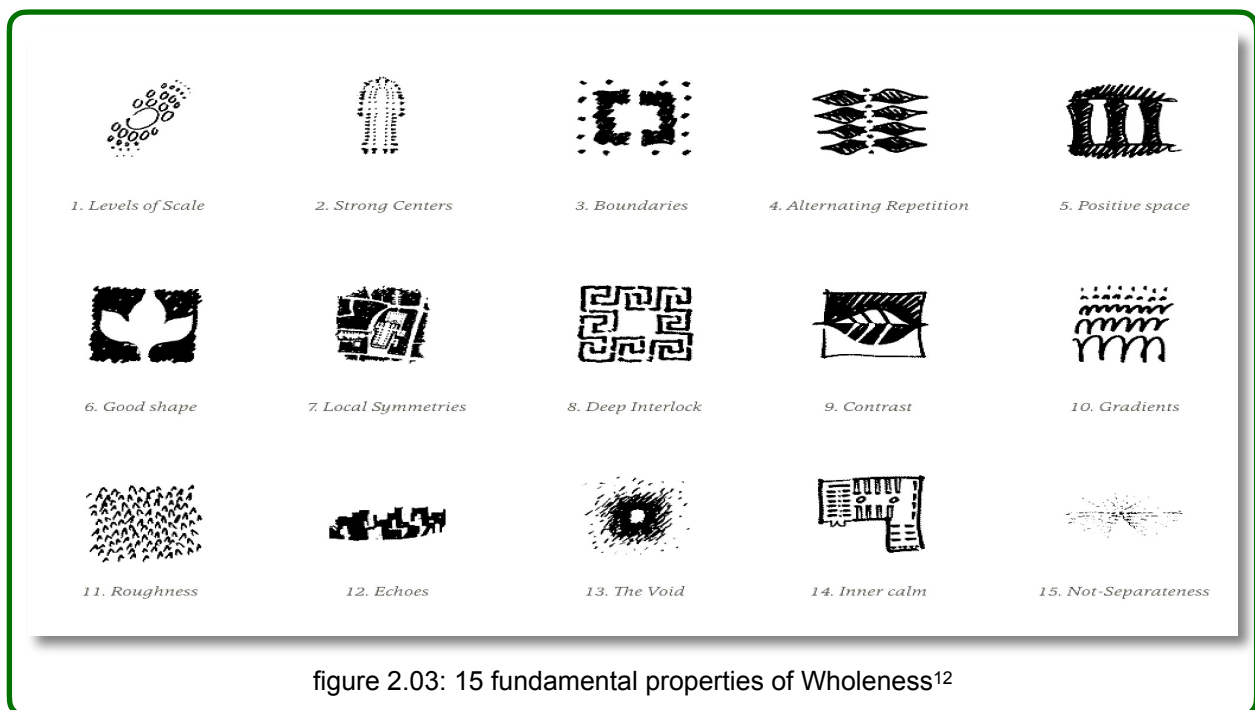
⁶ Seamon, 2007:1.

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exists in *any* part of the world.”⁷ The *higher* the *concentration of centers* arranged in living patterns, the more it comes to Life as a complete and complex whole. He refers to it in his *earlier* work as the *quality without a name* that has a *self-maintaining fire of Aliveness*, which embodies the true essence and *unique* character of *any* Life-place.^{8,9} You may recognize the patterned language borrowed from Taoist tradition.

In his seminal four-volume work, *The Nature of Order*, Alexander undergoes the monumental task of developing his phenomenology in great detail; I briefly summarize it here, as it provides central tenets that underpin my research.¹⁰

degree of aliveness.¹¹ Aliveness, to varying degrees, exists *everywhere* in the Universe. Every center, *everywhere*, exhibits *some* degree of aliveness. This establishes the intellectual grounding, *not only* for a *new* architecture, but for a *renewed* approach to understanding our **physical—biological—anthroposocial** realities. It serves as a platform for inquiry *into* a generalized Complexity characterized by the complementary dynamic of **{Wholeness—Aliveness}**, implicate in our world.



⁷ Alexander, 2002a:90.

⁸ Ibid.

⁹ Mang et al, 2016. Place can be understood in the broader sense of any coherent context where a particular whole can be located, that is, nested within.

¹⁰ Alexander, 2002a; 2002b; 2004; 2005.

¹¹ Alexander, 2002a.

¹² Alexander, 2002a.

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living structure.¹³ The understanding of the phenomena of living structure is based on our above ideation of Alexander's Theory of Centers and of Wholeness. We can conceive it as the *cosmic fabric of Aliveness* produced by the *coherence of centers* differentiating at *any* place. Living structure can be *more accurately* characterized by 15 fundamental properties (see Annex B), properties whose significance extends *well beyond* Physis and Bios, affecting Anthropos as well.¹⁴

unfolding Aliveness.¹⁵ The implication is that, by understanding these Workings, we, as Humans, are capable of unfolding *ever-greater* aliveness in our world, contingent on the nature of the processes we use to bring about living structure. The *key* factor lies in intuiting the complex ordering of unfolding events that allows living structures to emerge successfully. What is required are *structure-preserving transformations* that maintain the wholeness of a system and improve the *texturing* of the living structure, as it is *now* further differentiated *through* intensifying aliveness—a *step-by-step* process, applicable *beyond* architecture, for the design of interventions that can animate human social systems.

aliveness experienced. Phenomena that present themselves to us in experience that display a *high* degree of aliveness connect us to our *inner* world of emotions by providing *archetypal human experiences* that express *similar* dimensional qualities.^{16,17} Indeed, phenomena, "...may be alive or dead. To the extent they are alive, they let our *inner* forces loose, and set us free; but when they are dead, they keep us locked in *inner conflict*."¹⁸ The same *internal {Human—Nature} conflict* we've alluded to *previously*. This is so because its centers arrange themselves as living structures patterned in *singular* ways, which exhibit a degree of aliveness that resonates with us as sentient beings *through* personal lived experience.¹⁹ The premise is that if we can integrate our two-sided nature—the analytical with the feeling—we are better able to make sense of the world *around* us, and participate in the unfolding of its aliveness.²⁰ It is vital to pause for a moment to take this in. Alexander achieves nothing *less*

¹³ Ibid.

¹⁴ Alexander derives the fifteen properties from which all Wholeness emerges (see a summary in Annex B.)

¹⁵ Alexander, 2002b.

¹⁶ Chapter 6, act 2 expounds on the role of what Massumi (2018) terms "affect," which can be applied in the practice of affective resonance for assessing the degree of aliveness, and hence non-monetary value, of any aspect of Reality.

¹⁷ Alexander, 2005; I expand on the dimensionality of phenomenon in Chapter 4.

¹⁸ Alexander, 1979:x.

¹⁹ In Chapter 3 we explore the related notions of embodiment and collective sensing as approaches to inquiry.

²⁰ Alexander, 2004.

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than an approach to participating with Complexity that fuses together matter and mind, providing a way *forward* for exploring *consciousness* as the ground for the physical Universe.²¹

pattern language. Alexander's phenomenology is based on a system he developed early in his work, called pattern language. Patterns are *not* things in themselves, but archetypal assemblages of relationships deeply rooted in Life and in human nature.²² Pattern language is a process for organizing relationships *into larger* arrangements that express and transpose those same relationships onto a given place in the real world.²³ We can think of pattern language as a system of shorthand for referring to *archetypal human experiences*. In other words, phrases whose rendered imagery essentializes and communicates complex relations of patterns, *without* prescribing *how* they are to be brought *into* the world.

Pattern literacy is the "cognitive capability of readying for change...".²⁴ It suggests that it was "a core aspect of how traditional and indigenous cultures understood the Complexity of their world without simplifying it."²⁵ We can observe at least two types of patterns: patterns of nestedness, systems *within* systems *within* systems, each a distinct whole (Wholeness); and patterns of interaction – the living processes that are value-adding to the whole at *every* level of nestedness (Aliveness). As Humans, we need to develop anew "the ability to discern the patterns *around* us [, this] is *key* to honoring and working with complexity."²⁶ My research *into* generalized Complexity will *carefully* study the Workings of the implicate qualities of generalized Complexity: **Wholeness—Aliveness—Centeredness**; and, the potential to engage with these via pattern language—both as part of this Research, and in the world as a result of it—*particularly* because the ability to discern and apply patterns will be an essential capability for *collectively* developing ourselves as a species. Particularly, if we are to reintegrate human social systems *into* the *greater* whole they have *temporarily* stepped away from.

We can think of developing pattern language as if it were the equivalent of genetic coding operable at the level of human social systems.

²¹ Chapter 4 introduces the phenomenon of structures of consciousness studied by Gebser (1949) and applies it as a framework for navigating the differentiation of human consciousness as one of multiple dimensions for understanding phenomena in their fullest significance.

²² Alexander et al., 1977.

²³ Seamon, 2007.

²⁴ Mang et al., 2016:209.

²⁵ Ibid.

²⁶ Ibid:210.

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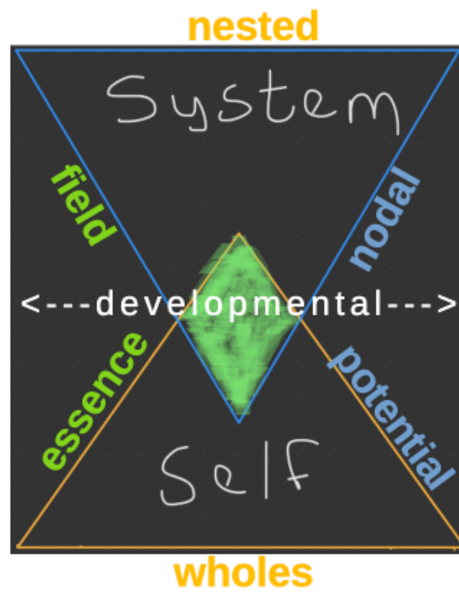


figure 2.04: developmental principles²⁷

We can use the 7 First Principles at the heart of the Developmental tradition to make a first pass at restating the Workings of our *proposed* implicate qualities of generalized Complexity (Wholeness—Aliveness—Centeredness) as elucidated above.²⁸ They state that:

- 1) Every being, person, and place is whole.
- 2) Each whole is endowed with a *unique* essence—a *singular* quality of Aliveness.
- 3) Each whole has a range of potential actualizations, which varies depending upon its capability for Aliveness.
- 4) All wholes exist to develop their *given* range of potential, predetermined by their form.²⁹
- 5) Every whole is nested *within* a continuum of *greater* wholes that enables it to *partake of* and *participate in* the continuum.
- 6) Every whole has a *unique* essence so that it may participate uniquely in a field-of-relation;
- 7) Each whole is a node for adding value (vocation, role, or, in human terms, livelihood) in service to a *greater* whole.

In short, what distinguishes complex phenomena is their developmental nature, natures that are *always* in flux: changing, learning, and becoming.

²⁷ Composed by this author (unpublished).

²⁸ This author's interpretation of Sanford (n.d.), overarching framework.

²⁹ Bennett, 1956. I expand on this topic in subsequent portions of this Study.

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Wholeness and Aliveness are *not* the same thing, and *yet* they are completely interrelated. In the coming section, we shed light on the dynamic relationship between these two implicate qualities.

2.2 implicate qualities of generalized complexity

Generalized Complexity can be understood as *simultaneously* exhibiting generic, generative, and genetic properties.³⁰ And, from Alexander's phenomenology, we can surmise that the degree of coherence exhibited by *any* system is directly proportional to its degree of inner-togetherness *behind* the interplay of the implicate qualities. So I will begin from there and take a *second pass* at describing these implicate qualities by reconciling the inner-togetherness of Alexander's living structure with Morin's properties of generalized Complexity, to see how *well* they align. The following is my own reinterpretation of the Workings of generalized Complexity, where we begin to tease apart the implicate qualities.

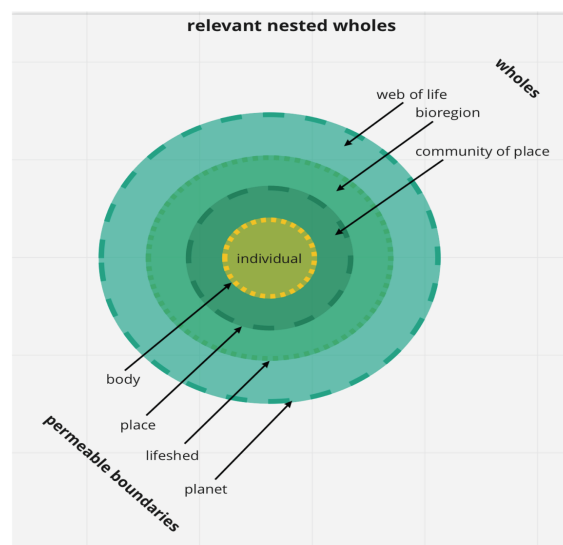


figure 2.05: nested wholes³¹

2.2.1 Wholeness

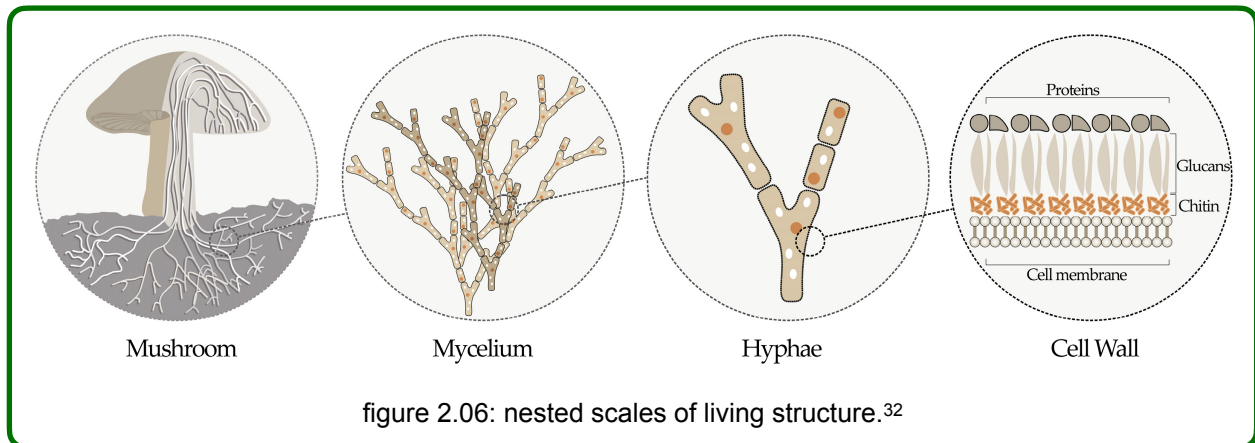
The generic property we encounter in generalized Complexity points to how complex self-realization tends to enfold itself into ordered scales, producing levels of nested wholes ranging from the *least-* to the *most-differentiated*. Therefore, creating an *emergent* living structure. The quality that persists *throughout*, we label with the term “Wholeness.” While we can expe-

³⁰ Morin, 1980a.

³¹ Composed by this author (unpublished).

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rience Wholeness as an uninterrupted flow, an unfolding continuity, we experience the wholes produced at *each* scale of wholeness as a momentary discontinuity. See figure 2.06 for an example.



In effect, Wholeness folds in on itself—enfolds—at each transition zone *between* scales. In terms of quantum physics, Wholeness as a quality is a property of the wave function, in Bohmian terms, the implicate order. And, the resultant wholes are a property of the particle function—universal events actualized in space-time, weaving observable structures *into*, again in Bohmian terms, the explicate order. The cells in a body exhibit generic properties because they exist as wholes at one scale of organization, and the plant or animal bodies they are nested in, also exist as wholes at *yet another* scale, and so on. In this way, their patterns of nestedness implicates them integrally and inseparably *into* one uninterrupted continuum of relative wholeness—relative due to its progressive differentiation *into* scales. The differentiation renders *each greater whole intimately accessible* to the wholes nested *within*.

³² Mycelium Representation at Various Scales, 2023.

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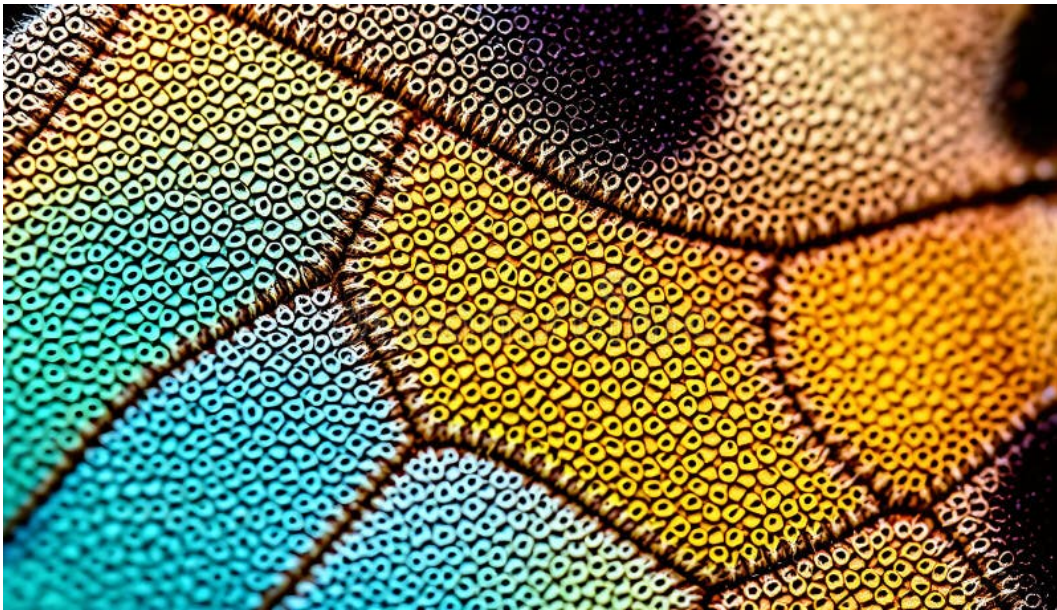


figure 2.07: textured pattern of aliveness.³³

2.2.2 Aliveness

Each progressive scale of wholeness in the continuum of Wholeness exhibits emergent qualities—a *new* quality of wholeness, whose intensification, we experience as a *higher* magnitude of order non-existent at *previous* scales. Therefore, we experience a discontinuity, a change of direction. The unfolding Wholeness, as it enfolds on itself from the *outside-in*, continues unfolding, however, *now* from the *inside-out*. The generic property we observe in generalized Complexity is *also* a generative property, pointing to patterns of organization that unfold in *wholly unique* ways *across* scales of the *same* magnitude. Hence, it produces *emergent texture* in the living structure. See figure 2.07 for an example of texture. This *new* quality of Wholeness in this region of the continuum, we label with the term “Aliveness.” Aliveness still implies Wholeness, so I use the abbreviated term as shorthand for the more accurate {Wholeness—Aliveness}, formulated as a dynamic relation in which its terms *retroact* on *each* other. Figure 2.08 illustrates this dynamic.



figure 2.08: dynamic relation of {Wholeness—Aliveness}³⁴

³³ Textured Skin Surface Close-up, Organic Pattern, n.d.

³⁴ Composed by this author (unpublished).

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At our scale, as Humans, we experience Aliveness *through* enfoldments, in the context of our *own* bodies, and also in our experience of other biospheric beings. In other words, we experience the quality of Aliveness, in its uninterrupted unfolding of beingness in the living web, as well as in the enfolding of Aliveness in the form of beings. The inner-togetherness of *any* whole makes it an *observable* pattern of organization we can experience in the explicate order. Yet, its inner-togetherness, which we can *only* infer, makes it possible for us to encounter them in our experience. All wholes are universal processes whose inner-togetherness is fed by potential energies available at the *particular* scale of relative wholeness they inhabit. Each scale of wholeness expresses this available potential *through* the *unique* unfolding of **patterns of Aliveness—patterns of interaction**, referred to previously. Somehow, *each* order of magnitude, *each* step *up* or *down* in scale, is *neither too big nor too small*. Apparently, this has *something* to do with the saturation of inner-togetherness of a given scale that can do *little else*, except *burst forth* in *some* novel way, at a *subsequent* scale of differentiated wholeness, by way of a *higher-order* magnitude of Aliveness.³⁵

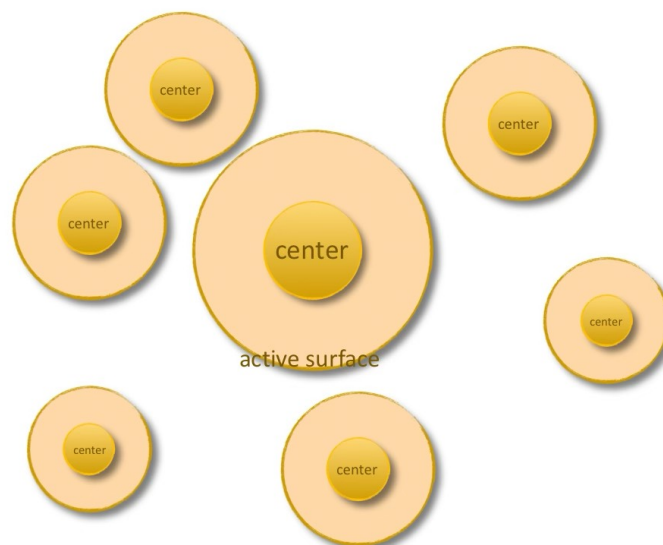


figure 2.09: differentiating centers³⁶

2.2.3 Centeredness

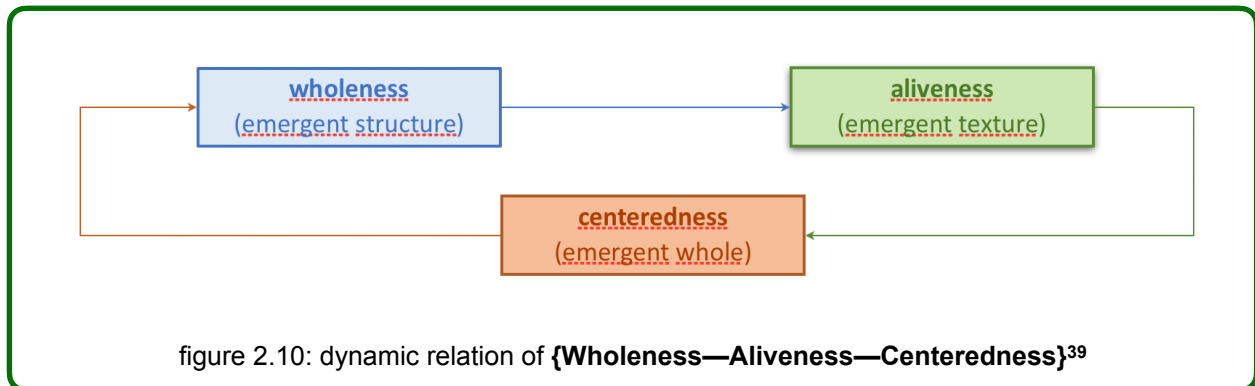
The inner-togetherness of *any* whole we encounter in experience, we might say, is the result of centers. We can describe centers as *con-centrations* of Aliveness found unevenly scat-

³⁵ Bateson, G. (1979).

³⁶ Composed by this author (unpublished).

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tered *throughout* the Universe at *each* scale and at *every* point in space-time.³⁷ Indeed, it is more accurate to say that *through* them, we are able to encounter the experience of scale. Centers organize themselves *into* constellations, ranging in orders of inner-togetherness from elements to galaxies, a seemingly infinite layering of centers *upon* centers *upon* centers, and so on. See figure 2.09 for an illustration. Cells, for instance, are centers that maintain their inner-togetherness by virtue of a central nucleus; living beings harmonize the inner-togetherness of a basic complex of centers; and, ecosystems more so.³⁸



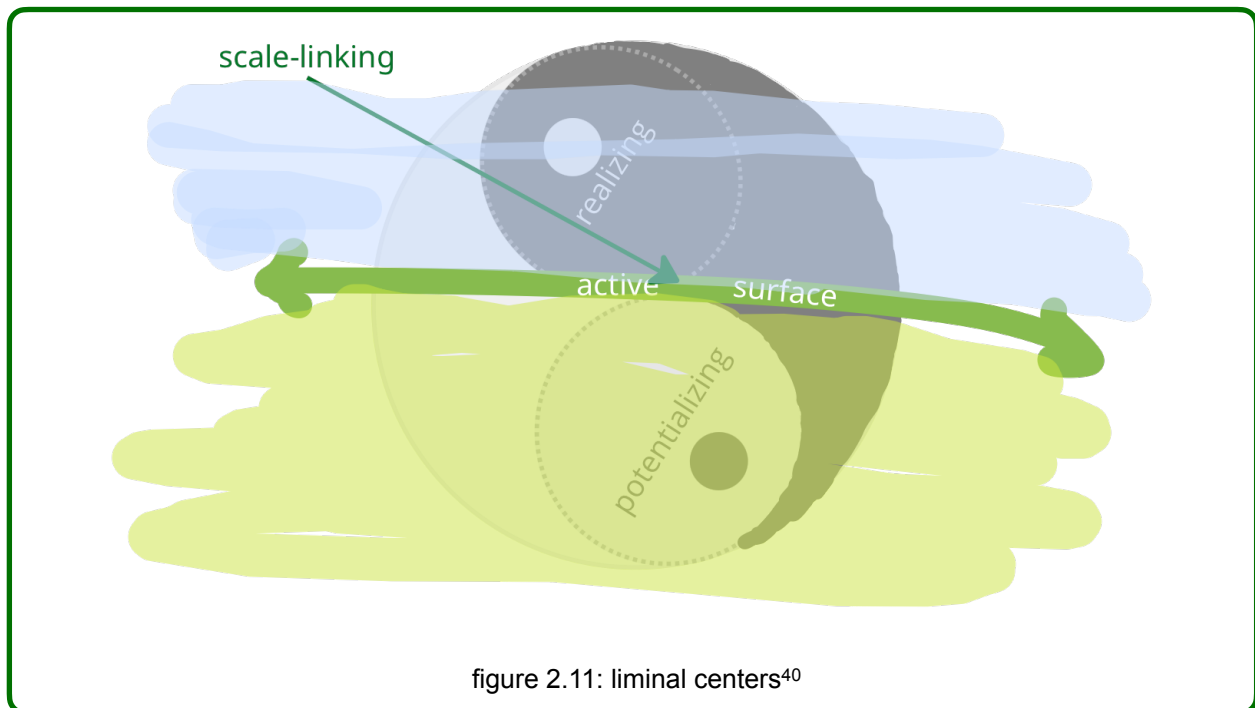
Each center develops *itself* uniquely by differentiation that serves to generate emergent patterns of relating of its parts, propagating *higher-order* patterns of novel complex organization at progressive scales. Every center plays its part in the unfolding of diversity by exhibiting genetic properties of complex realization. One universal process produces Wholeness *everywhere*, but does so in *uniquely singular* ways, via patterns of Aliveness. This is a quality I term Centeredness (shorthand for **Wholeness—Aliveness—Centeredness**). See figure 2.10 for an illustration of that dynamic.

³⁷ The implication of a polycentric Universe is profound. Every point in space-time, which at the surface level presents itself to our experience objectively, is actually a portal—a depth of Being at the core of any whole—that returns to its universal source. This notion extends *back* to the Neoplatonist tradition and Plotinus, in particular, and until now, with the new understanding of centers, takes on a new cosmic significance.

³⁸ Humans, for instance, according to Gurdjieff, are an amalgam of centers: movement (instinctual, sexual, motor), emotional, intellectual, and spiritual. (Ouspensky, 1949).

³⁹ Composed by this author (unpublished).

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Every center is a liminal entity, existing at the interstices, *between* scales of Wholeness. It can be said to play a role in the ongoingness of the universal process of emergence, scale-linking two progressive orders of complex organization. As such, centers exhibit *both* generic and generative properties, depending on *what* perspective we take. Thusly, they can be said to straddle *any* two adjacent scales. Figure 2.11 illustrates. When recognized as parts-in-relation, they assume a generative role, participating in and serving the Aliveness of a *greater* whole. When recognized as wholes, themselves, they assume a generic role as entities—events limited in time-space, whose vocation is to maintain their *own* inner-togetherness as long as possible by transforming potential energy from the *even greater* whole they are *intimately* nested; *within* which, they play a *unique* part in its development. No matter the level of complexity, *each* center also exhibits a genetic property, serving as a seed for the dispersal of an *exceedingly diverse* process of complex realization *throughout* the Continuum we call Universe.⁴¹

All complex realities, particularly complex *anthroposocial* phenomena, are *inherently* dynamic and transformational; as such, they do *not remain* still long enough to support *single-knowledge claims*.⁴² When we study them, we are *neither* dealing with absolute *nor* relativized knowledge, but rather with a *momentarily* privileged knowledge that, *through* empirical study, *becomes* the subject of our *temporarily focused* attention; in other words, *something*

⁴⁰ Composed by this author (unpublished).

⁴¹ The hyphenated term Continuum-of-experience was introduced and described by Yanez (2024); it fixes experience perennially within its context, one uninterrupted flow that parallels that of our self-realizing Universe. It is also abbreviated herein as Continuum.

⁴² Byrne & Callaghan, 2014.

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stands out from its context.⁴³ These are focused observations, which foreground phenomena, and at the same time, consciously hold them in relation to *all* other localized phenomena that constitute the *greater* wholes in which these participate. The study of complex realities demands of us the rigor of an approach that exhibits a *proportional*, requisite degree of complexity—more precisely, that *exemplifies* the implicate qualities of generalized Complexity—and therefore, is endowed with the capability to describe realities in their *fullest* Complexity.

The following subsection prepares the reader to understand the Workings of a *specific* kind of change: transformational change.



figure 2.12: self-realization literature⁴⁴

2.2.4 dimensions of self-realization⁴⁵

In our desire to find *further* coherence, we *now* image the developmental principles presented in the previous section as playing out at three *distinct* nested levels *simultaneously*:

⁴³ Ibid.

⁴⁴ Composed by this author (unpublished).

⁴⁵ Self-realization is much more accurate term than self-actualization, because self-realization includes latent potential states yet to unfold, which actualization does not.

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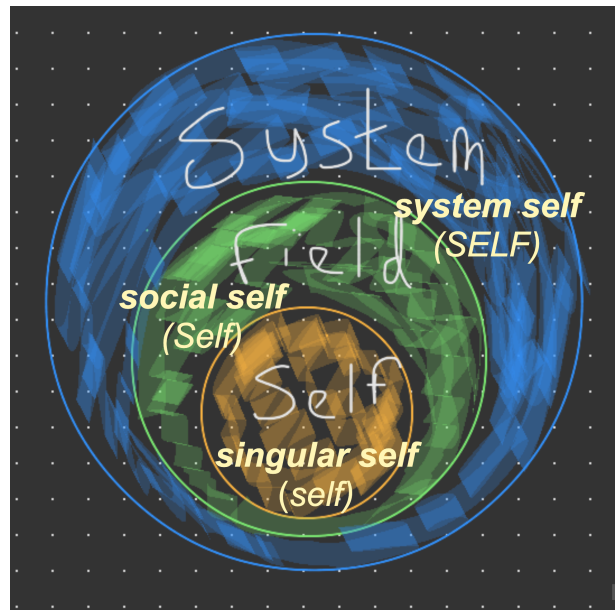


figure 2.13: **self—Self—SELF**⁴⁶

individual-level self. The individual-level self best serves the social-level Self by uniquely adding value to it *by* virtue of being itself, by authentically expressing its essence, its centeredness. The individual-level self is best served by the social-level self (Self), by the provision of a platform for developing its *own* potential—a *higher-order* version of itself: self-realization.

system-level self. The system-level SELF best serves the social-level Self via its relative wholeness, whose role it is to impart a clear sense of purpose. The system-level SELF is best served by the social body *through* the creation of conditions that *ready the system* to undergo systemic transformation—or, in Fourth Way terms, system actualization.⁴⁷

social-level self. The social-level Self serves the system and the individual by being a conduit for Aliveness flowing in *both* directions, catalyzing *simultaneous* transformative change at *all* levels.

2.2.5 the missing middle

In other words, transformation occurs *simultaneously* at *all* levels. The transformations are of a qualitative nature: the intensification of {Wholeness—Aliveness—Centeredness}, producing a living structure with dimensionality. And because it is *impossible* to differentiate a “self” without an “other,” the mesoscale social level emerges as a *vital*, and *often* missing, middle *within* change processes.⁴⁸ This is one of the *key* threads the reader will find woven *through*-

⁴⁶ Composed by this author (unpublished).

⁴⁷ Bateson, N. (2022).

⁴⁸ Morin, 1986.

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out the fabric of this Inquiry: the *missing middle*. In the context of the implicate qualities, this middle expresses itself as Aliveness, and the social level provides a conduit for that Aliveness. In the context of a polycentric Universe, the *missing middle* is a center at the heart of every whole.

As this Inquiry sheds light on the phenomenon of generalized Complexity, it persists in differentiating this notion of the middle as an *uncontested* opening. An opening from which human social systems could lead a transformation *towards* that *more beautiful* world our hearts *know* is possible.⁴⁹ As Leonard Cohen stated: “There's a crack, a crack in everything, that's how the light gets in.”⁵⁰ This Inquiry, in *every possible way*, seeks a more complexified understanding of that crack in everything!

The so-called human sciences, and in particular, social theory, would do well to integrate these implicate qualities so that their descriptions of the *workings of the world* might better approximate Reality. Next, we search for *any* signs of light, *any* indications of generalized complexity in the human sciences.

2.3 in search of generalized complexity

As emphasized above, I am propelled to discover ways to bring human social systems *back* to Life. This implies that they must achieve a *greater* degree of complexity, so they can *mirror* the complexity in more-than-human social systems, systems to which we are resistant in assuming our full membership. The following two subsections will examine *relevant* fields of study for signs of integration of the implicate qualities of generalized Complexity.

2.3.1 social sciences⁵¹ and sociology⁵²

The overlap between the study of generalized Complexity and the human sciences is *sparse-ly* inhabited. We find a wide variety of approaches ranging from mathematical models to metaphors and analogies, with *most* instances falling on *either* extreme. The study of human social systems fails to address generalized Complexity, *beyond* the use of common buzzwords. There is a *seemingly vast* gulf *between* systems thinking and social science: sociological works that *often* offer *simplistic* interpretations of complexity, or conversely, complexity research that ignores *novel* developments in the social sciences. It is evident that...

All characteristics assigned to complex living systems are relevant to [human] social systems composed of conscious actors. ... The multi-faceted complexity of social systems is always

⁴⁹ A phrasing attributed to Charles Eisenstein.

⁵⁰ From Cohen's song Anthem that first appeared on The Future album released in 1992.

⁵¹ Mesjasz, 2010.

⁵² The subsection is sourced entirely from Morin (1995).

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*deriving from an intersubjective character of those systems...”, therefore, ... “in all research of [human] social systems the role of an observer/participant must always be taken into account....*⁵³

In particular, the field of sociology in its *current* form does *not* exemplify generalized Complexity. To do so, it would require similar epistemological awareness with *contemporary* developments in quantum physics, for example, where:

- a) a deterministic/mechanistic principle is replaced with a dialogic principle: where **{social order—disorder—organization}** are set *into* recursive relation, and events are subject to randomness, instability, bifurcations;
- b) reductivism/holism is replaced by complex relationships *between* **{parts—whole}** (i.e. the recursive relation **{individual—society—species}**);⁵⁴
- c) the concepts of open system and self-eco-organization are integrated *into* the ecosocial;
- d) the *complex* recursive relation **{individual—society}**, as well as the recursive relations *between* sociological, political, economic, demographic, cultural, psychological, etc. dimensions, are recognized;
- e) the observer (sociologist) is integrated *into* their observation and conception; and,
- f) philosophical questioning and reflection are restored in sociological works.

Additionally, the following reforms would be required.

- reconstitution. Sociology would be reconstituted to *reunify* disjointed and isolated knowledge across sub-disciplines systematically. Theory would conceive the self-realizing character of societies. Its view would extend *back* in time to integrate the multidimensional process of hominization (genetic, anatomical, sociological, cultural) as a sort of science of prehistory, capable of taking the long view and recognizing complex social self-realizing processes and patterns.
- open system. As an open system, sociology would (RE)establish communication with a) the *rest* of the human sciences, to consider the *entirety* of the anthroposociological complex, where human social systems are both dependent on, and autonomous from, Bios and Physis, and b) with other dimensions within the social phenomenon (economic, demographic, communicative, mythological, etc.).
- lived dimension. Sociology would recognize a) the *lived* dimension in the world of Life (*Lebenswelt*), where everyday life and Life are inseparable, and b) individual-subjects, who require a knowledge that combines explanation and understanding. *Explanation* would include *anything* that allows a subject to know an object as an object, and *understanding* in-

⁵³ Ibid:714

⁵⁴ Ibid.

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cludes *all* that, *through* projection and identification, enables a subject to perceive a subject as a subject.⁵⁵

- literature. Sociology would open sociological thought to literature, and especially to the novel, which would a) enrich the field with a knowledge of social Life, *not* found in sociological works; b) avail inquiries with a parallel world with an *enormous* number of observations (concrete socio-historical universe involving concrete individuals-subjects), allowing us to experience Wholeness from the singularly concrete; and
- fundamental—concrete. Sociology would restore both a) an inner-togetherness of events, phenomena, everyday life, and the present, and b) a fundamental theory with the courage to ask the great anthroposocial questions.

2.3.2 related fields of study⁵⁶

ecology. Ecology provides an effectual example of a field that exemplifies a *healthy* overlap of generalized Complexity. It integrates {Human—more-than-Human} communities under its *expansive* umbrella. Ecology studies relationships and patterns *across* ecosystems and the Biosphere. These *self-producing, self-regulating* phenomena of large-scale interactions (geographical, geological, physical, climatic) and smaller-scale ones (plants, animals, unicellular organisms) require ecology to reach *across numerous* and *varied* disciplines, providing a platform for unifying knowledge from *relevant* fields of study. Therefore, ecology is *not only* relation-focused in its content but relational in its approach.

Earth sciences and astronomy. Similarly, the earth sciences, which study complex changing planetary systems, bring under their purview unconnected disciplines of geology, climatology, volcanology, seismology, etc. And, more broadly, astronomy, which has developed *into* cosmology and is concerned with a *singular* Cosmos of which we consider its origins, its complex realization, its becoming, as well as forces such as love, creativity, and consciousness, and the role we play in it as cosmic beings.

anthropology and archeology.⁵⁷ A new human cosmology is emerging, complexifying the fields of archaeology, anthropology, and related disciplines. The evidence accumulated over the *last* decades *now* points towards a *completely new* account of how human societies developed over roughly the *last* 30,000 years. This is significant because it finds *countless* examples *throughout* time and *across* the globe of self-realizing Human social systems, irrespective of size or complexity of their social organization. A *new* understanding is emerging, and beginning to have a retroactive effect on these and related disciplines; specifically, on how they are being practiced, and on the potential role they might play in *reconnecting the Human* to the unfolding of Cosmos and Biosphere.

⁵⁵ This parallels Bohm's concepts of explicate and implicate order, respectively.

⁵⁶ The subsection is sourced entirely from Morin (1995).

⁵⁷ Sourced entirely from Graeber & Wengrow (2022).

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economics. There are *few* fields of human endeavor so distant from generalized Complexity as economics. Our current understanding of economics is *wholly incompatible* with generalized Complexity. The myth of the “free market” is *just* that—a myth. In reality, it is *neither* free *nor* self-organizing. The mode of thinking it operationalizes is based on the following *false* assumptions.

- 1) *all* participants
 - a) are *predictable* and *rational*;
 - b) make *conscious* decisions from self-interest; and,
 - c) *always* know precisely what they want; and,
 - d) *never* change their minds;
- 2) private, *tradable* goods—not collective goods—are exchanged in the market;
- 3) *perfect* competition exists, based on a diversity of *always available* alternatives;
- 4) *perfect* information about *all* possible choices—including the time and capacity to evaluate these—exists and is available to *all*; and,
- 5) And, participants can predict *future* consequences of their decisions.⁵⁸

These assumptions exist for *no* other reason than to allow a model to be expressed in *simple, linear, analytical mathematical* terms—the *only* terms available to the 19th century economists.⁵⁹ This mode of economic thinking needs *serious* revision! This, of course, would threaten the dominant worldview, which undermines our ability to see *beyond* the simplistic model at every turn. Many intelligent academics, decision-makers, and participants are altogether manipulated “towards *preposterous* conclusions and dire analytical fallacies, with resulting pathologies and instabilities in the market and society at large.”⁶⁰ Read, internal conflict. Whatever the reasons, there’s been “...no attempt to assemble the pieces and understand the behavior of the economic system as a whole.”⁶¹

2.3.3 complex? or just complicated?

It is becoming apparent here that there exists a *vast* difference between *seemingly* complex (or better yet, complicated) and *truly* complex. Although our social and economic systems might be unpredictable, they *fail to exhibit* the degree of complexity approximating that of living systems.⁶² Economic systems, for instance, are governed by two types of artificially imposed rules: externally imposed regulatory rules and constitutive rules imposed *internally*. The kind of constitutive rules necessary for self-organization in natural systems consists of feedback loops, which are found *altogether* absent in human social systems, especially eco-

⁵⁸ Bjorkman, 2016.

⁵⁹ Ibid.

⁶⁰ Ibid:49.

⁶¹ Mesjasz, 2010:713.

⁶² Ibid.

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nomic ones.⁶³ This Research aspires that human social systems develop the collective capacity to recognize and respond to patterns *within* their *larger* context. This would enable these systems to establish pattern-based constitutive rules to guide the self-organizing of already-shared realities—in this case, commons—capable of honoring true Complexity (more on this in Chapter 7).⁶⁴ Many of our social systems remain entrenched in the *mechanistic, linear* paradigm of simplification, and I suspect this may be at least *partially* responsible for the confusion in the scholarship that *now only* loosely shapes the field of ecosocial complexity.

Our Biosphere and the existential ecosocial metacrisis we face are far *too* complex for surface-level solutions that aim to *merely* fix a problem. We can *neither* control *nor* fix the Biosphere as if it were *just* a complicated machine, like a car motor. For us to manage or fix *anything*, we *must necessarily* be *outside* of it. The real “*problem*” is that we externalize, exclude, and exempt ourselves, by virtue of our conflicted human social systems, from *full* participation in a self-realizing Cosmos. The internal conflict we’ve introduced is based on the misguided civilization-wide assumption that we *must* simplify Nature for ease of management, as if our role consisted of managing *anything but* ourselves. The fact that human social systems can be conflicted, is likely due to their complicated condition. Their unnaturally complicated conditions are likely what begs for their simplification in the first place. Simplistic, problem-solving modes of realization emphasize the past but fail miserably to enable system actualization going forward. Actualization is evolutionary in nature and, by default, forward-facing.⁶⁵

2.3.4 recognizing true complexity

My efforts here will focus on our capacity to fully recognize, acknowledge, and integrate requisite complexity *into* human social systems because this Inquiry explores *what it would mean to be fully Human*. This is a complex notion, which I aim to elucidate herein. The work of Edgar Morin⁶⁶ continues to be foundational, *precisely* because it begins to evolve a *unifying* and *comprehensive* theory of generalized Complexity—one that I *further* here—that grows from what *ought to be* a *fully human* capability to know the Workings of our Universe on *its own terms*, and ourselves *within* it. This serves to reintegrate the relations that Descartes had effectively torn apart: the **subject—object**, the **knower—known**.

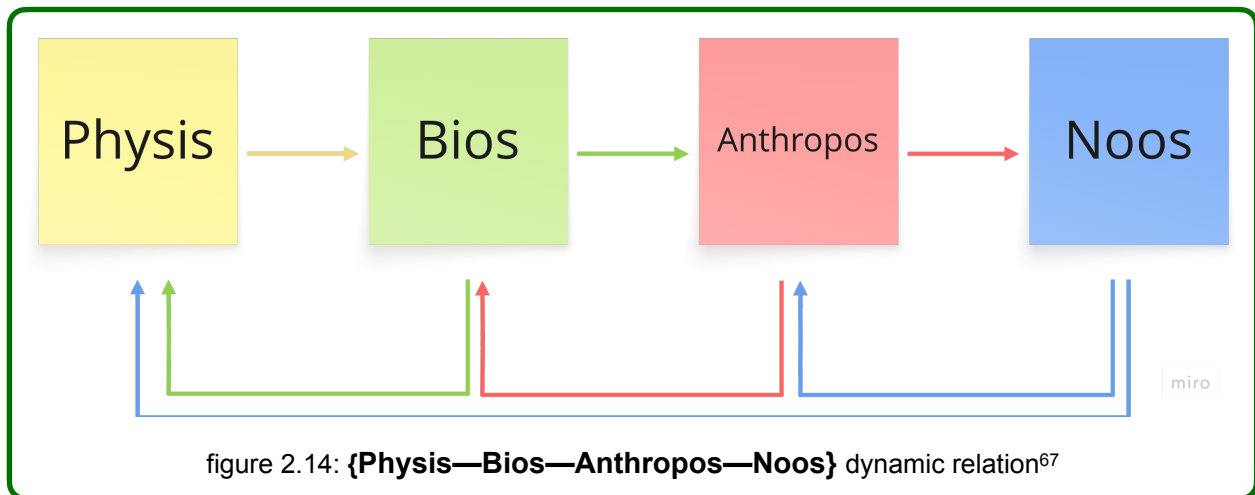
⁶³ Bjorkman, 2016.

⁶⁴ The important phenomenon of constitutive rules will be explored further on various occasions *throughout* this Study. The notion of pattern-based constitutive rules will be a focal point of the framework and instruments presented in Chapter 6.

⁶⁵ Mang et al, 2016.

⁶⁶ Morin:1977; 1980a; 2006a; 1986; 1991; 2001; 2006a; 2008.

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Morin's theory of generalized Complexity accomplishes this by weaving together otherwise *fragmented* disciplines *into* an *evolving* continuum that differentiates itself at four interrelated and *retroacting* levels, *each* subsequent level emerging from the *previous*.

- Physis. Physis is the underlying dynamic structures, processes, and forces from which we inherit the capacity for self-realization.
- Bios. Bios is the highly diverse entanglement of biotic systems from which we inherit the capacity for regeneration, mutual learning, and collaboration.
- Anthropos. Anthropos is the social systems from which we inherit the capacity for co-creating our collective reality.
- Noos. The world of ideas with which we Humans attempt to shed light on, and make sense of, the complex workings of our Universe, of *all* that we are.⁶⁸

Morin develops this theory *most* robustly in *Method*, his six-volume opus, in which he seeks a living knowledge that understands the Complexity of the real: the existence of beings, the principle of their own knowledge, and the mystery of things. Method introduces a *new* approach that *strives* for a system of knowledge that unifies, whose description is multi-dimensional, and whose **{reordering—reorganizing}** praxis results in the self-realization of knowledge. In other words, the unfolding of a system of knowledge is inseparable from the unfolding of the Universe itself.

The theoretical rationale is as follows: 1) We live in a Universe, whose unifying principle is complex self-realization;⁶⁹ 2) We know this Universe mainly objectively via reductive, dissociative, fragmentary methods; 3) To produce epistemology worthy of generalized Complexity, we must develop inquiry capable of participating with complex self-realization; 4) This implies a *reflective, self-realizing, living* epistemology that is in *intimate*, lock-step relation with

⁶⁷ Composed by this author (unpublished).

⁶⁸ It is important to note, that Noos does not strictly follow Anthropos, although it does develop new capacities through its interaction with the Human.

⁶⁹ Morin actually applies the term “self-organization,” but I have upgraded the term herein to “self-realization.”

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ontology, and therefore, capable of integrating *all* aspects of *what it would mean to be fully-Human*.



figure 2.15: **ontology—epistemology** relation⁷⁰

See Annex C for volume-specific summaries of Method, with a *further* discussion on its relevance to this Inquiry.

In this section, we surveyed the human sciences, which were *mostly* found lacking in the implicate qualities of generalized Complexity. We also acquired a sense of what *true* Complexity might look like in this context and got a feel for a possible *fully Human* role for the human sciences, with the potency to reveal the *full* range of human potential.⁷¹ I hope it's becoming clear by *now* that the study of human social systems implies considering the *missing middles*, what ought to be at its heart. In the following section, we question how we might *render* that missing middle *anew*.

2.4 participating with ecosocial complexity

What is called for is the re-naturalization of human social systems and their realignment with evolutionary processes. The establishment of a "... co-evolving mutualism, a *progressive* and *mutually-beneficial* harmonization of human and natural systems."⁷² Here, we explore the possibility of this harmonization, beginning with the notion of ecological synergy, how we might develop the conditions—the constitutive rules—for harmonization *through* the praxis of

⁷⁰ Composed by this author (unpublished).

⁷¹ Byrne & Callaghan, 2014.

⁷² Mang et al., 2016:82.

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ecosocial design, and how we *live into* it via a *very different* mode of participation with our Universe-of-complexity.

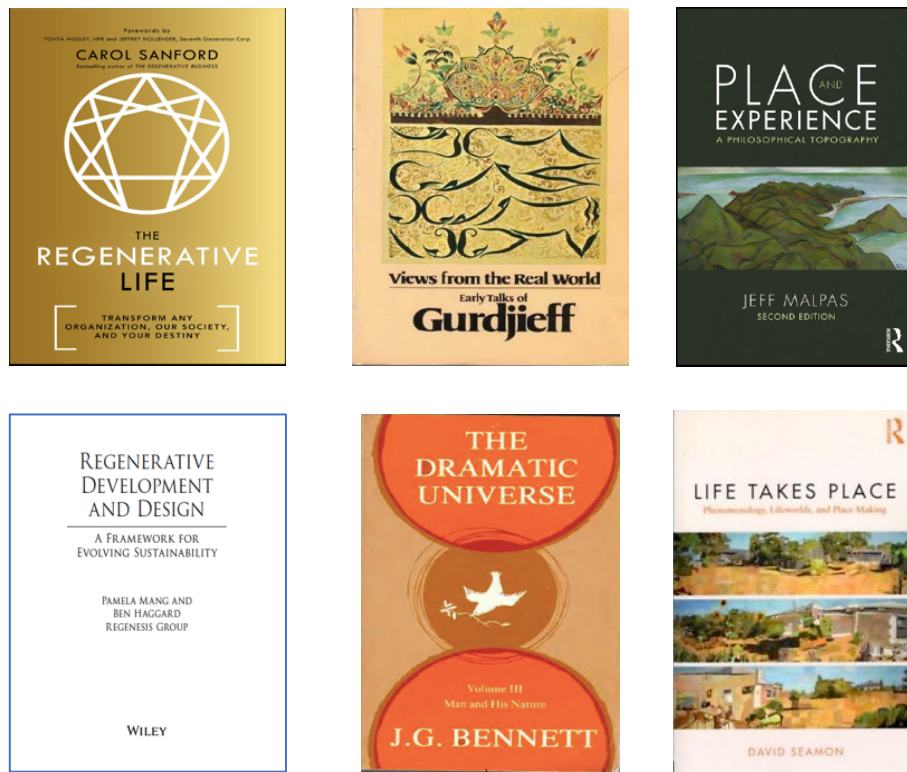


figure 2.16: ecosocial complexity literature⁷³

2.4.1 ecological synergy

The ecological design movement has emerged as a response to the pathology of separation and its paradigm of simplification.⁷⁴ Although the separateness is *only* conceptual, it *severely* affects every aspect of Reality. Indeed, cultures are an outgrowth of natural processes, complex dynamic systems actively linked to one another, continually interrelating and co-evolving over time.⁷⁵ Synergy is the *degree* of cooperation, whether *within* a society (social-level) or ecological, *between* human societies and natural systems (system-level). Cultures organized by dominant industrial modes of realization, which attempt to exert power *over* natural processes, exhibit *low* ecological synergy.⁷⁶

It is understood that “human populations co-design their complex cultural expressions of and adaptations to natural processes based on *constant* feedback loops *between* Nature and culture.”⁷⁷ Hence, it is safe to conclude that in its *current* global expression, Humanity as a

⁷³ Composed by this author (unpublished).

⁷⁴ Wahl, 2006.

⁷⁵ Ibid.

⁷⁶ Ibid: cites the work of Daniel Chiras on social and ecological synergy.

⁷⁷ Ibid:329.

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whole exhibits *only* a *minimal* degree of ecological synergy (i.e., Aliveness)—that is, our cultural expressions (i.e., our social systems) lack the requisite complexity to respond *adequately* to feedback from living and natural processes. This is evident in how we are dismantling our Planet’s capacity to regenerate the Biosphere to at least its *current* degree of complexity. Furthermore, I contend that the paradigm of simplification—lack of requisite complexity—evident in human social systems has *severely* impeded the co-evolutionary process. Therefore, the role of ecological design could be to heal that relationship by redesigning how we *consciously* participate in the *ongoing* co-evolution of our Biosphere.

2.4.2 ecosocial design

Design, writ large, can be considered the interface *between* theory and practice.⁷⁸ As such, it has the potential to serve as a “transdisciplinary integrator that can provide a framework and a methodology that links spatial and temporal scales across *all* scales of design.”⁷⁹ The question remains, whether ecosocial design will call *into* being *new* patterns oriented, “toward *creative experimentation* with forms, concepts, territories, and materials, *especially* when appropriated by subaltern communities struggling to redefine their life projects in a mutually-enhancing manner with the Earth?”⁸⁰

Experimentation with *new* patterns will be the subject of Chapter 6. The aim, then, might be empathic design: design moderated *by* our *direct* lived experience, in intimate correspondence with the natural world, and aimed at self-transformation.⁸¹

2.4.3 designing ourselves

It is essential that we sharpen our proprioception *through* this available *inner* window *into* our *shared humanness*, and as a doorway *into* the living world. “Design follows worldview and worldview follows design.”⁸² At the core of *any* intervention is the *mode of thinking* that seeded the initial idea.⁸³ Unless we can move *into* a *new* mode of thinking and feeling, we are likely to revert to *old* paradigms. Although, it may seem like a **{chicken—egg}** dilemma, the design of *how* we participate in the world originates and is *patterned into* language: “To put it in a *more* radical form, we design ourselves (and the social and technological contexts in which our lives have meaning) in language...” and Maturana: ‘*linguaging*’ is the fundamental manner of existence of human beings....”⁸⁴ Language, and *particularly* its specificity, as we

⁷⁸ Wahl, 2016.

⁷⁹ Wahl, 2007:1.

⁸⁰ Escobar, 2018:xvii; emphasis my own.

⁸¹ Van der Ryn, 2013.

⁸² Wahl, 2016:13.

⁸³ Mang et al., 2016.

⁸⁴ Escobar, 2018:113 quoted Winograd & Flores.

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shall see in the coming chapters, plays a *pivotal* role in our approach to this Study. This is exemplified *throughout*, *particularly* in the phrases presented here, sourced either from the thinkers referenced herein or generated, both of which are essential to the development of our *own* pattern language *around* our *central* topic of Study: generalized Complexity.

The ontological design approach is a *philosophical discourse about the self and how we generate the world through our modes of thinking and realization*. "...transformation [is] a continuing evolution of *how* we understand our surroundings and ourselves—of *how* we continue becoming the beings we are."⁸⁵ Humans, as organisms endowed with embodied perception, intuit their way *through* a world in motion, *simultaneously* making and being made. In this way, Life-making and world-making are primarily human activities.⁸⁶ Although every living organism participates in the processes of making—Life-making and world-making—these processes become acts of correspondence that respond to the world. In essence, they *are* a world or Life transforming itself *through* "phenomenologically minded designers, by working alongside ... [it] as it unfolds."⁸⁷ There's an implied conscious intentionality in our mode of participation in the processes of world-making and Life-making, which we explore *throughout*, but *particularly* in *each* act of Chapter 7, *respectively*.

2.4.4 design as proprioceptive participation

As makers, "The role of human beings needs to shift... from despoilers to co-evolvers."⁸⁸ This calls for our intentional participation in the conscious transformation of energies in service to the evolutionary process.⁸⁹ The mode of consciousness alluded to is termed proprioceptive consciousness: "the ability of Humans to become aware of the emergence, evolution, and interdependence of systems in which they are embedded and to be aware of and reflect upon the self and the system as we effect its transformation."⁹⁰ In this sense, human societies become agents of *greater* aliveness at *every* scale, moving themselves, and the systems they are a part of, from a state of entropy—the degeneration of our Planet's Life support systems—to a state of evolution, modes of realization that *actively* catalyze the regeneration of Life-producing capacity.⁹¹

⁸⁵ Ibid.

⁸⁶ Ingold, 2011.

⁸⁷ Escobar, 2018:56.

⁸⁸ Mang et al., 2016:213.

⁸⁹ Wahl, 2016; Bennett, 1956.

⁹⁰ Kuenkel & Waddock, 2019:19.

⁹¹ Mang et al., 2016.

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2.4.5 participation & systems actualization⁹²

As we have seen thus far, the self³-realization {self—Self—SELF} enables us to begin realizing our *fullest* potential as Humans.⁹³ It becomes clear that because we are nested *within larger* systems, *isolated* attempts at self-actualization are insufficient; we are called to be system (big SELF) actualizers. Through working *directly* on ourselves, we indirectly care for the *larger* system. System actualization is motivated by seeing *new* potential and *intentionally* attending to it; this generates an energy field. These fields are *everywhere*: they can create Aliveness or deplete it. If we are unconscious of them, they generate *unintended* consequences; if we engage in them *consciously*, we can co-evolve with them *toward* greater systemic potential.

Regenerative development is a co-evolutionary, *ongoing* process of collective becoming—a form of self-realization that aims to develop capability across three levels *simultaneously*: the self-actualization of community members (*self*), the system-actualization of greater wholes (*SELF*), and the tending of self-organizing fields that are native to the *missing middle*—the social-level *Self*. The developmental process gives equivalent attention to these multiple dimensions.⁹⁴ This Research explicitly integrates this mode of thinking, its principles and premises, developmental concepts, and instruments (i.e., dynamic systems frameworks) *throughout*.

2.4.6 ecosocial aliveness

As previously stated, my aspiration with this Research is to *reanimate* human social systems with implicate qualities. It aims to reveal the essence of these implicate qualities so that we might effect a transformation in human social systems, making them integral, self-realizing ecosocial realities with at least the *minimal requisite* degree of complexity. In other words, it becomes vital to understand the process of breathing Life *back into* human social systems *within* the context of *larger-scale* systems evolution.

The premise of indirect work holds that, *beyond* remaining mindful of these *larger* systems, there's *little* we can do directly to bring about their wholeness. Each of us must work to *develop ourselves from within*, cultivating our *own* centeredness—*never* in isolation. What remains, therefore, is a collective challenge of channeling *ever-greater* degrees of aliveness through the social level, our *missing middle*.

⁹² Except where noted, this subsection is sourced from Mang et al., 2016. Their masterful work, *Regenerative Development and Design*, lays the groundwork for system actualization as theory and practice.

⁹³ Mang et al., 2016; Wahl, 2016.

⁹⁴ See the 7 First Principles earlier in this chapter. Also, see Annex D for a summary of associated principles and premises of regenerative development.

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Thus far, I have articulated the foundations of ecosocial complexity by intensifying the quality we differentiated as Aliveness, which in this context can be described as “the capability of small and *larger* systems to gain resilience, regenerate and maintain their vitality in mutual consistency with other systems;” systems that are *simultaneously* relational and interdependent, **{enfolding—unfolding}** with “a *recognizable* patterned process of transformations...”, and that generate vibrancy expressed by Humans as energy and excitement.⁹⁵

Chapter 2 concludes our initial pass at a state-of-the-art for our field of study. As previously mentioned, *further* literature review elements will be present in subsequent chapters, due to greater relevance to their respective subjects. This is the case with the approach of this Study, the subject of the following chapter, which I've *intentionally not* labeled as methodology. It will make the case that the study of generalized Complexity, for it to be imbued with its implicate qualities, must take a *qualitatively different* approach.

The reader may have noticed that some of the literature referenced in this chapter and *throughout* this Inquiry may *seem* “dated,” a practice typically frowned upon in academia. And *yet*, this practice is *very* consciously a part of our *qualitatively different* approach. Much of this *older* literature was originally published and introduced in moments when Humanity was *between* paradigms. And therefore has been *mostly ignored, neglected, passed over, and forgotten*, especially in academic circles, where bias gives preference to *more recent, less* comprehensive journal articles. As a result, any insights these offer are *even less* likely to be integrated *into* praxis. The entrenched paradigms at the time of their publication were *not* ready to engage with such texts, whose *masterful* insights *into Life-affirming patterns* are *now* proving timeless and, indeed, *extraordinarily* relevant to our current predicament as Humans.

My efforts here have *everything* to do with re-cognizing and re-con-textualizing these texts, bringing them *back* to Life, as it were, by generating *new*, shared meaning with them in a *very different* moment in time. A time, when we are awakening to a *new* reality—one with the promise of a Humanity poised to *come back to Life* in a living, breathing Universe, whose complex mode of self-realization is *now* being compromised by the *forced imposition* of artificial, that is, *not* of-itself-so methods, or modes of realization.

⁹⁵ Kuenkel & Waddock, 2019:14.

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chapter 3. approaching generalized complexity

*I live on Earth at present,
and I don't know what I am.
I know that I am not a category.
I am not a thing – a noun.
I seem to be a verb, an evolutionary process –
an integral function of the universe.*
R. Buckminster Fuller

*Ultimately of course it is absolutely impossible to under-
stand and appreciate our natural universe unless you
know when to stop investigating.*
Alan Watts

*The choice we make of how we dispose our conscious-
ness is the ultimate creative act: it renders the world
what it is. It is, therefore, a moral act: it has conse-
quences.*
Iain McGilchrist

3.1 approaching generalized complexity¹

Our qualitatively different approach to the study of generalized Complexity will be guided by an older, *transdisciplinary* epistemological tradition: natural philosophy.

3.1.1 natural philosophy

Natural philosophy is the application of philosophical, primarily empirical, praxis to the contemplation of the nature of the Cosmos. It is a *more* generalized, *all-encompassing* predecessor of what is today known as science (including physics and the natural sciences). This mode of perception was originally formulated by Aristotle (384-322 BC) and prevailed *throughout most* of the nineteenth century. *Naturphilosophie*, the German philosophical tradition, was expressly distinguished as an exploration of the universal unity of spirit and Nature.

In *many* ways, before it narrows down to specialized branches, this approach to studying both the *workings of the world* and its *broader* implications for Humanity has proven to be a *more* comprehensive means for studying generalized Complexity. As such, it has emerged as a key part of my approach to this Inquiry.

3.1.2 progressive approximation

Progressive approximation is paramount to natural philosophy, which aims to clarify meaning progressively by generating *more concretely differentiated* (*higher-resolution*) mental images of the *workings of the world*. It vigorously emphasizes phenomena as the primary datum. This approach relies *mainly* on the specificity of language. It is an iterative process of thoughtful differentiation of terms that, with *each* turn of a spiral, *further* reveals the nature of a given phenomenon.

Progressive approximation is based on the following postulates.

¹ Sourced almost entirely from Bennett, 1956.

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- homogeneity of fact. All facts are of the *same* kind. Science's primary role is to reduce phenomena to fact by means of hypothesis. Hypothesis are *entirely* provisional in nature and serve as standard units for scientific generalization.
- universal similarity. The universal patterning that undergirds the Continuum from which knowledge is derived, implies correspondence of *any* element to *all* other elements; a correspondence which binds {**observation—observer**} in a dynamic (or dialogic) relation. The intuition of universal similarity, *through* whomever it has expressed itself, is the mark of scientific genius. This is our point of departure for the *next* chapter.
- stratification of existence. A punctuated Continuum of universal similarity ordered *into* interrelated, that is, dynamically-linked scales or levels of existence (gradations of wholeness), whose structures are *inaccessible* to the reductive, quantifying nature of fact.
- complementarity. The nature of the linkage *between* gradations of wholeness, *each* of which *alternately* present a dynamic (odd) or a static (even) aspect of experience *inherent* in the nature of *each* structure, makes the linkage a *viable* correspondence, an iterative cycling of {**concentration—expansion**}; {**entropy—syntropy**}, {**opening—closing**}, reconciled *only through* cyclicity, and giving birth to a veritable variety of processes. Cyclicity of complements is a recurrent theme of our Continuum, one which we will explore at length *throughout* this Study, particularly in Chapter 4.
- universal validity of structure laws. The laws that govern what is possible *within* a given Universe apply *across all* experience. These laws are *only* applicable for distinguishing what is *possible* (capacity) from what is *impossible*, and are *not* determinative of how that Continuum will express itself in actuality (capability); instead, they lay out a range of potential. We will experience the postulates of stratification and universal validity, particularly in Chapter 5.
- linguaging the possible. Nature is the totality of phenomena, the reality of which we *only partially* experience. Actualization appears as a *phenomenally fixed* occasion—a selection of one out of *many possible* situations. A situation, then, is an *abstract* fact, a pattern of what could be. In Chapter 4, we explore the notion of *abstract* facts by studying the Workings of eternal forms—*each* form is determined by its *own* law, which describes the range of possibilities available to it. This Study's determination to develop a pattern language that explores a range of possibilities for Humanity is consistent with the notion of linguaging the possible.
- structure. Structure is the limitation of possibility—the entirety of universal conditions that determine whether a situation is possible. These conditions present themselves as the laws of Nature. They can be characterized as the ordering tendencies of the whole of phenomena—self-realizing Complexity—self-sorted by its degree of inner-togetherness *into* a stratified Continuum-of-experience. The degree to which the differentiated structures and their laws reveal themselves is relative to the structure of consciousness exer-

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cised by the observer.² This is significant to our study because, *within* the dominant mode of realization as a species, Humans are operating *outside* our *innately-determined* scale in the Continuum, that is, *beyond* the law as it applies to the Human form.

3.1.3 the aim of natural philosophy

The principal aim of natural philosophy is to formulate universal laws of structure that govern possibility—the ordering of complex organization—and, in effect, implicitly exclude what is impossible.

Structures are phenomena that take form in a Universe-of-complexity, whose self-realization {enfolding self-order—unfolding self-organization}—what is possible—is guided by four universal determining-conditions of structure: eternity, time, hyparxis, and space.

- eternity. Eternity is the condition and source of *all* potentialities. It reverses the law of thermodynamics—negentropy. As such, it is “multivalent, synchronous, reversible, and imperishable.”³
- time. Time is the condition of actualization. Its *successive* flow *from* potential, sourced from eternity, is irreversible. The *eventual* exhaustion and cessation of *any* actualization culminate in a return of beingness to the eternal source.
- hyparxis. Hyparxis is the condition of the recurrence of presence. It is the reconciling condition *between* {being—nonbeing} that determines the ableness-to-be of a given entity—the negentropy, whose recurrence is cyclical. Entities present themselves as a series of actualizations *throughout* an interval of time.⁴
- space. Space is the condition of presence, appearing in a given place-moment and extending itself in space-time. It has the *inherent* properties of a point, a surface, a configuration, and an interval.

These determining-conditions, as dimensions of the implicate—the {ordering—organizing} processes unifying *all* phenomena—will be explored in great depth in the following chapters, particularly Chapter 4. These conditions delimit the possible *through* the distinctness of structures. We can think of them as the *constitutive rules* of the Cosmos. They refer to the subanimate existence and behavior of entities, and therefore, can *never* be *fully known* or *even experienced* by us directly, *only* inferred.

3.1.4 elements of experience

All experience is given to us as a totality, an undefined reality, that is *always* incomplete and inconsistent. As Humans, we find ourselves in a middle band of experience, within a *seem-*

² The phenomenon of structures of consciousness will be developed further on in this Study.

³ Bennett, 1956:183.

⁴ The notion of hyparchic interval is almost identical to and likely inspired by Bergson's notion of duration.

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ingly infinite Continuum-of-experience—a continual stream of nested wholes flowing in every direction: *below* us, it reaches *towards* the *infinitesimally* small; *above* us, *towards unimaginable* immensities.⁵ Therefore, there is *always* the danger of dualistic thought. It follows that *true* understanding is possible *only* if *all* experience *along* the continuum is constituted of the *same* substance.⁶

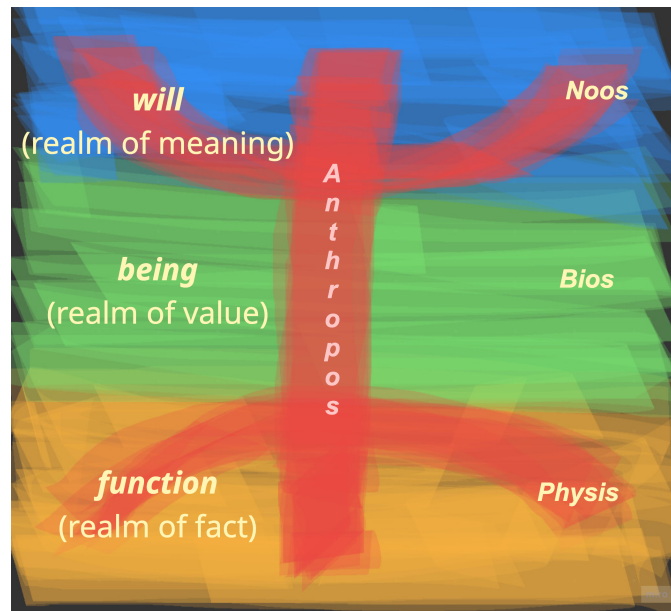


figure 3.01: **function—being—will**⁷

Experience differentiates itself *into* three *distinct, yet inseparable*, primary elements: function, being, and will.

function. Function constitutes the behavioral aspects of wholes, how these manifest in Reality by presenting themselves in space and actualizing themselves in time. Our knowledge of wholes is limited to their functioning. This raises the questions: *What* is going on? And *how* do we engage with it?. These events, expressing themselves as the explicate order, constitute the knowable aspect of experience. This is the realm of fact.

being. Being implies the inner-togetherness *behind* materiality, expressed in a plethora of *unique* ways through living entities, each-forms⁸, whose being presents an entirely unknowable element of experience. Being points to the “what?” question, to which we can *mainly* answer by pointing...that. Beings are unknowable because they possess an interiority whose vastness, *even they* may *not* fully access. They present themselves, therefore, as incom-

⁵ Morin, 1977.

⁶ This sub-stratum of existence Bennett (1956) refers to as “hyle.”

⁷ Composed by this author (unpublished). Image inspired by Berber symbol Yaz, the free man, bridging the earth and the heavens.

⁸ James (1920) establishes contrasting terms of “each-forms” and “all-forms” for differentiating the instance of a being from Being itself.

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plete—a multiplicity of potential states of experience, as of *yet not* actualized, engaged in the process of becoming. Consequently, we can *only* be conscious of *how* each each-form brings value *into* the world. Hence, this is the realm of values.

will. Will points to the *how* and *why* questions, and can *only* be a product of understanding generated through *shared* experience and expressed in a *shared* language. Will is the *active* element of experience, where beings *consciously* participate in making meaning together. As such, this is the realm of meaning, that to which we give significance, and that which determines value. Will can be studied *through* the formulation of universal laws—laws about laws, or meta-patterns.

3.1.5 differentiating phenomenon

Phenomena is that which presents itself to us in the *ordinary, middle band* from the perspective of function.

fact. Fact results from removing the quality of beingness—the degree of aliveness—from a given phenomenon, thereby reducing it to a quantitative unit of knowledge. Therefore, the content of knowledge is *always less* than the content of phenomena. Facts are meaningless atomic fragments, the residue of reducing experience to *merely* functional order. Facts are the detritus of reality, presenting themselves as quantities—generic units, empty of valuable content. Natural science deals *only* in facts, in its persistent attempts to eliminate distinctions of consciousness via statistical reduction. Natural philosophy, on the other hand, invites value judgments, which are *entirely* unavoidable in ordinary experience.

value. Values are qualitative and intrinsic aspects of being, whose degree of aliveness can *never* be known, *only sensed* by bodies with *sufficient* concentration of consciousness.⁹

meaning. Meaning is *neither fact nor value*. As a property of will, it has a *primary* role as a reconciler of fact and value, *although* they are *distinguishable* aspects of the *same* Reality and are therefore *inseparable* in experience.

This Research hinges on the presupposition that the reality Humans are awakening to, originates in, and is located within our bodies, as a stream of lived experience, *simultaneously* {individually sensed—collectively made sense of}. Thus, the significance of emphasizing the *missing middle*—the collective body. Furthermore, *any* research that aims to explore the implicate qualities of generalized Complexity—{Wholeness—Aliveness—Centeredness}—I suspect, should *also* originate there.

⁹ It is important to note that all qualities differentiate themselves by degree or intensity; a notion described in detail in Yanez (2024). I summarize the qualities of qualities further in the following section.

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3.2 locating generalized complexity

It is coming to light that understanding complex phenomena—entangled worlds of entities with their *own* degrees of aliveness, emerging from an *unfathomable* interiority implicated in the process of being and becoming—requires a *qualitatively different* approach to inquiry. Our quantitative compulsion to collect *huge* amounts of measurable data disregards and overshadows the qualitative aspects, impeding *any* possible understanding of a system as a whole.¹⁰ The qualitative is the *fundamental* implicate ordering: the warp and weft of the fabric of Reality, whose *invisible* interactions and relationships constitute our Universe-of-complexity¹¹.

*"None of the sciences offer us a way to integrate all the tremendous quantities of information and knowledge generated in the various disciplines and subdisciplines. This is extremely problematic for at least two reasons...the "big questions are simply not asked and... action in the world cannot be confined to knowledge drawn from one discipline"*¹².

3.2.1 as above, so below

"As *above*, so *below*" is an ancient phrase that recognizes that universal similarity constitutes the ground of our Continuum. This implies that we can understand phenomena *well beyond* the reach of our direct experience by recognizing patterns in our *more* accessible *middle band of experience*, which can serve to unify *all* of our experience through the power of analogy.

Analogy can be differentiated from metaphor. A metaphor can be characterized as: superficial, equivalent to a simile; heterologous, sharing a similarity of function, across contexts that are different; homologous, where a similarity of being arises from a resemblance of contexts, *even* when functions are different; or, unificational, expressing similarities of pattern arising from the same law.¹³ This is consistent with our description of **function—being—will** in the previous section. Analogy combines these to describe complex reality: it *simultaneously* describes similarities of function (self), by self-similarity of complex organization (Self) at *whatever* scale of being (cell, organism, ecosystem), and by the relative applicability of meta-laws (laws about laws, perceptible *only through* will), *shared* patterns common to an *entire* system of entities (SELF).¹⁴

¹⁰ Wahl, 2016.

¹¹ The hyphenated term, Universe-of-complexity, was introduced in Yanez (2023) to permanently bind the notion of complex realization to its ultimate context, Universe, since from the perspective of human experience, they are in intimate relation, that is, neither is ever experienced independently of the other.

¹² Mountouri, 2008:xxvi-xxvii.

¹³ Byrne & Callaghan, 2014.

¹⁴ Ibid.

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What this calls for is a scientific approach that harnesses our knowledge (of function), intuition (of being), and meaning-making (of will), one capable of establishing a *right* relationship with the aliveness of phenomena, of which we are so *intimately* implicated, *all around* us, *particularly within* ourselves.¹⁵ This necessitates a transdisciplinary approach that moves *well beyond* simple problem-solving to engage in a quest for meaning, derived from a *significantly-closer* relationing to the realities of lived experience, a *truer* basis for revealing the *deeper* epistemological foundations.¹⁶ We can recall that this is the aim of natural philosophy, and especially, progressive approximation. As we attempt to *make sense* of the world, we ought to reconsider *how* we order and organize knowledge, mindful that our approaches mirror the self-realizing capacity *inherent* in a Universe-of-complexity, so that the method emerges *from* the research, *not* the other way *around*.¹⁷ This allows us to address the inescapable dimension of uncertainty *inherent* in generalized Complexity; so, “as the world is *increasingly* confronting us with the unexpected, we can also *generate* the unexpected ourselves.”¹⁸

3.2.2 an unexpected Universe

A knower doesn't stand *apart* from the Universe, but participates *personally within* it.¹⁹ To study generalized Complexity, *particularly* as it relates to human social systems, what is demanded is “an intimate firsthand encounter between the student and the phenomenon being studied.”²⁰

This resonates with my lived experience. In my praxis, this insight has *always* remained clear: the *one true* way to manifest a desired effect in the world is from the *inside out*, with me as a focal point. Understanding a Universe-of-complexity is no different. The reader may have noticed by now that this writing has a personal tone, *not* characteristic of academic writing. However, as will become evident, this personal approach is *key* to my research. Indeed, it enables me to experience myself as a complex whole embedded in a vast Continuum-of-experience. A whole that participates by studying the Continuum on its *own* terms. A study that self-realizes, by virtue of the relationing of elements of experience, which acquire their *own* coherence, and can communicate significance to me via a corresponding degree of aliveness it generates in my body. Indeed, “Direct experiential contact coupled with prolonged, attentive efforts to look and see became the basis for descriptive generalization and

¹⁵ Harding, 2009.

¹⁶ Mountouri, 2008.

¹⁷ Ibid.

¹⁸ Ibid.

¹⁹ Polanyi, 1966; Morin, 2008.

²⁰ Csorda, 1990:87.

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synthetic understanding.”²¹ I contend that to make sense of the implicate qualities I seek to understand, I must commit to an approach that is phenomenological in nature.

3.2.3 phenomenology

We can learn from Goethe’s phenomenological approach to understanding the dynamical workings of a living world.²² It strives to arrive at an understanding of qualities from the qualities *themselves*, which possess their own standing *regardless* of their ephemeral physicality.²³ We can proceed to create a “science” of qualities mediated by direct, shared lived experience – a way to render visible the relationing of natural phenomena.²⁴

We can recognize at least seven aspects of phenomenology, from which I initially formulated a general strategy for my approach.²⁵

- transcendental constitutive. The transcendental aspect of phenomenology concerns the navigation of complex reality through relational maps, descriptive of multidimensional phenomena that enable us to locate and perceive ourselves uniquely *within the workings of the world*. Dynamic systems frameworks, for instance, are such instruments.
- naturalistic constitutive. The naturalistic aspect of phenomenology invites the identification and study of *consciously* constituted qualities in the Universe.
- generative historicist. The generative aspect of phenomenology suggests that it is accounted for and reflected upon through *collective* lived-experience.
- genetic. The genetic aspect of phenomenology implies the emergence of shared meaning-making that resonates with our *own* stream of lived experience;
- hermeneutical. The hermeneutical aspect of phenomenology concerns the distillation and interpretation of patterns from insights derived from both lived experience and texts, as well as the interpretation of others’ lived experience, with the aim of unifying collective experience.
- realistic. The realistic aspect of phenomenology relies on exemplification: the recognition of occasions *throughout* the Universe-of-complexity that, by their existence, validate the coherent systematization of collective experience.

3.2.4 the qualities of qualities

The body emerges as one of our missing middles—an uncontested mesoscale (**matter—body—mind**) that relies on a lived experience of implicate qualities that can be sensed *only*.

²¹ Ibid.

²² This can be similarly said of Fechner as documented in James (1920).

²³ Seamon, 2005.

²⁴ Ibid.

²⁵ Embree, 1997.

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But what is a quality? Quality can be understood in relation to quantity.²⁶ Similar to fact, quantities are the result of a reduction that strips *away* the relative beingness (relative aliveness) of a given phenomenon.²⁷

Qualities, thus, are the concentrations of energies—intensities expressed at varying magnitudes. Intensities that *only* living bodies with a corresponding (at the very least) proportional concentration of consciousness (Aliveness) can sense.²⁸ A *fully human* inquiry into generalized Complexity requires developing the capability to gain a felt sense of **{Whole-ness—Aliveness—Centeredness}**, which demands our attention to the interplay of **{quality—quantity}**. As we have seen, qualities cannot be measured but are best described in relative degrees, requiring a progressively systematic approach, which we will see more of in the coming chapters.²⁹ The Beaufort Scale is an example of a quality, relative wind intensity, that is *not* easily measured without instruments, being described via a progression of sensible gradations that the human body can experience.

BEAUFORT WIND SCALE

Beaufort Number	Description	Wind speed	Wave height	Sea conditions	Land conditions	
0	Calm	< 1 knot < 1 mph < 2 km/h	0 ft 0 m	Sea like a mirror	Smoke rises vertically	
1	Light air	1–3 knots 1–3 mph 2–5 km/h	0–1 ft 0–0.3 m	Ripples	Direction shown by smoke drift	
2	Light breeze	4–6 knots 4–7 mph 6–11 km/h	1–2 ft 0.3–0.6 m	Small wavelets	Wind felt on face	
3	Gentle breeze	7–10 knots 8–12 mph 12–19 km/h	2–4 ft 0.6–1.2 m	Large wavelets	Leaves and small twigs in constant motion	
4	Moderate breeze	11–16 knots 13–18 mph 20–28 km/h	3.5–6 ft 1–2 m	Small waves	Raises dust and loose paper	
5	Fresh breeze	17–21 knots 19–24 mph 29–38 km/h	6–10 ft 2–3 m	Moderate waves	Small trees and leaves begin to sway	
6	Strong breeze	22–27 knots 25–31 mph 39–49 km/h	9–13 ft 3–4 m	Large waves	Large branches in motion	
7	High wind, moderate gale, near gale	28–33 knots 32–38 mph 50–61 km/h	13–19 ft 4–5.5 m	Sea heaps up	Whole trees in motion	
8	Gale, fresh gale	34–40 knots 39–46 mph 62–74 km/h	18–23 ft 5.5–7.5 m	Moderately high waves	Twigs break off trees	
9	Strong severe gale	41–47 knots 47–54 mph 75–88 km/h	23–33 ft 7–10 m	High waves	Slight structural damage	
10	Storm, whole gale	48–55 knots 55–63 mph 89–103 km/h	29–41 ft 9–12.5 m	Very high waves	Trees uprooted, considerable structural damage	
11	Violent storm	56–63 knots 64–72 mph 103–112 km/h	37–52 ft 11.5–16 m	Exceptionally high waves	Widespread damage	
12	Hurricane force	≥ 64 knots ≥ 74 mph ≥ 118 km/h	≥ 46 ft ≥ 14 m	Exceptionally high waves, sea is completely white	Devastation	

figure 3.02: Beaufort Scale³⁰

The following section will *further* develop these phenomenological elements. It will give particular focus to Merleau-Ponty's embodied phenomenology, to gain a better understanding of

²⁶ Yanez, 2024; and, the reader will have a clearer notion of this in act 2 of Chapter 6.

²⁷ Indeed, even quantity, the ability to be counted, is a quality.

²⁸ Ibid.

²⁹ Ibid.

³⁰ VectorMine (n.d.).

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embodiment theory in general, with the explicit purpose of ensuring our approach has the capacity to incorporate the implicate qualities of generalized Complexity.

3.3 embodying generalized complexity

Here, I review the literature on related domains of embodied cognition, the philosophy of embodiment, and embodiment as a method of inquiry.



3.3.1 embodied cognition

There is diversity in interpretations of cognition, but *all* agree that embodiment is essential to it.³² Embodied cognition holds that the mind is *not* only *connected* to the body but that the body *informs* the mind; hence, {body—mind} are in a dynamic relation. In fact, the very structure of reason *itself* comes directly from our embodiment.³³ Reason is *not* independent of the body; quite the opposite: this is where we *experience the world* physically, spatially,

³¹ Composed by this author (unpublished).

³² Cowart, 2002.

³³ McNerney, 2011.

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kinesthetically, and actively, *all-informing* patterns for how we make sense of the world.³⁴ Embodied cognition is at the forefront of study in various fields, including philosophy of mind.³⁵

The mind and its conceptual systems are *grounded* in bodily experience and, as such, depend on whole systems of embodied metaphors.³⁶ This implies that *even* philosophical theories *themselves*, are constructed in this fashion.³⁷ “Cognition is *not* a representation of an independently existing world, but rather the act of bringing forth a world *through* the processes of living as relating... a world we bring forth with others.”³⁸ Once again, the significance of the correlation *between* consciousness and Reality *ought not* to be understated.

3.3.2 philosophy of embodiment

We are physical bodies inhabiting and interacting with a world; *through* our bodies, we create the understanding *sufficient* to act in and navigate it.³⁹ Yet, in philosophical reflection, the body has largely been ignored, with a few notable exceptions; the following is a summary.⁴⁰

- Descartes believed that mind and body interrelate intimately in *some* mysterious way, stating that the body is *too* complex for either mathematics or metaphysics, essentially saying, it is a matter of physical experience.
- Pascal, *too*, made no attempt to understand the body, the mind, or their unity, but acknowledged that the body is an implicit source of being.
- For Spinoza, the mind and body come together in Reality, with the body mirroring the self (soul) and the mind ideating the body.
- Bergson conceived of the human body as a person's location in the world, a center of action, experience, and physical organization—in our terms, a center for self-realization.
- Piaget viewed the body as an essential aspect in the development of language and culture.
- Scheler wrote about the lived body and embodiment as the center of experience.
- Husserl celebrated the personal relationship to the body, “body-as-mine.”
- And, Marcel, Merleau-Ponty, and Sartre *all* approached the body as a point of belonging, “I am body” or “I am *my* body.”

There are at least three dimensions of embodiment: the body as bridge to the world, the body's inherent intelligence, and the body's intercorporeality, a term Merleau-Ponty used to signify the simultaneous integration of the social nature of the body and the bodily nature of

³⁴ Lakoff & Johnson, 1999.

³⁵ Shapiro, 2014.

³⁶ Lakoff & Johnson, 1999.

³⁷ McNerney, 2011.

³⁸ Wahl, 2016.

³⁹ Johnson, 1999.

⁴⁰ Ibid.

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social relationships.⁴¹ This speaks to the Self, the missing middle: the social-level of collective bodies. We can likewise consider a typology of nine body approaches: body as object (Cartesian), body as subject (theater), the phenomenological body (the 'lived' body, holding its own meaning: Husserl and Merleau-Ponty), the somatic body (alternative medicine), the contextual body (self-reflection/self-awareness located in surroundings), the interdependent body (movement work), the environmental body (Santiago theory, habits and movement in nature), the cultural body (Csorda's view of embodiment), the ecological body (Buddhist mindfulness and notions of 'interbeing'); the last of which is an essential linkage to living systems thinking.⁴²

3.3.3 embodiment as method

The body is *simultaneously* a home for the spirit and a physical place of grounding for culture. It presents itself as a *highly sophisticated* instrument for sensing qualities as they manifest themselves through culture.⁴³ Studies that use *embodiment as a method* are understood from the standpoint of a being inhabiting its world and as an act of synthesizing embodied experience *within* a milieu of cultural meaning in which one is *continuously* and *inescapably* immersed.⁴⁴

Embodiment augments scholars' capacity to generate *high-quality* explorations and broadens their capacity as public intellectuals to catalyze *positive* social change.⁴⁵ Its vigor stems from embracing knowledge production as profoundly rooted in sensory experience, incorporating an understanding *well beyond* the five *primary* senses.⁴⁶ Merleau-Ponty and Bourdieu demonstrate that embodiment as a method offers several *key* advantages.⁴⁷

- 1) It allows the collapse of dualism *into* polarities (**observer—participant, inside—outside**, etc.).
- 2) It *not only* advances our understanding of practices, but also of how these interrelate.
- 3) It provides a unifying element for all practices (a body).
- 4) It grounds the body in the social body.
- 5) It provides a place in the physical world while *simultaneously* projecting itself *into* the world.
- And, 6) it provides a locus of consciousness *within* the world.

⁴¹ Lala & Kinsella, 2011.

⁴² Csorda, 1999; Reeve, 2011.

⁴³ Csorda, 1990.

⁴⁴ Ibid.

⁴⁵ Ellingson, 2017.

⁴⁶ Ibid.

⁴⁷ Csorda, 1990.

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*If embodiment is to attain the status of a paradigm, it should enable the reinterpretation of data and problems that have already been analyzed from other perspectives. If this is to be in a strong sense, it should be possible even to construct an embodied account of language, typically the domain of linguistic, semiotic, and textual analyses....*⁴⁸

3.3.4 embodiment as ethnographic practice

Embodiment, whether explicit or implicit, is *always* part of *any* critical or qualitative study, and it is vital to build “data” that focus on meaning-making out of words, other elements, and contextual spaces.⁴⁹ There are various approaches depending on the aim of the research; these include:

- humanistic. Openly subjective knowledge (such as stories, poetry, photography, performance, and painting);
- interpretive scholarship. Focusing on the researchers' standpoint;
 - sensing and communicating emotions, qualities, or energies by using the researcher's body as an instrument;
 - intensive engagement with textual materials, by rereading *many* times, noting emergent patterns, and deciphering subtleties;
 - and using the head, heart, and gut as a means of inquiry *into* data.⁵⁰

The fundamental potency of ethnography lies in its capacity to uncover *unexpected, seemingly random*, fragments of daily life that are essential to a *more complexified* understanding of ecosocial complexity.⁵¹

Next, we bring together *all* the *above* learning on various aspects of a potential approach. We know it ought to apply progressive approximation. It ought to proceed from our own proprioceptive participation as highly complex beings. And, it ought to fully avail us of our capacity as Humans, for embodied sensing and sense-making.

3.4 a method in the making

This Research purposely did *not* commit to a methodology from the outset, which might have limited its range of potential actualizations.⁵² Rather, it opts for an openness of approach implied in the Greek word *methodos*, a Research *in search of* a method.⁵³ An approach whose

⁴⁸ Csorda, 1990:23.

⁴⁹ Ellingson, 2017

⁵⁰ Ibid.

⁵¹ Ibid.

⁵² Non-method method, or one that unfolds with the research, is well-documented in Morin's Method (1977-2006) as most appropriate mode of inquiry of any complex phenomena.

⁵³ “*Methodos*” is a Greek term that means a transit, path (Hands 2015).

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aim is to legitimize a mode of inquiry capable of encountering uncertainty and hazard in a Universe-of-generalized-Complexity, on its own terms.

This approach is exemplified in the following mode of thinking.

Even as of now, our universe is... a pluriverse. ... The knowledge gained about irreversibility is irreversible. The knowledge gained about complexity is unsimplifiable, [the] One universe, then, is dead... this new version of the world gives rise to mystery at its very heart. It opens upon the unknown, the unfathomable... For the first time, a vision of the world does not close in on itself in an explicatory self-sufficiency. This change of world will take us much farther than the change of an "image" of the world. It will have to entail a change in the world of our concepts and once again put in question the master-concepts with which we used to consider and imprison the world.⁵⁴

It will be impossible for us, as we shall see, to isolate a master-word, to hierarchize a primary notion, a primary truth. Order, disorder, organizing potentiality must be thought of together... in a sort of moving loop. ... In order to conceive this... A revolution of principle and of method are called for. The question of the genesis of the cosmos is, therefore, at the same time, the key question of the genesis of method.⁵⁵

I suggest here that what is being called forth, in no uncertain terms, is a *systematic* re-framing of how we know what we know, a meta-epistemology with the capacity to reconceive how we participate as *fully Human within* a Universe. "Morin challenges us to explore the *meaning of inquiry* and show us how this *seemingly esoteric* question lies at the heart of the challenge for the 21st century."⁵⁶ Indeed, "Questions, moreso than answers, offer us pathways towards collective wisdom⁵⁷.

3.4.1 the questions

My research will consist of an in-depth study of generalized Complexity, which poses the following questions that guide the Research, *some* of which we've already begun to consider.

- 1) What is generalized Complexity? What are its implicate qualities, and how do we engage with these in the context of human social systems?
- 2) How do we approach inquiry in a manner that corresponds to and integrates the presumed implicate qualities of generalized Complexity, as I am studying it?
- 3) What would be an *adequately comprehensive* theoretical basis for such a *qualitatively different* research approach?
- 4) Is generalized Complexity *even* definable? If *not*, how could we arrive at a *sufficiently elegant, yet accurate* description that might generate an understanding of its Workings, one that could be applied to the re-patterning of human social systems?

⁵⁴ Morin, 1977:64.

⁵⁵ Ibid:41.

⁵⁶ Mountouri, 2008:xi.

⁵⁷ Wahl, 2016.

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- 5) How do implicate qualities of generalized Complexity translate *into* the ecosocial realm?
If we applied these qualities to ecosocial systems, what might these systems look like?
- 6) Within this ecosocial context, *what would it mean for us to be fully Human?*

3.4.2 unfolding

Although the essence of the Research has remained true since the outset, 5 years ago, when it was proposed. Much has changed since then. At that time, I didn't know much for certain, except that if I was to uncover qualities inherent in living systems—initially, I was limiting the scope—my research must embody these qualities, so that we might be on *equal terms with* what I set out to study. I set out with an intuitive sense that Wholeness and Aliveness were significant to the Research I was embarking on, *even* though they had *not yet* differentiated themselves for me.

the process. I set out with several hundred texts that were begging to be devoured. I knew intuitively that I would be guided by whatever *relevant* elements (notions, ideas, concepts, insights) brought me the *greatest* degree of aliveness as I encountered them. I was overcome by an overwhelming desire that the Research would develop a self-realizing Complexity of its own. As they say, be careful what you wish for.

I set out to search for *emergent* patterns. I had planned to use the domains presented in the state-of-the-art *not* as ends in themselves or *even* as specific points of departure, but as self-realizing centers, whose patterning I would use to develop my own “genetic” coding, a pattern language for formulating a qualitatively different approach to inquiry, in general, and to my research, in particular.

miss-takes. And yet, as I gathered insights from Alexander, Morin, Bennett, Gebser, and so *many* others, my yearning for patterns intensified. I set out to collate them, interrogate them, and reassemble them repeatedly, trying to force them *into some anticipated* structure. The *more* I did this, the *more* they resisted, *never* quite conforming. It wasn't until I *fully stepped* out of the way and accepted that I was participating with them on their *own* terms that they began to cohere in unexpected ways, leading me on an unexpected adventure you *now* have before you.

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figure 3.04: “sacred texts” as self-realizing centers⁵⁸

The *first* step in setting them free to interact was to generate *some basic*, constitutive rules, sourced from my observations of the centers at play thus far, to guide the self-realizing process.

- 1) fractal. Each element yearned to belong to a *larger* schema of nestedness.
- 2) centered. Each whole organized itself *around* a center, which endowed it with a potentially distinct identity and an essence that, over time, would differentiate it from *all* others. As such, it might serve as a magnetic attractant to other potentially related centers, without which it would seem incomplete.
- 3) recursive. Each center would develop *into* a *singular* node, a portal to a universe *within*, a point of interrelationship in a field with other such nodes. Together, they would form centers for *something larger*—a living structure.
- 4) permeably bound. A living structure that is vulnerable, open to growth, and taking root in a *broader* ecosystemic context might appear; it would reveal a research field *sufficiently* comprehensive to allow its unfolding Aliveness and *sufficiently* finite to contain its enfolding Wholeness as it develops by further differentiation.
- 5) (RE)generative. This Research would enable the emergence, self-organization, and coherence of potent insights—unexpected, emergent *patterns of significance*, a pattern language, and meta-patterns.
- 6) retroactive. Likewise, this Research would allow for the composting of *irrelevant* elements that no longer served the *greater* whole.

⁵⁸ Composed by this author (unpublished).

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- 7) spiraling. This Research builds upon *relevant* insights from its *own* discoveries and others', persistently achieving *progressively higher* resolution of the Workings of generative Complexity.

original contribution. This Research process, as it has been unfolding *organically*, has generated *many original* insights. However, I suspect the *most* original contribution I am introducing to the field is a *qualitatively different* approach to inquiry, one infused with the very qualities of generative Complexity it studies.

a very tentative strategy. As we established above, the Study's non-method approach will follow *from* the Research, especially in this case, where the non-method approach *is* the Research. Therefore, I set out with a *tentative* strategy based on the premise that this approach would unfold in surprising ways as the Research progressed. My *tentative* strategy set out to engage in the following activities.

- 1) deep dive. I immersed myself in *some* of the key works of literature, which continually opened me up to a sea of *further* sources.

- 2) data sets. I began amassing *thousands* of texts in PDF form, *most* of which I knew I wouldn't read. Yet, I knew intuitively I had to gather them. They were *all* important for their *exceptional* insights *into* Humanity; they spanned the globe and several millennia, and, *most* importantly, they brought me a *greater* sense of aliveness. Some were *more magnetic* than others. Each became a "data point," in purely scientific terms, but with this approach, each was one "neuron" in the collective mind of Humanity.

- 3) strong centers. Some texts I was drawn to read, the *most magnetic* ones, became "sacred" texts, in the sense that they gained *tremendous* significance for my research. These texts produced insights that emerged as *strong* centers, organizing *all* other insights arising from the Research, especially those that resonated with insights gained through my lived experience.

- 4) patterns. I observed that both insights began to take on a life of their own, becoming idea-beings that interacted *within* a noosphere.⁵⁹ Once I got out of their way, they began to cohere *into* a living structure, that is, to self-organize and self-order *into surprising yet recognizable* patterns.

- 5) pattern language. My role became clearer: to use my body as an instrument to "compute the data set," that is, to sift *through* data and distill threads of notions, ideas, concepts, and insights that evoked a sense of aliveness.⁶⁰ This indicated *some* degree of significance. I began to notice threads woven together, expressing an *even larger* pattern of relationing, patterns of significance.

- 6) meta-patterns. These patterns were set in motion to reveal the meta-patterns of generalized Complexity that generated this Study, as well as the constellated terms and

⁵⁹ Morin, 1991.

⁶⁰ Morin, 1980a.

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pattern-language phrases woven *throughout*. In the last chapter, I suspect they will converge to complete the present phase of this Research and determine the phase yet to come.

- 7) validating. I set out to experiment with the implicate qualities derived *throughout* this process, in two ways: first, by developing a *larger* meta-framework of aims for *fully human* social systems (presented in Chapter 6); and second, by describing what two human social systems might look like if guided by those aims, *toward* their *highest-order* potential.

In the following subsection, I present the techniques and instruments applied *throughout* the Study. Needless to say, these also emerged as essential for conducting the Research.

3.4.3 techniques and instruments

Both the practices of progressive approximation and of embodiment have coalesced as integral poles of the approach. They continue to express themselves *throughout* this Study *through* me, *the* “I” that is *explicitly* an active participant in, as well as a subject of, the Study.

the “I”. The “I” in this Study is an unconventional scholar-practitioner, unconditioned by *any* ‘right way’ of doing research. My entry point *into* scholarship is through insights gained from lived experience that align with the regenerative paradigm. An “I” entrenched in the dominant paradigms of Western culture, from which I am in the lifelong process of releasing myself. An “I” engaged in the study of generalized Complexity, grounded in emerging knowledge of myself in my *hyper-complex* humanness, the aliveness of my animal body, and the wholeness of my microcosmic being. I am a fractal of the very process, structure, and texture of a Universe striving to know itself. An “I” addressing a variety of “we’s” that are *always* inclusive of this “I”.⁶¹

the “we”. The “we” in this Study is a nested “we” that shifts levels according to context of use: a local “we,” audiences reading this Study; a proximate “we,” those drawn to the field of generalized Complexity, to whom this Study is being addressed; and the *greater* “we,” Humanity.⁶²

There are several techniques and instruments I am utilizing in my approach, which are interlinked and build on one another. These make it possible for us to perceive, encounter, understand, and participate with our Universe on its *own* terms.

setting terms in relation. Instead of enclosing otherwise fragmented terms *within* a surface-level description, I encourage them to differentiate themselves relationally. That is, their potentially *unique* essence becomes clearer, as they are set loose to interact with other

⁶¹ I utilize hyphenation *throughout* in order to more richly express concepts composed of inseparable yet distinct terms in relation. The term and the practice is described in in Part 1.

⁶² The field of social-solidarity and the commons, has its own ontology, which is employed herein, as a way to connect more deeply with that audience. It is an ontology originating from the Zapatistas of Oaxaca, who describe a vision of a pluriverse (a Universe of plurality) where many worlds fit.

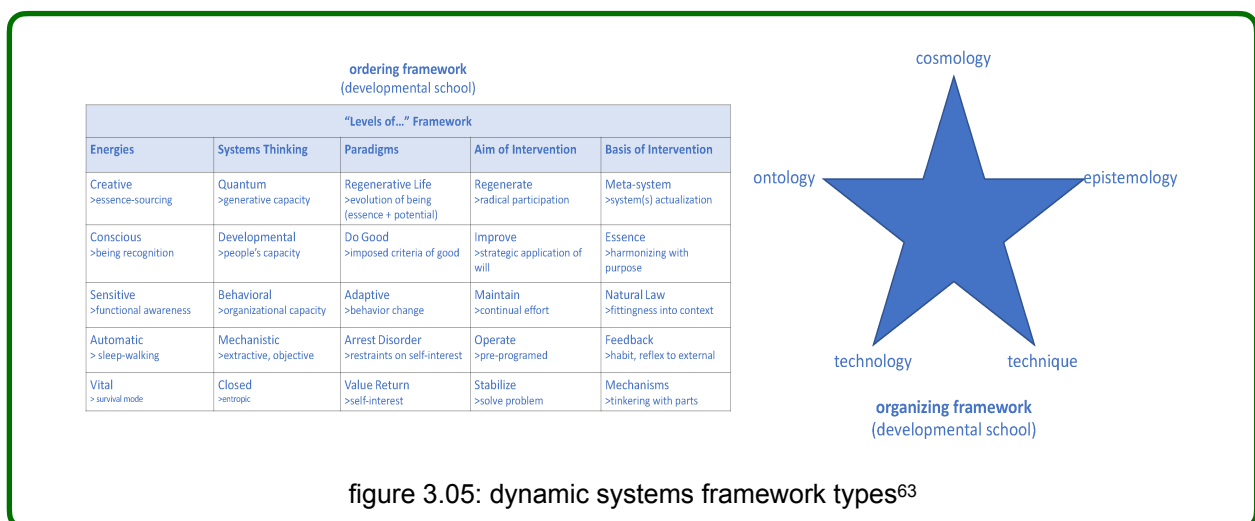
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terms, *some* of which they *might* bond with and eventually constellate. This author's lived experience serves as a medium for constellated terms to concretize; it invites them to root in place and provides context intimate *enough* for *some* of them to acquire meaning and emerge as pattern language. A self-realizing, comprehensive meta-epistemology lays a fertile foundation for the pattern language to root, nourish, and animate. The technique of hermeneutics has proven a wellspring for the emergence of constellated terms and pattern language.

hermeneutics. As is evident and has been discussed, I have a predilection for bringing to Life older, *deeply insightful* texts and thinkers, who were *very likely ahead of their time* and whose import for understanding the workings of our Universe has been *grossly under-appreciated*, *not* to mention *almost entirely* underutilized.

re-sourcing. My role with these texts and the thinkers who produced them has become that of a resourcer. Resourcing is a developmental practice based on the Socratic method. It involves *ever-deeper* questioning of these texts and thinkers until they reveal deeper levels of significance, and patterns that connect—meta-patterns that unify the individual patterns emerging. Many of these thinkers apply exemplification to support their patterned insights.

exemplification. Exemplification is my term for evidencing a *final system of Reality* by admitting *every* occasion of experience as valid; a practice championed by James and practiced by other thinkers presented herein. It confirms that there are *no* exemptions or outliers. Everything experienced is true *somewhere*, in *some* context. Every situation, case, or entity we encounter in our experience must be included in whatever overall schema we use to understand *any* system of reality as a whole. This technique has proven invaluable in “testing” the *larger* meta-patterns taking shape, *against* lived experience. The constellating terms and pattern language that shaped both the metapatterns and my lived experience are the very units of study that reconcile them. The ultimate “proof” is their coherence with preexisting frameworks, which I have already been applying in my praxis for *some* time.



⁶³ Composed by this author, sourced from Sanford (2004).

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dynamic systems frameworks. Frameworks are instruments for understanding the complex, dynamic wholes *within* which we live, so that we might be *conscious* participants. They have presented themselves as the *ultimate* meta-patterns, which I have described in depth in the coming chapters. “Frameworks shape what we pay attention to and how we act.”⁶⁴ They provide a stable, yet dynamic schema of parts-in-relation (terms) engaged in a whole, enabling our minds to give form, to “lay hold of our experiences and to co-ordinate them withal.”⁶⁵ Such relational maps are vital for rendering a Universe as a Continuum-of-experience, primarily when our atomized concepts *only* function to fragment reality.⁶⁶ While frameworks render the relation *between* terms visible, imaging and thick description serve to render implicate qualities sensible to our very capable nervous systems.

specificity of language. Every word in this thesis has been consciously chosen. One criterion is the accuracy of description. Special attention has been paid to terms and the qualifiers used to differentiate them. Likewise, relative qualifiers (*each, every, new, old*) indicate which whole or set of wholes we are referring to. In the interest of producing an embodied experience, the specificity of language extends to relative and/or absolute location (*above/below, next/previous, throughout, everywhere*) and movement (*within, upward, forward*) as we navigate the Universe-of-generalized-Complexity. Verbs have been chosen to relate *most intimately* to the noun with which they are associated (i.e., wholes are constituted by). This is *all* a matter of sensing *into* my aliveness and the clarity of the *all-at-once* image it invokes in me as I write, read, and rewrite. And, imaging has proven essential to the aims of this Study.

imaging and thick description. Imaging creates mental pictures of the Workings of *some* region of the Continuum-of-experience. Imaging is *not* imagination. In imaging, the imager is *intimately* embedded *within* the continuum being imaged. Imaging requires thick description—poetic language with the requisite potency, to express the ineffable ways you, I, and *everything* else are *intricately* entangled, as *felt* experience, potent *enough* to invoke a clear, mental (*all-at-once*) image for the experient.

I want to end this chapter with an *inspirational* quote that conveys the *immensity of the spirit* that motivates this Research.

Not only our personal lives but the very nature of the universe may demand of us now a new capacity for self-transcendence, both intellectual and moral, so that we may experience a new dimension of beauty and intelligence in the world – not a projection of our desire for beauty and intellectual mastery, but an encounter with the actual unpredictably unfolding beauty and intelligence of the whole [...] the open encounter with the potential reality of an anima mundi

⁶⁴ RIRP, 2018.

⁶⁵ James (1920): 235.

⁶⁶ A great example of relational maps are the Polynesian stick maps used by traditional navigators to interpret the complexity of forces they participate with in their extensive sea voyages; see http://thenonist.com/index.php/thenonist/permalink/stick_charts/.

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*makes possible its actual discernment. In this view, only by opening ourselves to being changed and expanded by that which we seek to understand will we be able to understand at all.*⁶⁷

To render our Universe understandable in its full Complexity is the overarching aim of this Study. The following chapter delves one level deeper and therefore, spirals us up a level in our understanding of the Workings of our extraordinary Universe.

⁶⁷ Tarnas, 2007:487.

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chapter 4. theoretical foundations for a Universe-of-complexity

Break the pattern which connects... and you necessarily destroy all quality.
Gregory Bateson

It is as impossible to know the parts without knowing the whole as to know the whole without knowing the particular parts.
Blaise Pascal

Thus, in scientific research, a great deal of our thinking is in terms of theories. The word 'theory' derives from the Greek 'theoria', which has the same root as 'theatre', in a word meaning 'to view' or 'to make a spectacle'. Thus, it might be said that a theory is primarily a form of insight, i.e. a way of looking at the world, and not a form of knowledge of how the world is.
David Bohm

4.1 seeing the whole

In this first section, we rely heavily on the insights of one thinker in particular, *most* relevant to this Study.¹

4.1.1 the mind's eye

Since ancient times, long before microscopes and telescopes, Humans could travel far *beyond* the middle band of experience, with the mind's eye. The Greeks, vis-à-vis the Platonic tradition of natural philosophy, were the first to formalize an approach to delving *into* the depths of unseen reality, which was handed down to them from pagan traditions.

Plotinus was a formidable proponent and systematizer of the Platonic tradition, formalizing the practice of seeing with the mind's eye, which we refer to here as imaging the *workings of the world*.² Imaging is of the intuition, a contemplative capacity that expresses itself in the one perfect moment of vision, an aha moment when *suddenly* it *all* clicks.^{3,4} Recall the *order of image* notion introduced in Chapter 1. What was being intuited in that perfect moment was *always* there, in the Platonic forms—those patterns of archetypal human experience—unchanging eternal truths about Reality that could *only* be perceived by the mind's eye, the highest part of our mind. Imaging the *workings of the world* was considered the *most elevated* activity our minds could engage in. This kind of seeing and knowing is innately indicative of a *higher-order* Being, that is, at *least momentarily*, in contact with the timeless

¹ This section was sourced in its entirety from Carey (2000).

² Plotinus, a Greek living in Rome in the 3c. AD, was great thinker of pagan antiquity, the last to remain uninfluenced by Christian or Jewish tradition. As a Neoplatonist, his thinking had a significant influence on Augustine and mystics of the Middle Ages.

³ Intuition comes from the Latin: to behold, to see.

⁴ Akin to the all-at-once imaging capacity available in the Chinese tradition/language described in Watts (2000).

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world of eternal forms, where time touches eternity. The vision of eternal forms is a kind of identity, where form and mind become one, a divine moment of participation, at which point the participant is coupled with the divine mind or Noos.⁵

4.1.2 the One and the many

There's an *even* deeper unity *beyond* that of the divine mind, which sees the *many*; this is the One, the source, and origin of *all* forms—the *all*-form, of which *all* each-forms partake. The manifold multiplicity of changing forms is governed by the One. We could say that the One is the first principle of *all* intelligible forms. We can *image* the One geometrically, as a point within a circle, structureless, and indivisible: the center from which *all* other forms radiate. This circle is identified by its relation to its center, and as such, it encompasses the *entirety* of the universe of forms, *every* form of consciousness, within it. The Source at its center is the *simplest* form of unbreakable unity possible—an undifferentiated whole. The dimensionless point has no spatial extent, and is a partless totality, which is of-itself-so.

Imaging that deeper reality is made possible by Source—the origin of both Being and eternal forms—which shines its intellectual light, rendering *all* other forms perceptible through the in-sight of our mind's eye. Source is *beyond* knowing (function), perception (being), or understanding (will) that it transcends, and as such is incomprehensible and *beyond* experience. We can *only* access it momentarily by becoming one with what we see through our understanding, *before* resurfacing *into* ordinary reality. The key to accessing the Source of *all* Being is *within* each of us: we came forth from it, we return to it, and in the eternal now we realize it's *ever-present* in us. Thus, *our* essence is an instantiation of the One.

4.1.3 gradations of being

There is an essential movement or emanation implied here: a *flow* of potential energies *from* Source, and a *return* of exhausted Life-energies to it. In many ways, we are *always* united in the One, because it marks a return to what we've *always* had access to, in the *higher* part of the self, the world soul—the SELF of the {self—Self—SELF} relation, in our terms, a universal unity from which we *never really* descended. There's one SELF and *many* divided selves, *yet all* are *fundamentally* One. Oneness is the original phenomenon; *all* divided selves emanate from it. We *only feel* divided because we give disproportionate significance to the abstraction, that is, the notion of an external world.⁶

The {self—Self—SELF}, these gradations of being, are ontologically located somewhere between the intellect and the body. In this systematization, we find four gradations of being.

⁵ A divine Mind—Noos—has the ableness of always seeing the whole world of eternal divine forms, and therefore experiences eternal, divine Being. Noos derives from the Greek word nous meaning understanding, also translated as spirit—the spiritual aspect of our *inner* reality.

⁶ Plotinus is the first person who gives significance to the term, “external world.”

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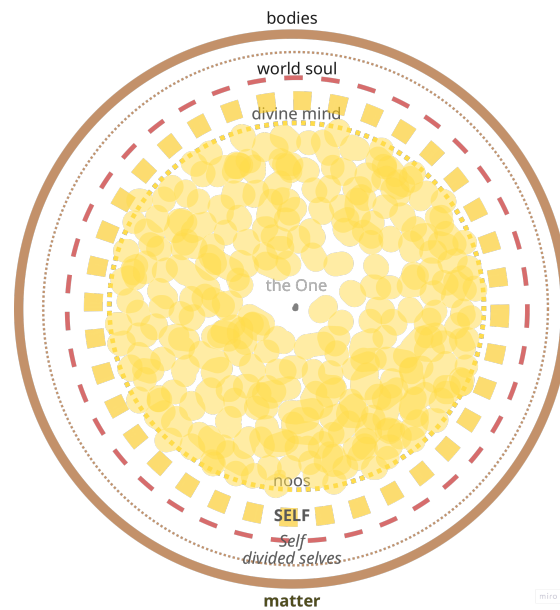


figure 4.01: gradations of being⁷

- bodies. Bodies are the *only* things in the Universe that can cease to be, that are immersed in existence, the surface-reality of materiality, and consequently, are the least real of the gradations of being.
- world soul, or {self—Self—SELF}. The *lower* part, the “self” of {self—Self—SELF} when attached to the body, can be fragmented and vulnerable, but it can be unified when it ventures *inward toward* the divine mind.
- divine mind or Noos. Beyond the soul or self lies divine mind, a realm of pure knowledge, divine contemplation, and eternal forms, of which we can *only* participate in *through* the imaging of eternal patterns.
- the One. The *all*-perfect unity, source of *all* that is, first principle, pure potential, and pure essence of spirit.

The *most* relevant gradation for Humans is the world soul. Here, the divided self, because it *can* be embodied, finds itself in the *thick of existence*, and as such, is vulnerable to the perils *inherent* in sensible surface-reality. It can be ignorant, suffer impurities and mortality, fall prey to lust and desire, and attach itself to physical things. In this sense, it is the “least real” element of Reality. The divided self has to struggle intensely to reunite with the original, deep, inwardness of the world soul (SELF), an inwardness that forms an essential part of its very being.

⁷ Composed by this author, inspired by Carey (2000).

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4.1.4 imaging the whole

By applying the following imaging exercise, we can generate a whole, *all-at-once* image of Plotinus' systematization, and his gradations of being with our mind's eye.

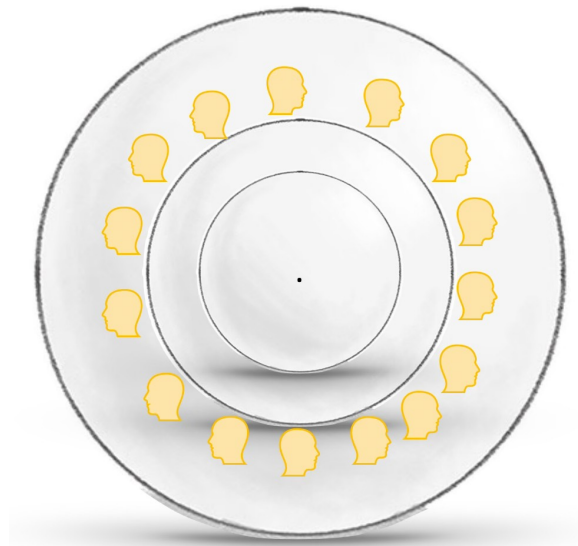


figure 4.02: transparent spheres image⁸

- 1) At the center of the Universe, picture a point *beyond time—space* (the condition of bodies). The luminous singularity of the One, Source of *all* Being, is the One.
- 2) Surrounding the center, we notice a transparent sphere, which is the world of the divine mind, or Noos, the realm of eternal forms, illuminated by the first principle emanating from the One, from which *all* things flow.
- 3) Now, image *yet another* transparent sphere revolving *around* Noos. This is the **{self—Self—SELF}**, a third gradation of being, a sphere with a multitude of faces peering *outward* from its surface. These faces represent the divided selves gazing *out toward* the *external* world.
- 4) Now, if we could *pivot* these faces *inwards*—a turning *toward* the *inside*—*toward* Noos, we would unite with *all* souls (selves) and form a world soul (**{self—Self—SELF}**), gaining access to the divine mind of Noos. This is the common *inner* world of eternal forms, a *deep, hidden inner* unity: *purely* spiritual, and accordingly, *not* part of the world of appearances.

This is significant because a vast *inner* unity at the *depths of our being* opens a doorway *into* an *intimate* Universe-of-complexity, at whose center we find Source, the *ever-present* Origin

⁸ Composed by this author (unpublished).

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beneath or behind everything. Along the way, on our inward journey, we bathe in the light that illuminates the divine mind, Noos, the numinous realm of eternal forms. In that moment, we realize that we *are* that *all*-pervasive mind.

4.2 of parts & wholes

In this section, I attempt to breathe Life *into* the concept of wholeness, so that I can begin to address the question of *what it would mean to be fully Human*.

4.2.1 a broken notion of wholeness

Wholeness is both a quality and a mode of perceiving Reality; it is the *most* comprehensive that our consciousness can choose to see. The notion of wholeness as a human concept enables the mind to find order within an otherwise *vastly vague* Universe-of-complexity—one that is in a *continuous* process of becoming. The Universe's process of becoming, its **{en-folding—unfolding}** capacity, is sourced from the implicate order.⁹ This unseen unity lies *behind* the explicate, visible manifestations of our Universe that constitute the content of our experience.

And yet, the dominant paradigms of Western traditions nonetheless maintain broken notions of wholeness that are reductive, whether *upward* or *downward*.¹⁰



figure 4.03: fragments¹¹

⁹ Bohm, 1980.

¹⁰ Morin, 1977.

¹¹ Composed by this author (unpublished).

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downward reduction. Classical science is based on an explicate order that reduces *downward*, by attempting to explain the whole (the general) *through* its parts (the particular). Parts are treated as *isolated* fragments that appear random and chaotic. Relying on the explicate order alone is *no longer* tenable, because these parts are no longer *merely* parts; they are also parts-in-relation, as well as wholes, at a *less* differentiated gradation of wholeness.

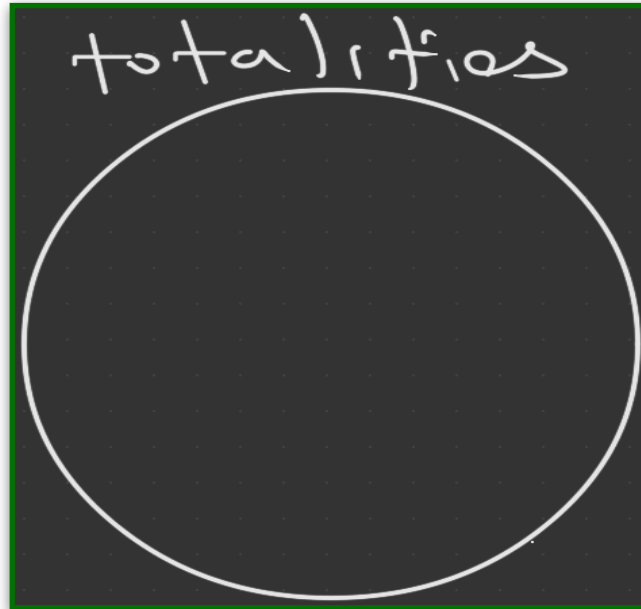


figure 4.04: totalities¹²

upward reduction. Many spiritual traditions, grounded in a different kind of explicate order, have long sought Wholeness through an *upward* reduction *into* totalities. Totalities are *often unfathomably* vague and tend *toward* being flat, dimensionless, and amorphous entities, which *more often* than *not* sacrifice the would-be parts-in-relation.

Neither *partless* totalities *nor fragmented* parts generate the whole story in a self-realizing Universe-of-complexity. The *more* comprehensive story reveals itself through **{enfold-ing—unfolding}**, which I *now* differentiate as **{self-ordering—self-organizing}**. We can specify four principles that seem to govern the relation **{wholes—parts}**,¹³ and are active in **{self-ordering—self-organizing}**.

4.2.2 self-ordering and Wholeness¹⁴

Self-ordering is the term I am assigning to the Universe's *inherent* capacity for self-realization, which reproduces the universal quality of Wholeness, unfolding *across* different orders of scale. Each scale or gradation of wholeness requires a complementary movement, enfold-

¹² Ibid.

¹³ Morin, 1977.

¹⁴ The four principles described here were developed in Morin (1977), the interpretations in this subsection and in the following subsection are mine.

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ing, a cyclical *closing-in* of Wholeness *upon itself*, that we can experience as wholes. In this way, *everywhere* we look, we find *intimately nested* wholes that can present themselves in two ways *simultaneously*.

- whole-in-whole. Every whole is nested within *ever-greater* wholes; its wholeness is an attribute of the *entirety* of the nestedness. Each whole exists to serve the aliveness of the *greater* whole it belongs to: the global unity *itself*.
- whole-in-parts. Every whole is also composed of parts-in-relation, of whose confluence brings the emergence of *new* qualities and properties to the *greater* whole, of which they compose, and in whose degree of aliveness they partake.

In such occasions, the whole is *more than the sum of its parts*.

The *Wholeness of wholes* is one of intimate nestedness, because *even* though we experience *sufficient* discontinuity to identify it as a particular whole, the jump from one level of ordering to another is *never* so large or so small as to disrupt the overall Continuum-of-experience. *Wholeness of wholes* is also relative and appears as *varying* gradations of undifferentiated wholeness, whose development entails a *continuous* process of discontinuous differentiations that bring an *ever-renewing* quality of Wholeness with *each* successive step.

4.2.3 self-organizing and aliveness

I am assigning the term self-organizing to the Universe's *inherent* capacity for the continued unfolding of Wholeness *within each new* scale, or gradation of wholeness, that produces the universal quality of Aliveness. In other words, the unfolding Wholeness *across* scales is *now* the unfolding of Aliveness *within each* scale. The unfolding of Aliveness avails itself of a cyclical opening *within each* progressive gradation of wholeness. Everywhere we look, we can experience a *richly* patterned, intensified degree of aliveness in *every successive* gradation of wholeness, which shows up in two ways.

- parts-in-whole. Elements that participate as parts of a *greater* whole sacrifice their *relative* independence in the *perfect* moment of transformation *into* the whole.
- parts-in-relation. Parts considered independently, *outside* of their relation to *each* other, have qualities that disappear *within* the *greater* whole.

In such occasions, the whole is *less than the sum of its parts*.

The Aliveness of parts-in-relation is one of *intimate* relatedness, a *limited* continuity we experience as a uniqueness of pattern that enables a *particular* whole to differentiate itself from *other* wholes *within* its scale. All gradations of undifferentiated wholeness, at *each* successive step, have *everything* to do with the *unique* patterns of Aliveness **unfolding—enfolding** *within*.

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4.2.4 self-realizing and Centeredness

I am assigning the term self-realizing to the Universe's *inherent* capacity for **self-ordering—self-organizing** that takes place *within singular* wholes, the cosmic events we call entities. Not every whole has this capacity. We explore it further in Chapter 5. It is essentially the continuation of the unfolding of Aliveness, which gains a *differentiated* quality: the unfolding of Centeredness. In other words, the unfolding Wholeness *across* scales becomes the unfolding Aliveness *within each* scale, and, in turn, the unfolding Centeredness *within each* entity. In other words, it is three *different* versions of inner-togetherness, presenting themselves at *different* moments with *new* capacities, thereby acquiring *upgraded* qualities. The unfolding of Centeredness relies on a cyclical **opening—closing**: patterns of Aliveness unfold *within* each entity, and *less-differentiated* scales of wholeness enfold *each* whole from *without*.

The dynamic relation *among* implicate qualities **{Wholeness—Aliveness—Centeredness}** is produced by the universal processes of **{self-ordering—self-organizing—self-realizing}**. Expressed in linear, one-at-a-time terms, this is indeed misleading. The process of self-realizing is a product of **{self-ordering—self-organizing}** and results in a *new* order of self-realizing, which *in turn* produces *higher-order* **{self-ordering—self-organizing}**. Perhaps we might state it as **(RE)self-realizingⁿ⁺¹{self-orderingⁿ—self-organizingⁿ—self-realizingⁿ}**.¹⁵ And, of course, we've seen the result formulated *more* simply in relative terms as **{self—Self—SELF}**, the difference being that *now* we have a glimpse of the processes *behind* the scenes that differentiate the implicate qualities. If the reader recalls, this occurs in a *missing middle*, Plotinus' world soul, which provides an uncontested opening for the **{self—Self—SELF}** *between* the *earthly* body and the *divine* mind.

4.2.5 cosmic significance of self-realizing

Beyond bringing *some* differentiation to our implicate qualities and the related process of self-realizing, we can also add several layers of cosmic significance.

Law of Three.¹⁶ The Law of Three recognizes three cosmic, or universal laws—principles in play *throughout* the Universe at *every* scale: activating, restraining, and reconciling.

- activating. Activating is the cosmic masculine tendency or affirmation, the father principle whose essence is pure potency and potentiality, bringing with it *everything that could be*.
- restraining. Restraining is the cosmic feminine tendency or the mother principle, whose essence is pure receptivity and whose role is to determine what will be allowed to come

¹⁵ The **{RE}**—a looping *back* or *returning*—to a uniduality can be symbolized by a dimensionalized yin-yang, where two distinct yet inseparable complementary elements co-arise from an undifferentiated whole.

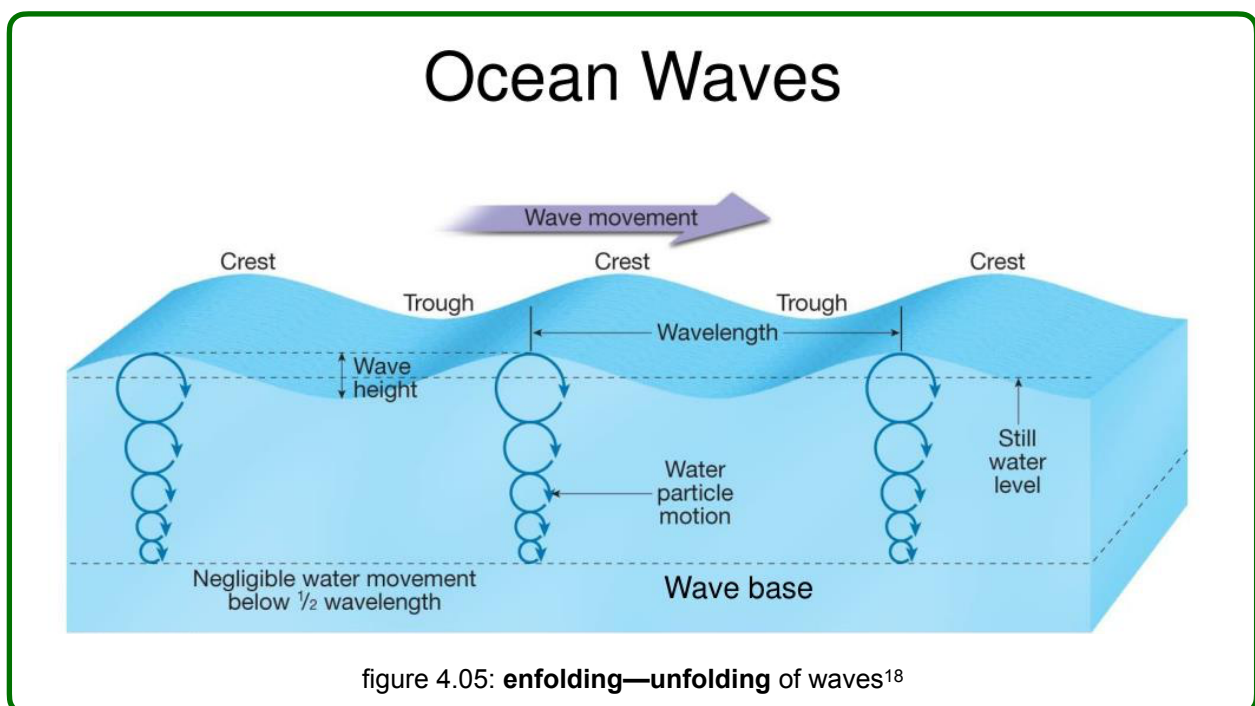
¹⁶ The Law of Three is a dynamic systems framework developed by J.G. Bennett, P.D. Ouspensky, and others exposed to the teachings of G.I. Gurdjieff, which is at the heart of Fourth Way School's developmental approach.

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into existence from the incoming flow of activating potential. We can image the activating potential passing *through some* eternal form, whose role is to give shape to what will actualize, according to the *limited* range of potential it can avail itself of.

- reconciling. Reconciling is the cosmic creative tendency whose essence is emergence and whose role is to *uplift* the *otherwise* contradictory tendencies to a *new* level, where they can be harmonized *without* dissolving the contradiction *below*. In other words, this is the **{RE}**, the retroactive looping, that produces a *higher-order* self-realization.

These three laws are woven *into* the *unbroken* universal fabric, underlying *everything* that is, *everything* that could be, and *everything* that is yet to be. They constitute the process by which *everything* in the Universe moves *in* and *out* of existence.¹⁷



self-realizing and the Law of Three. When the Law of Three framework is applied to the process of self-realizing, it generates the following layer of cosmic significance.

- unfolding as activating. The activating principle is in play as the self-ordering Wholeness unfolds *across* scales, self-organizing Aliveness unfolds *within* scales, and self-realizing Centeredness unfolds *within* individual entities. This principle's uninhibited flow of pure potential Aliveness meets a restraint in the eternal form *through* which an entity actualizes.

- enfolding as restraining. Each entity's cosmic role is to transform potential energies from the implicate order so that it may actualize itself for *some* duration of time, presenting itself as an event or occasion *within* the explicate order. Nonetheless, because its Wholeness is limited by its form, it can receive only a *specific* range of potential actualizations. In

¹⁷ According to the Fourth Way tradition.

¹⁸ Pearson Education, Inc., 2012.

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this way, the receptive or restraining principle is at work in the *enfolding* movement of *any* whole entity, at *any* scale, that may present itself in experience.

- {RE} as reconciling. The reconciling principle is in play *within* the {RE} movement, completing the loop *between* the *unfolding* and *enfolding* movements, resulting, of course, in the dynamic relation {unfolding—enfolding}. In effect, this relation harmonizes the *seemingly* contradictory tendencies, allowing the process to continue, albeit at a different scale. A clear example of this dynamic is seen in ocean waves (figure 4.05), where, as the wave unfolds, the water particles fold in on themselves.

self-realizing and function—being—will. We've already seen the framework of function-being-will. I apply it here to self-realization to access *yet another* layer of cosmic significance.

- function of Wholeness. Wholeness is a quality of function, the *unifying* universal process. Wholes, to the *extent* they are perceived as parts-in-relation, exist to serve the *greater* wholes they partake in. Thus, the parts-in-relation can be said to serve a *particular* shared purpose—determined by the functioning of, and imparted to them by, the *greater* whole they serve. In this way, their nestedness *integrally* and *inseparably* implicates them in the purpose presented by the wholeness at that given scale.

- being of aliveness. Aliveness is a quality of Being. Each entity, according to the range of potential it can access, brings *unique* value to its world, which manifests in the unfolding of the uniqueness of patterned relationships. In this way, the self-organizing of Aliveness exists to add *ever-differentiated* value directly relevant to the context of the *particular* gradation of wholeness in which it differentiates.

- will of Centeredness. Centeredness is a quality of cosmic Will. Individual centers, to the extent they are self-realized, radiate their uniqueness of presence—their *differentiated* essence, a *localized, microcosmic* version of Will—to the *outside* world. Differentiation *increasingly* enables a center to stand out from its context—the *greater* whole of which it is a part-in-relation—and therefore, for its *unique* value as of *yet* unrealized, to gain in significance. As such, centers become bearers of meaning. In this way, realization is a conscious act that has *everything* to do with significance.

further significance. In the context of the making we broached in Chapter 2, self-ordering is *akin to* world-making, a subject we will take up in Act 1 of Chapter 7. Similarly, self-organizing is *akin to* Life-making, a subject we will take up in Act 2 of Chapter 7.

It seems Pascal's insight *into* the nature of Wholeness was *indeed* visionary and accurate: *neither* the parts *nor* the whole has privileged priority—they co-arise *simultaneously*. Because parts themselves are wholes, they can *never* exist in isolation.

The idea that wholes take shape *through* structure-preserving transformations from an eternal form and express self-ordering nestedness *across* multiple gradations of wholeness

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strongly suggests an *inherent* dimensionality within the implicate order. One, we will explore together next.

4.3 implicate dimensionality

Thus far, I have been able to discern certain implicate qualities of generalized Complexity **{Wholeness—Aliveness—Centeredness}**, whose *observable* dynamic interplay has demonstrated a cosmic significance. Every phenomenon encountered in experience expresses these qualities to *some* degree, in accordance with its degree of inner-togetherness. Here, I propose that the implicate qualities, capable of generating dimensionality in the explicate order, are *themselves* as eternal forms, endowed with their *own* corresponding dimensionality—an implicate dimensionality that *pre-shapes* the pure potential flowing in from the implicate order.

4.3.1 dimensionality



figure 4.06: self-realizing dimensionality¹⁹

The implicate—the world of potential, the One, the Source of *all* order in a Universe—has an order of its own.²⁰ We vicariously experience the implicate order through the explicate order, whose dimensionality is perceptible to us. The four determining-conditions govern this dimensionality: eternity, time, hyparxis, and space, which I introduced earlier, and which go a *long way toward* describing the dynamic relation of **{implicate—explicate}**: potential, a con-

¹⁹ Tree Communication – a Creative Services Branch (n.d.).

²⁰ Bohm, 1980.

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dition of eternity (implicate), which actualizes through the condition of time (explicate); ableness-to-be, a condition of hyparxis (implicate), which presences itself via the condition of space (explicate).²¹ Of course, it is *now* understood that **space—time** is in dynamic relation, and it is observable in experience that **eternity—hyparxis** are also necessarily in a dynamic relation.²²

It follows that the implicate, as a world of forms, would be governed by *some* complement of the determining conditions, whose universal patterns *in turn* govern the multidimensional phenomena experienced in the explicate. The Research points here to the need to conceive eternal forms in the implicate as multidimensional; otherwise, they could *not* generate multidimensionality in the explicate. Platonic forms were two-dimensional, and that flat dimensionality no longer serves the self-realizing Complexity of our multidimensional reality. Euclidean geometry, with its 3-dimensional perspective, is similarly inadequate. Inspired by Plotinus's imaging of a crystal sphere, we unpack this notion of implicate dimensionality in the balance of this section so that we might *accurately* perceive and coherently describe *any* whole phenomenon in its *fullest* Complexity. To do so, we explore various geometries that may be useful for developing our theoretical framing in the following section.

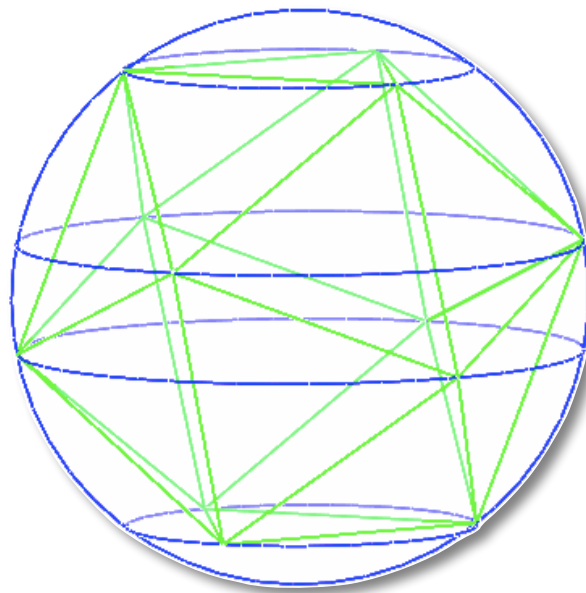


figure 4.07: circumsphere²³

²¹ Bennett, 1956.

²² Ableness-to-be is a property of any entity that present itself in space, and necessitates a continuous flow of energy, that is, of potential to maintain itself.

²³ Wikipedia contributors, 2025.

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4.3.2 circumsphere

The Universe's implicate qualities **{Wholeness—Aliveness—Centeredness}** lead us to experiment with shapes that have the *capacity to dimensionalize* them. A sphere is such a shape. Yet, a sphere is empty of internal structure and, therefore, unable to describe self-organizing Aliveness. Circumscribed circles, on the other hand, can express internal structure but lack dimensionality. A circumscribed sphere or a circumsphere, as the dimensionalized analogue of the circumscribed circle, can express dimension and structure—the circumscribed quality potentially rendering transparent *any* whole phenomenon's patterned, constellated relatedness.

4.3.3 spherical yin—yang²⁴

I began imaging the potential of rendering a three-dimensional Yin Yang sphere.

Yin—Yang. The Yin Yang is both an ancient symbol of, and a relation of, balanced uniduality describing the interplay of complementary opposites. It is a circle describing an undivided wholeness differentiated by two dynamically swirling halves: one black—Yin—and one white—Yang; *each* containing a smaller circle, a portal *to* the other. Its *near-perfect* symbolism provides us with a relatively *accurate* relational map for complex reality, when viewed from the perspective of polarity in perpetual flux.

The **{Yin—Yang}** is a harmony of polar opposites (**light—dark, male—female, expansion—contraction**), *distinct yet inseparable* terms, *each* unable to exist, one *without* the other. They are engaged in Life's dance of continual change, embodied in the movement of their curving, flowing forms *inherent* in the cosmic **{activating—restraining}** principles.

torus. The torus is a spherical geometry typically visualized as a vortex; a model for understanding the *infinite, self-realizing* flow of energy in the Universe. A torus can be imaged as a continuous surface with a central hole, creating a form that is *at once* finite and infinite. Energy flows in *through one* pole, circulates around the center, and exits *through the other* pole, creating a reiterative loop—a **{RE}**. Its *self-similar* structure can mirror fractal patterns at *varying* scales through layers of repeating energy loops.

It shares certain similarities with the yin—yang. It describes a harmonious equilibrium *within* a system; a cyclicity of energy looping *through* and returning to Source; and a unified system in which *every* part-in-relation contributes to the whole, with energy flowing seamlessly *throughout*. The *main* difference is that it has a *dimensionalized* physical structure that describes how energy moves *through* space, providing a tangible framework for complex inquiry.

²⁴ NoF, 2025.

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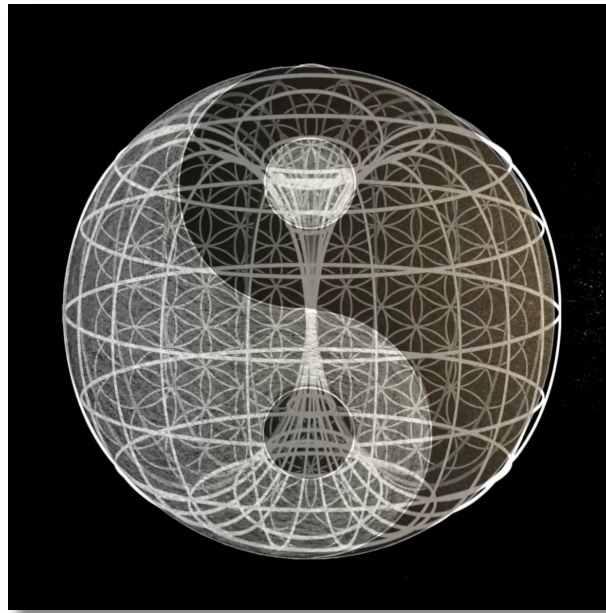


figure 4.08: dimensionalized **Yin—Yang**²⁵

dimensionalized yin—yang. By merging the **Yin—Yang** and the torus, a spherical manifestation of the **Yin—Yang** could be rendered. One could image a spiral dynamic that would offer a *deeper, more accurate* description of the determining-conditions—how polarity differentiates within a self-realizing reality whose central axis can simulate the balance point where complementary principles converge.

The discovery of various geometries will prove fruitful if one or more of them apply to describing whole, self-realizing phenomena. In the next section, I proceed to thickly describe this theoretical framing, by necessity, presenting one dimension at a time. Please keep in mind that these dimensions are parts-in-relation that co-occur, as one self-realizing developmental process.

4.4 theoretical meta-framing

To frame the Research theoretically *around* the question of *what it would mean to be fully Human* in a Universe, I have developed a multidimensional circumspheric meta-framing—four interlinked dimensions of depth, breadth, volume, and interval—capable of giving dimension to the notion of implicate order. Each subsection is accompanied by a thick description for *that* dimension.

²⁵ NoF, 2025.

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4.4.1 circumcenter: implicate Wholeness

A seemingly random, momentary spark of light disturbs the implicate, dimensionless, and boundless ground of being. In the same instant, it's gone. Now you see it, *now* you don't.²⁶ Then again, a flaring forth of pure, unrestrained potential punctures the eternal darkness of the void at a given point, *not* once, but twice, probably accidentally, but repeatedly, incessantly, as if an activating impulse of cosmic will pouring *into* this one point, poking a part of itself, to awaken from a deep slumber. This act of intensification calls forth an empty form in-forma-tion from the implicate wellspring of potential, a preindividual whole, barely a seed of an idea, a still undifferentiated "everything seed."²⁷ The Greeks knew this as hyle.²⁸

I could be describing our nascent Universe billions of years ago, or the emergence of novelty *anywhere* at *any* moment in this Universe—the fertilization of an egg, an aha moment, a seed germinating. This occasion, the birth of a center, can and does take place *somewhere* at *every* moment *within* our polycentric Universe. This notion is embodied in the phrase *ever-present* origin.²⁹ This is the case with *every* emergent center, a one-dimensional point within *any yet-to-be* differentiated (0-dimensional) whole; undifferentiated because it has *yet* to be foregrounded by *some* self-similar *concentration of consciousness*—*another* center—*any* form of consciousness whatsoever.³⁰ This has gained cosmic significance: there's an intimate (implicate), imperturbable, indissoluble correspondence *between* physicality and consciousness! Reality, therefore, is constituted of physical forms *only* when given significance, an each-form, plucked out from a *less-differentiated* backdrop of all-forms.³¹

4.4.2 breadth: self-ordering Wholeness

At *some* point in its early developmental process, a circumcenter converts hyle *into* essence, the *unique* identity inherent in every each-form. The whole begins to differentiate from its parent all-form. As it grows from its circumcenter, the developing whole generates living structure, perhaps by awakening other centers in its immediate vicinity. Eventually, it gains *sufficient* aliveness to radiate its essence *more* intensely, *enough* to acquire an active surface and present itself *more* prominently to the world. Through the interplay of the circumcenter

²⁶ Inspired by Watts' (1965) characterization of the cosmic game of hide-and-seek represented in Hindu mythological tradition.

²⁷ This is my own phrase equivalent to the terminology of Gebser's (1949) origin, Fourth Way's source, Bohm's (1980) implicate order, and Bennett's (1956) eternity.

²⁸ Bennett (1956) reintroduces the term hyle, likely borrowed from Plotinus, to signify a universal substance of eternal pure potential that is transferred from its implicate source and brought into the explicate reality to actualize in time within the world of the visible.

²⁹ The title and subject of Gebser (1949).

³⁰ This turn of a phrase emerged for me in this writing supports the premise that every unique each-form (whole, center) is a concentration of consciousness with some degree of aliveness.

³¹ **Each-forms—all-forms** are products of James (1920).

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and active surface, the center acquires a 2-dimensional polarity, one dimension of which is breadth.³²

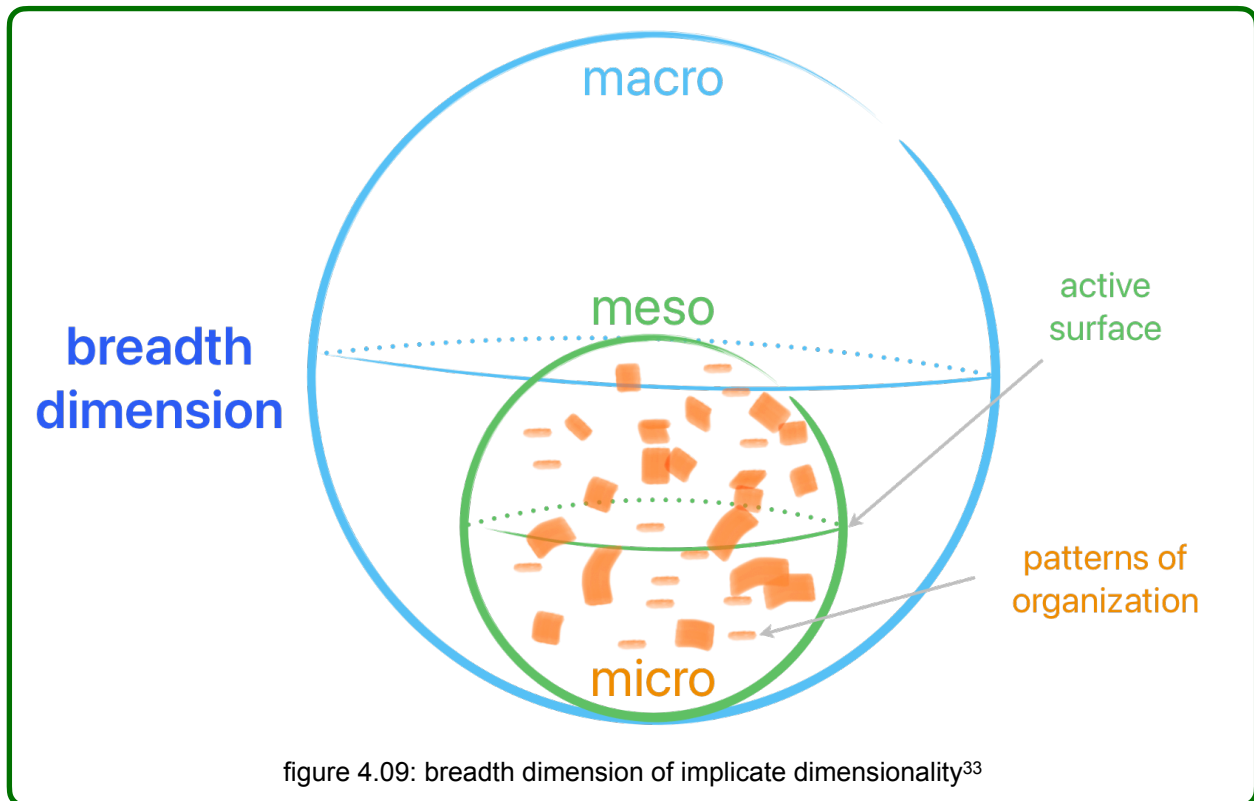


figure 4.09: breadth dimension of implicate dimensionality³³

The breadth dimension, then, is one of spheric circumference—the *recognizable, yet permeable* surface area—active surface—that bounds a given whole's "internal" organization. It gives it depth and renders it whole, as a subject of momentary focus, distinguishable from the complex ordering of *greater* wholes within which it is nested or from the parts-in-relation that *constitute* it. Although the nestedness of wholes could be carried out infinitely, as one can fraction off *almost indefinitely* the distance between 0 and 1, this becomes *increasingly* impractical. There are several triadic ordering frameworks one can utilize to navigate the complex ordering *implicit* in the breadth dimension.³⁴ These triadic frameworks are presented generically here as **micro—meso—macro**, any of which may be applied to locate ourselves *within* this dimension. Humans find themselves *within* the meso—the mesoscale or *middle band of experience*. The meso tends to be a *particularly* messy place. Messy, due to our *inherent* immediacy *within* its dizzying multiplicity of interconnected, *virtually* unbounded,

³² Active surface is the name given to the observable phenomena of occasions of entities that develop the capacity for interiority, and therefore, a permeable membrane that actively that simultaneously protects the integrity of the whole and enables it to engage with the now "outside" world.

³³ Composed by this author (unpublished).

³⁴ It bears repeating that the enfolding levels or orders of scales of ordering frameworks, although differentiated, co-occur or unfold simultaneously. Some specific expressions of the generic triadic ordering frameworks presented herein include: **function—being—will**, three lines of transformation (**individual self—social Self—systemic SELF**), **project—proximate whole—greater whole**, etc.

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and, therefore, overlapping forms with which we share the Biosphere. Here we can apply our *intrinsic* biological capacity to recognize and draw meaning from patterns—recognizable constellations of relationship in the world *around* us.

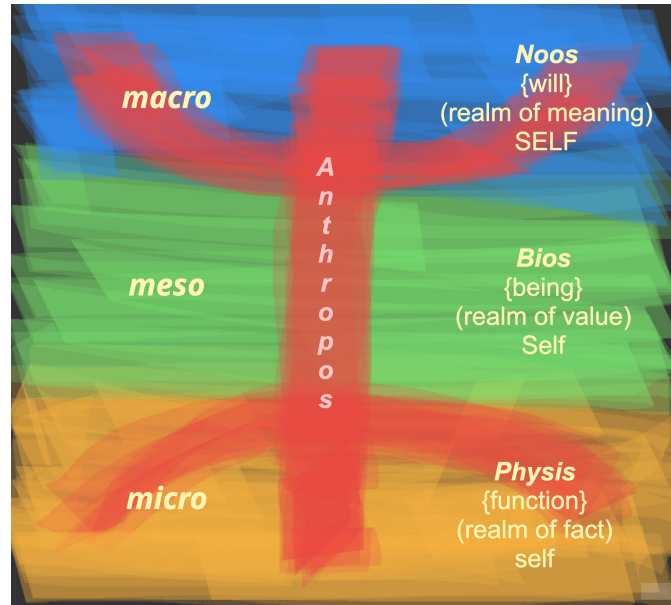


figure 4.10: **micro—meso—macro** framework³⁵

From the meso's vantage point, the micro and macro taper off "above" and "below" into the *less sensible realms*. The *unifying* thread for the breadth dimension is a *nested, fractalized* recursivity of pattern, the *well-established* Kabbalistic dictum "*as above, so below*," a traditional system of description. This suggests that we can apply patterns generated from our lived experience in the meso—such as dynamic systems frameworks—to construct and project systems of patterns as relational maps (i.e., the Kabbalistic Tree of Life) to better understand the complex organization of the micro and macro. Although these are inaccessible to direct sensory perception, we render them navigable by the mind's eye through imaging. Exploratory journeys in this dimension also complete the loop ({RE}), in that both the *largest* sphere (Universe) and the *smallest* sphere (nanoparticle) *ultimately* find themselves ouroboros-like at the *undefinable* Source of *all* that is. This movement opens the possibility for the breadth dimension, in dynamic relation with depth.

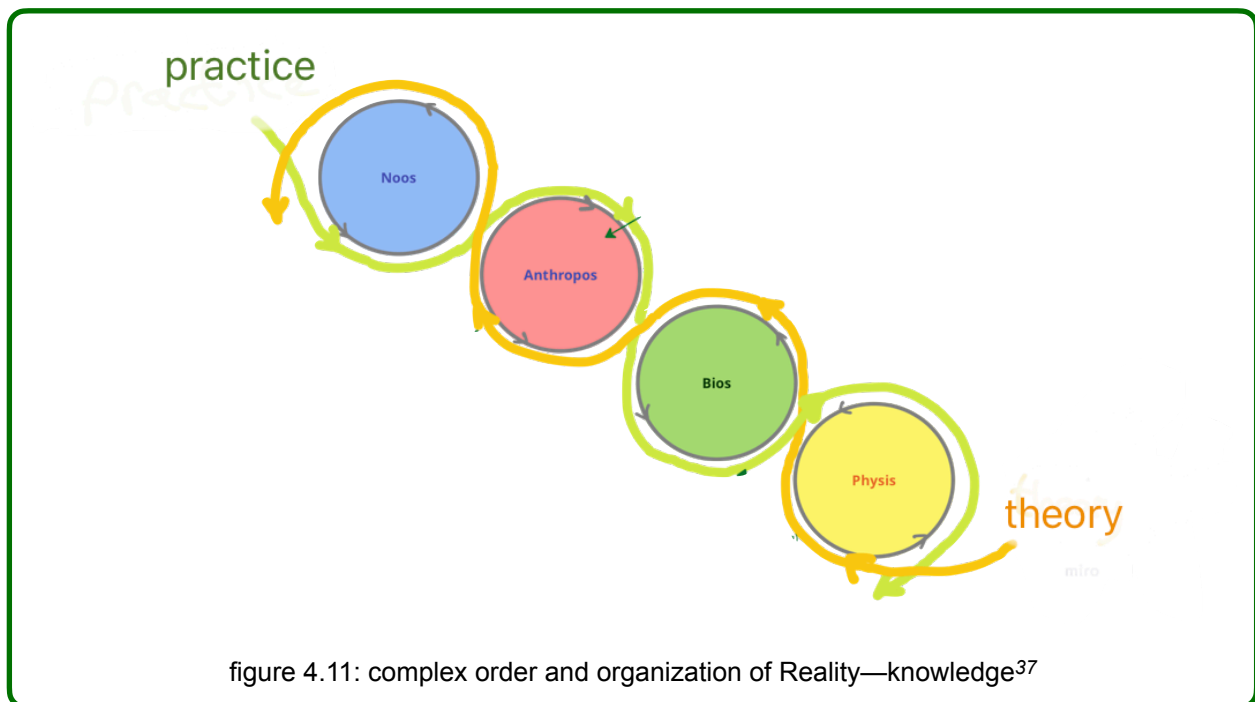
4.4.3 depth: self-organizing aliveness

From its active surface to the core of its being, the essence of the developing whole yearns to differentiate itself. The circumcenter is the seat of potential uniqueness encompassed in its "everything" seed about to unfold and radiate forth. The intensifying degrees of aliveness begin to express themselves in *singular* arrangements of interrelated subwholes or parts-in-re-

³⁵ Composed by this author (unpublished).

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lation. Their persistent dynamic movement and subsequent interplay give way to relationing, resulting in the relational, qualitative growth of the aforementioned living structure, whose unfolding thickness of relation becomes denser at its edges.³⁶ The “outer” saturation of the living structure, *not* finding fertile relationship with self-similar entities *beyond* a given circumradius, perpetually enfolds, or folds in on itself. Effectually, this is its active surface, which allows a whole to maintain its integrity (Wholeness), *unique* identity (signature aliveness), and inner-togetherness (Centeredness), while enabling its engagement with the “outside” world. The second dimension of this 2-dimensional polarity is that of depth.



The circumradius represents the depth dimension, the distance from a developing circumcenter *to* its surface. This dimension will be explored *through* various *relevant* ordering frameworks.³⁸ These frameworks will lend depth to the question of *what it would mean to be fully Human*. We apply an extended version of Edgar Morin's framework for the complex order and *organization of Reality—knowledge*: **Physis—Bios—Anthropos**—introduced herein as an example. The extended version is composed of five *inseparable, yet distinguishable* inter(retro)acting terms: **{Noos—Physis—Bios—Anthropos—Cosmos}**.³⁹ At every moment of emergence, transformation from one term to the *next within* an ordering

³⁶ This the well-studied phenomenon known as ecotones, where overlapping ecosystems display a higher intensity of diverse interactions, then found in either ecosystem.

³⁷ Composed by this author, inspired by Morin's (1986), en-cyclo-pedic movement: cycle (revolution) and pedic (ambulation, evolution).

³⁸ Another example of an ordering framework is Bennett's levels of existence, which is forthcoming in this chapter.

³⁹ Morin, 1977; 2008.

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framework, the *previous* term is surpassed but remains an integral part of the *new* term. Noos, the world of ideas, takes on *dynamic* form, becomes Physis, and so on.

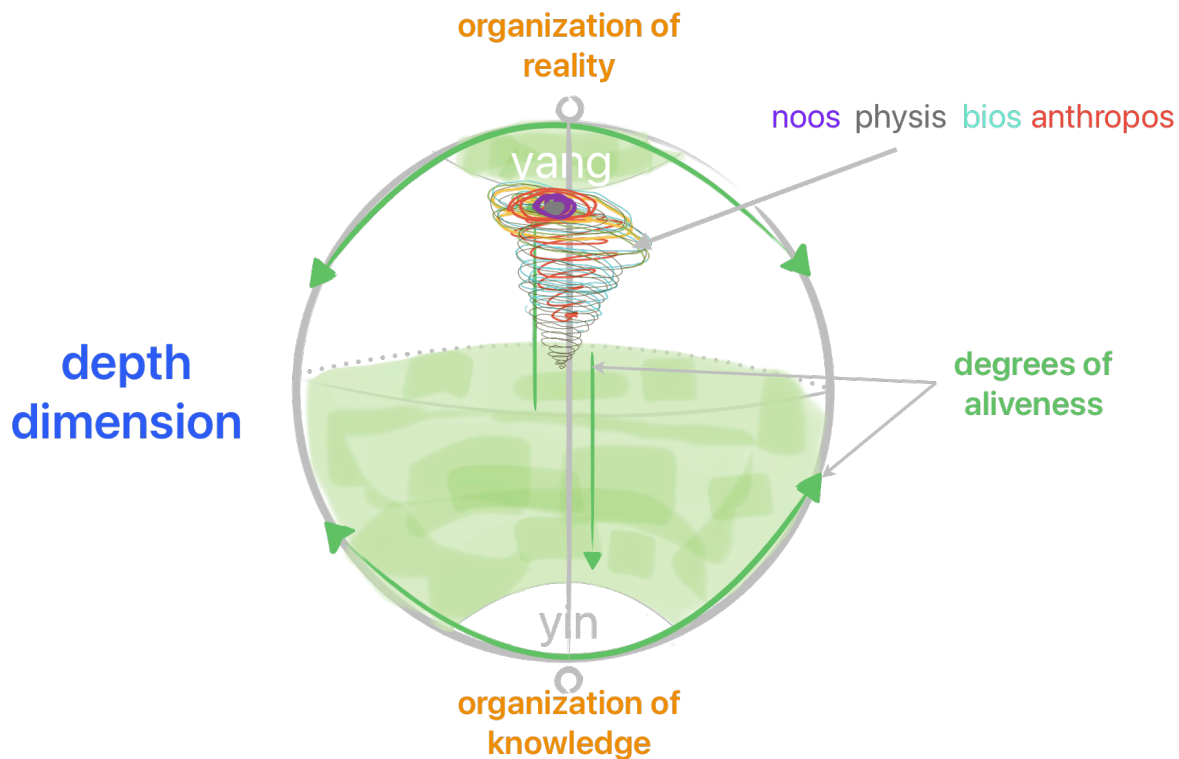


figure 4.12: depth dimension of implicate dimensionality⁴⁰

The unifying pole that gives it structure is a *higher-order* organization of Complexity, a wholeness with a corresponding *intensifying* degree of aliveness. Every *incremental* degree of aliveness, depth has a two-fold effect: 1) the essence, the *unique* value a particular whole, occasion, event, or phenomenon brings *into* the world, is further *clarified*, and 2) the particular whole, by venturing *deeper into* its interiority, comes *closer* to its source, its point of *ever-present* origin. Depth, then, accounts for *varying* orders of *concentration of consciousness*, hence a series of *ever-differentiating* forms of consciousness "culminating" in the present moment at a turning point, the point where one form of consciousness—*fully human* Humans with a *higher-order* concentration of consciousness—can collectively reflect upon the Universe and realize that we *are all* that: {Cosmos—Anthropos—Bios—Physis—Noos}. The capability for proprioceptive perception completes the loop ({RE}).

This moment marks the birth of a pre-individual self, which *only* takes on significance when *another* self is implicated.⁴¹ The emergence of an active surface opens an entity to this potentiality. The "dance" of {inner—outer} is a dynamic movement, whose *incremental* de-

⁴⁰ Composed by this author (unpublished).

⁴¹ The pre-individual is a notion elucidated at length by Combes (2013).

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gree of aliveness, realized via the depth dimension, allows for the development of both self-knowledge (*internally*) and knowledge of self-Self-SELF (*externally*). This imparts to us insight *into* the uniduality *inherent* in complex self-realizing reality, whose dynamic, spiraled movement, *brings forth* worlds. The 2-dimensional polarity, generative of depth and breadth, opens the way for *the localized* pouring forth of pure potential from Source, available to *each* whole; this is what connects breadth to the third dimension of volume.

4.4.3 volume: self-realizing Centeredness

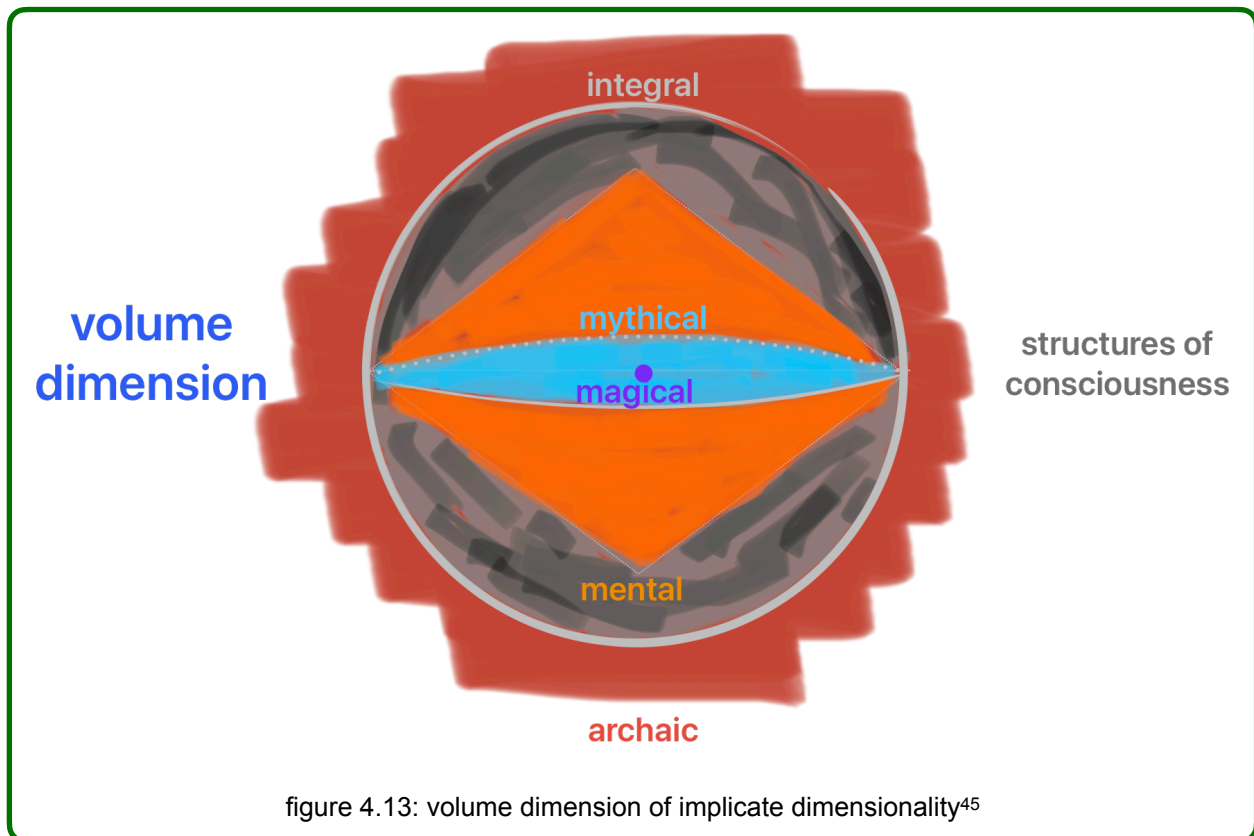
The opening birthed by the depth and breadth of our circumsphere is *not* a void. Still, it is held open by the presence of a predetermined available intensity of potential flowing in from Source, *within* which patterns with *some* degree of aliveness are manifest.⁴² Every whole is an each-form, whose range of available potential—what it can actualize or manifest in the world—is predetermined by laws applicable to its form.⁴³ The *lower* limit of potentiality is defined by what is needed for a given whole to maintain its inner-togetherness according to the mandates of its form. For Humans, this is represented to *some* extent in Maslow's Hierarchy of Needs. The *upper* limit of potentiality can be loosely described as the occasion when *any singular* whole realizes the fullness of its being. In other words, in a cosmic context of nested Wholeness, patterned Aliveness, and centered inner-togetherness (Centeredness), specific idealized or eternal forms govern the self-realization of potential for each form; the *upper* limit is then described in the Three Lines of Transformation framework presented earlier, which also means that its form guides how they might gain mastery of form via **{self—Self—SELF}** realization. For instance, the human form, by virtue of having the broadest possible range of relations with other species, and being capable of proprioceptive participation in a Universe, avails Humanity of an *extraordinary* range of potential, which is the subject of the present Inquiry.⁴⁴

⁴² Bennett (1956; 1964) describes potential as both potential energy, as well as, the possibilities of how a whole might actualize in time according to the quality of energies available to it. These two aspects, indeed, are intimately correlated.

⁴³ Bennett, 1956. The premise is developed later in this chapter.

⁴⁴ Yanez, 2024; Portmann, 1974.

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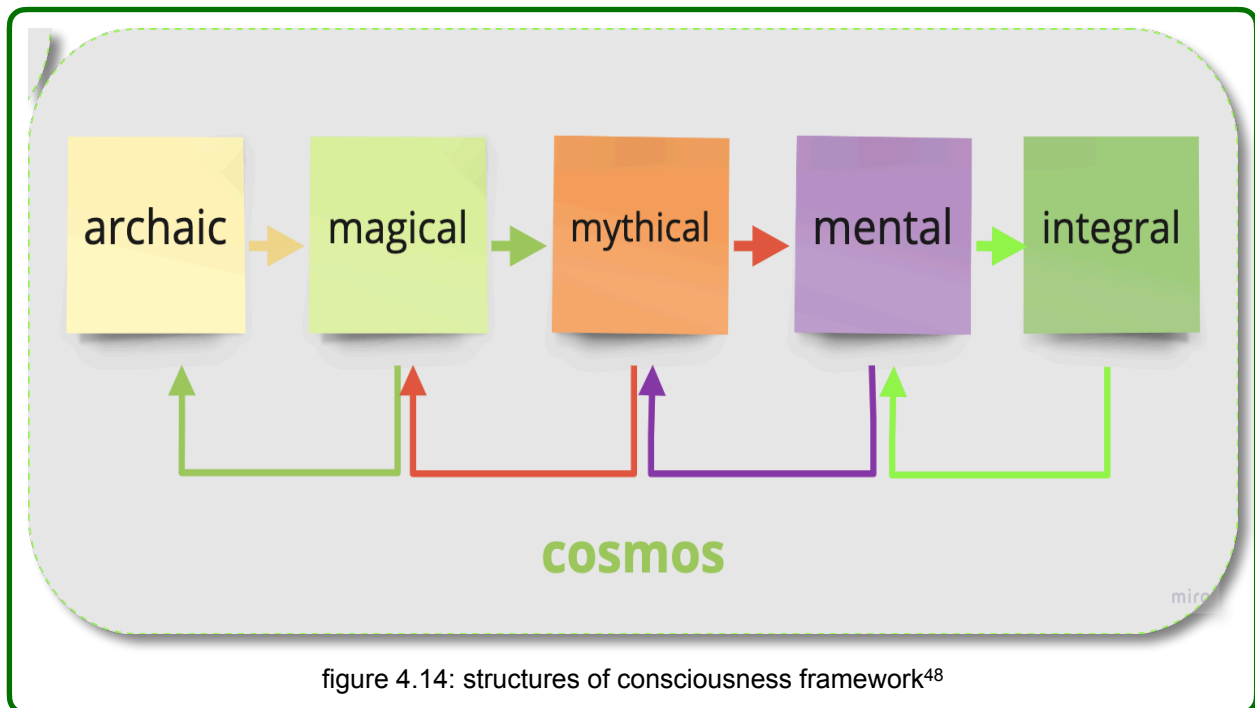
The volume dimension integrates the two *previous* dimensions of depth and breadth. This dimension is one of actualized potential; in other words, a preindividual whole acquires volume relative to the degree to which its **active surface—potential surface area**—is actualized, lived *into*. To begin to grasp the volume dimension, we can apply Gebser's Structures of Consciousness framework.⁴⁶ This framework itself is multidimensional and comprises four nested structures: **archaic** (or *origin*)—**magical**—**mythical**—**mental**—**integral**. The first four terms describe observable patterns of Humanity's developmental mutations, and the *last* structure prefigures the *next* potential mutation awaiting our species.⁴⁷ Without characterizing them in their entirety here, it bears mentioning that this framework builds on the “as *above*, so *below*” principle elaborated on previously, in that, like our theoretical framing, its dimensionality is ordered and organized by incremental qualitative leaps of ordering: the archaic structure is 0-dimensional, the mental structure is 3-dimensional, and the presaged integral structure is *actually* adimensional in character. See Annex E for a comprehensive table describing *each* structure in a continuous progression of structures.

⁴⁵ Composed by this author (unpublished).

⁴⁶ Gebser, 1949. See Annex E for a table that characterizes Gebser's Structures of Consciousness.

⁴⁷ Ibid. Gebser's preferred term for specieswide transformation.

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Each structure participates in the actualization of potential within a range of potential actualizations that can yield both efficient and deficient manifestations, limited by the patterns or laws that govern each structure.⁴⁹ In their *efficient* forms, each *structure of consciousness* realizes a *higher-order* potential *toward more differentiated* forms of Wholeness. Each emergent structure integrates *all* those that precede it. Structures of Consciousness provide a framework for mapping *emergent* modes of thinking that have inhabited and shaped our notions of *what it would mean to be fully Human within* the middle band of experience. The *unifying* potencies—the invisible qualities or intensities that lie *behind* the visible world—guide the process of *restructuration of consciousness* that brings forth *each* mutation, and with the *eventual* mutation enable Humans to perceive the Wholeness of everything in its *fullest* Complexity.⁵⁰ The volume dimension also completes itself in a loop (**{RE}**), where our arrival at and realization of an integral structure of consciousness brings us *into* origin (no longer a point, but a sphere), where a *synairesis*, *rather than* a synthesis, collapses together *all* "*previous*" structures that are *now transparently* present.⁵¹ This brings us to the dimension of interval.

⁴⁸ Adapted by this author from Gebser (1949).

⁴⁹ Ibid.

⁵⁰ Ibid. This term describes what happens at the level of structures on the occasion of a mutation.

⁵¹ Ibid.

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4.4.4 interval: potentiality of eternal form

The opening experienced in the volume dimension was a space where *time touched eternity*—a place where potential was actualized in the physicality of time. Now, since there is *only a now*, we are *entirely* in time freedom, the situation of adimensionality.⁵² We have moved *into a beyond*, to which the conditions of time-space *no longer* apply. The *only* determining-conditions in effect are eternity and hyparxis. The condition of hyparxis predetermines the ableness-to-be of each each-form. Stretched *before us* are *all possible* differentiations of a given eternal form, *splayed out* for us to see in an *all-at-once* image. This is Goethe's Ur-phenomenon: the archetypal stages of development, *each* representing the *highest-order* potential attainable, for *any* preindividual whole.^{53,54}

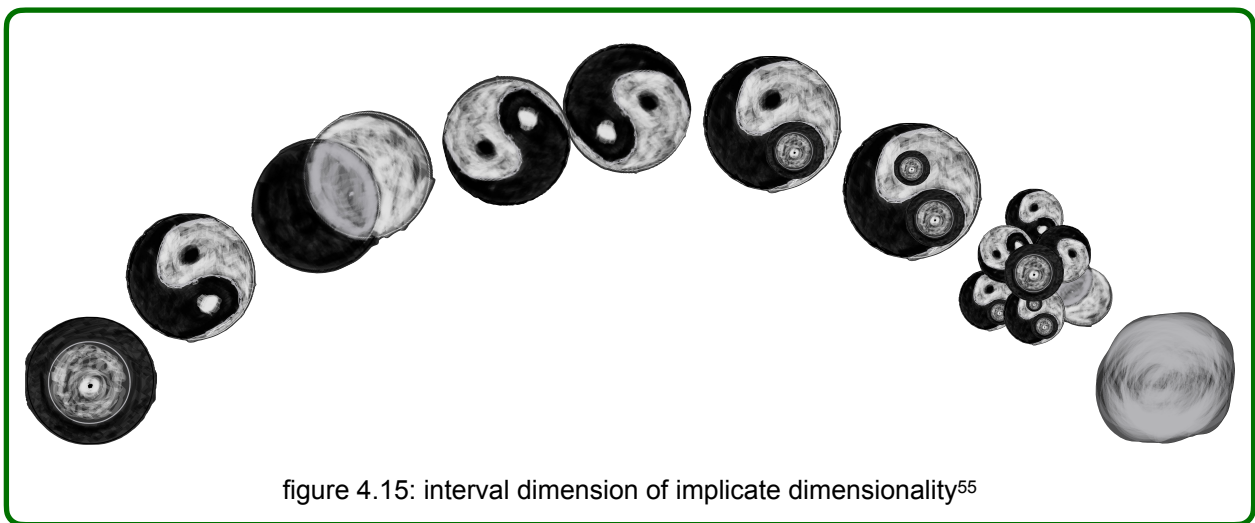


figure 4.15: interval dimension of implicate dimensionality⁵⁵

The dimension of interval is the culmination of **depth—breadth—volume**, leading to the *completion* of the implicate dimensionality of our circumsphere. The Interval is a dimension of pure potentiality, as mediated by the laws applicable to *each* eternal form. The Interval is the generic term for an *indeterminate, time-free* sequence of form. To navigate this dimension, we can apply Bennett's Gradations of Wholeness framework. We have already been privy to the Workings of this ordering framework on two occasions: in earlier chapters and in Economies of Scale-Linking.⁵⁶ The following chapter applies it *vigorously* to a description of the Universe. The framework is *most* appropriate for this dimension because it is based on 12 progressive levels of differentiation applicable to *any* occasion. An occasion can refer to any preindividual whole. The term "occasion" is one of Bennett's *many* genius moves that

⁵² Ibid.

⁵³ Ur-phenomenon is Goethe's term for the eternal pattern of any phenomenon that includes the various stages of development, described in Steiner (1886).

⁵⁴ The preindividual is Simondon's term, which refers to the eternal form from implicate order, described in Combes (2013).

⁵⁵ Composed by this author (unpublished).

⁵⁶ Yanez, 2024.

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enable this meta-framework to function as a relational map that can be overlaid on *any* region of Reality at *any* scale to navigate it.

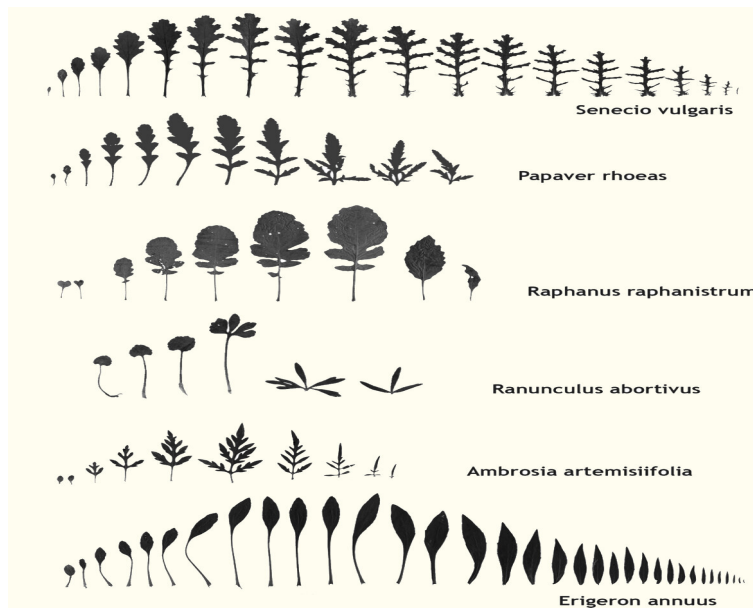


figure 4.16: Goethe's plant metamorphosis⁵⁷

The framework *spans* 12 gradations, differentiated by levels of potency, beginning with existential indifference—governed by the principle of *undifferentiated* wholeness—and culminating in *autocratic* wholeness—governed by the principle of autocracy, the *self-realized, un-derived* potency of a Universe. Gradations of Wholeness is likewise multidimensional in its *own* right; it is a framework of frameworks, or a meta-framework. Not *only* does it have structures governed by principles, but it is *fully exemplified* by occasions of entities. If that weren't *sufficient*, *each* structure can be navigated using dynamic systems frameworks tailored explicitly to it. These are presented in the last section of the following chapter. The *unifying* laws here are the levels of potency—the range of possible intensities available to *each* eternal form—laws that guide the developmental transformation of form that brings forth *each* progressive differentiation. In the context of human forms, this capacity enables us to perceive gradations of wholeness for the development of our *own* potential and that of the greater wholes we partake of. Indeed, Complexity and completeness stem from the same root word. The interval dimension also completes itself in a loop **{RE}**, bringing us to the fullness of the implicate dimensionality of our circumsphere, the *highest-order* description of self-realizing phenomena, endowed with the implicate qualities of generalized Complexity.

⁵⁷ Image sourced from Goethe & Miller (2009).

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4.4.5 further layers of significance

By applying the Structures of Consciousness framework, we can reveal at least two *additional* layers of meaning *beyond* the implicate dimensionality *just* presented.

dimensions. The implicate dimensions can be imaged from the perspective of the various Structures of Consciousness.

- implicate Wholeness. Implicate Wholeness represents Origin, the One, the first principle, whose dreamless void holds *everything within* nothing.
- breadth. The breadth dimension represents the magical structure of consciousness, the seed-like circumpoint symbolizing its potential for Aliveness—a *new* cosmology dreaming forth the silhouette of a coherent story that manifests a Universe, building the soil for a *new*, dimensionally perceived Reality to emerge.
- depth. The depth dimension represents the mythical structure of consciousness, inviting the intensity of Aliveness to suffuse its cavernous interiority, a circle whose encompassed emptiness awaits fulfillment.
- volume. The volume dimension is representative of the mental structure of consciousness, whose fractured nature, is *simultaneously*: grounded in actualized, time-bound existence, and requires a conceptualized, spacious perspectivity—symbolized by a triangular slice of the fullness of circle—to conceive; and, whose horizon of pure essence is endowed with an openness—symbolized by a sphere awaiting its *fullest* dimensionality—to the integrality of spiritualized potential that awaits the promise of diaphanous vision.
- interval. The interval dimension *most* clearly represents the integral structure of consciousness, whose time-free interstitial liminality of in-betweenness opens to the possibility of *fully conscious* participation *within* an *all-at-once* series of developmental stages, appropriately symbolized by a circumsphere.

approaching diaphaneity. From the perspective of diaphaneity, we can access the whole picture: our relationship to the whole is relative to our point of view, which varies with the prevailing structure of consciousness.

- archaic. From the indifference of the archaic, there is *no* distinguishable whole, no parts-in-relation, zero dimensionality.
- magical. From the unity of the magical, the whole appears in a one-dimensional perspective, from a point interwoven *within* it.
- mythical. From the polarity that emerges in the mythical, a two-dimensional complementarity of *opposing yet unified* forces is *distinguishable yet inseparable*, an unbroken circle through which *everything* moves, neatly nested *inner* and *outer* wholes.

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- mental. From the duality of the mental, three-dimensional perspective, with its *outward* (hyper)focus and directionality, we are part *among* parts, fractured and *able only* to dream of the whole, which is rendered *wholly invisible* to us.

- integral. From the transparency of the integral (the coming mutation), we are a *distributed, polycentric* constellation of wholes whose *immediate* context is relative to the experient who gazes from the vantage point of *their* center.

And, in this way, *all* centers are at the virtual center of a *thickly-constellated* self-realizing Universe.

*Let us note the decisive fact that man is the integrality of his mutations. Only to the extent that he succeeds in living the whole is his life truly integral. But we should go one step further: only if life is integral in this sense of equally living-to-the-full the structures which constitute us does it encompass the emerging structure not only potentially, but in an actual and acute sense.*⁵⁸

Constellating moves us *beyond* nesting, to *truly* living the whole. Nesting, in *some* way, holds us *back* from fully accounting for the messiness of overlapping realities and neglects the liminal transcontextuality, except at a *much higher, abstractly indeterminate* level of wholeness, where such matters have little significance.

*And from this constellation we see that the power immanent in us—the soul—and the power which resides in things—the numinosum—resolve and balance each other as complements at the same time that they engender a kind of mutual insight in a sense that reveals to us, indeed renders transparent, the basic structure and providence of the world.*⁵⁹

The possibility of transforming our *currently* externalized power—a manipulative *power over* Life—and redirecting it *toward* a cosmic *power with* Life, radiating from *within each* center, potentially forming a constellated *power among* centers.⁶⁰ This is the promise of diaphaneity: our collective resonance with vast layerings of constellated wholes, which going *beyond* seeing, where we participate proprioceptively, guided by an *embodied* perception, and where we can begin to *inhabit* the divine mind.

4.5 synairetic description

As the saying goes, this is a tall order. In the meantime, we can approximate the resonance using a technique I am calling diaphanous imaging. It was inspired by Plotinus, Gebser, and Bennett, integrating features of our earlier survey of various geometries and, *most* certainly, guided by implicate dimensionality.

⁵⁸ Gebser, 1949:153.

⁵⁹ Ibid:203.

⁶⁰ The concepts of “power over” and power with” are sourced from Macy & Brown (2014).

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diaphanous imaging. With integrality, we can perceive, with our *mind's eye*, the *spherical* fullness of a phenomenon, developmentally and transparently, and ourselves *within* it. This is diaphanous imaging, the technique that emerged during the Inquiry and continues to be central to it. It is becoming apparent that this capability will become central to Humanity as it prepares to participate consciously in reorienting itself.⁶¹

With the technique of diaphanous imaging, a *more comprehensive* mode of description for self-realizing complex phenomena emerged. I refer to it as circumspheric description, or circumscription, for short.

circumscription. The term circumscription isn't new; it was explicitly used by Jean Gebser in his monumental work, the Ever-Present Origin (1949), to progressively approximate the qualities *inherent* in the various stages of human development. Gregory Bateson *implicitly* integrated it *throughout* his life's Work to elucidate such complexes as ecologies of mind and the sacred. Morin developed its use *more profoundly* as a foundational praxis in Method, where it is utilized to take experients on a journey to experience *first-hand* constellations of *inseparable, yet distinguishable* terms that take dimension in living relation to *each* other.

All three thinkers, to *varying* degrees, were engaging in what we might call onto-epistemology, the *intimate* interface of the Reality of a Universe (*ontology*) and *how we know what we know* about that Reality (*epistemology*). In other words, their work, and ours, aspires to eliminate *any would-be* gap between **{ontology—epistemology}** by setting them *into* dynamic relation (more on this later).

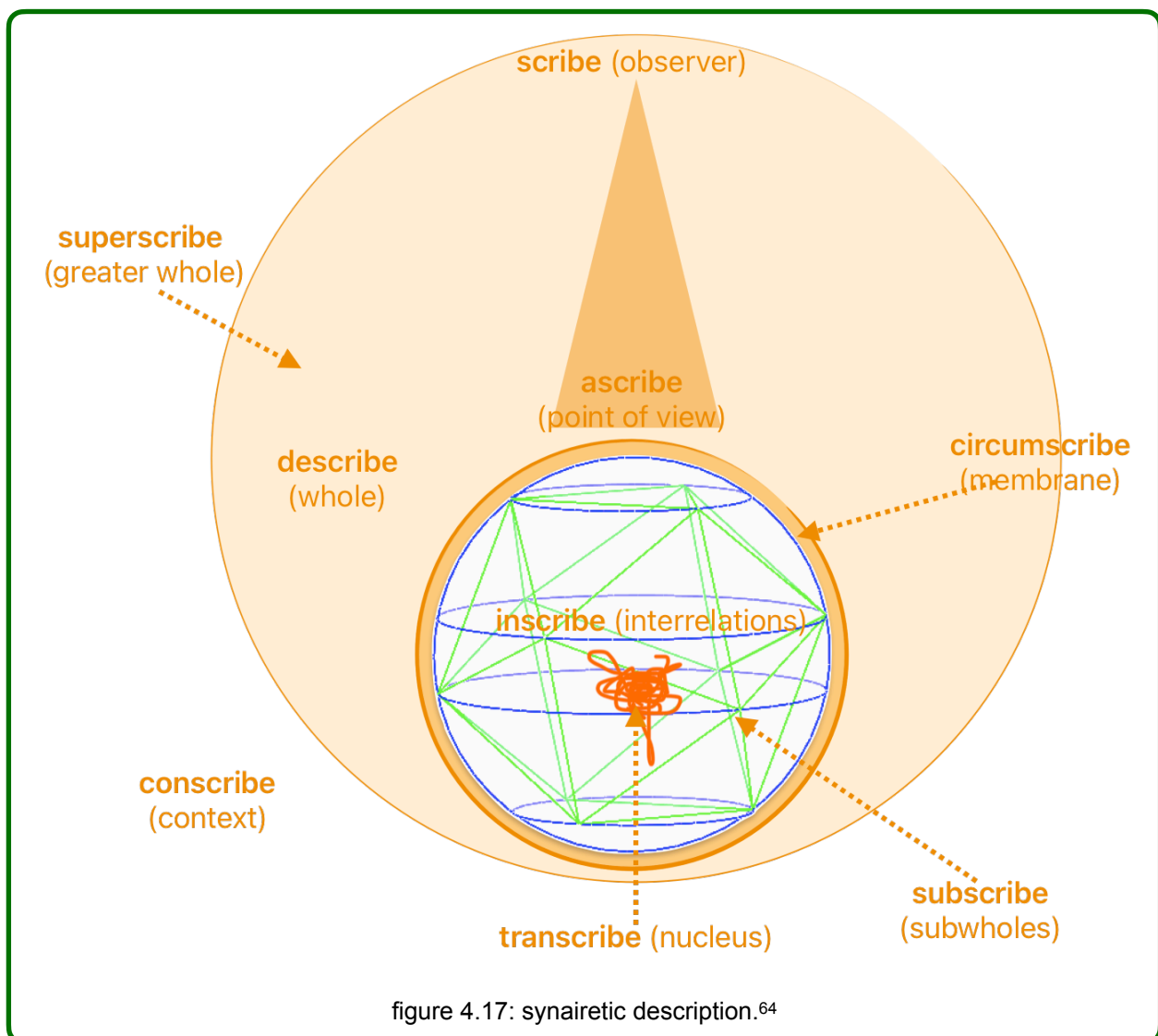
synairesis. Synairetic circumscription, or synairesis, for short, enables us to approximate this dynamic relation. "Synairesis is an integral act of completion, encompassing *all* sides and perceiving aperspectivally."⁶² It approaches phenomena in their *most textured* implicate Wholeness; textured because it studies phenomena from *all* possible angles, *each* viewpoint foregrounding the pattern of interrelations associated with *any* given part. And implicate, because it allows us to explore the implicate qualities of a whole, which is the subject of our attention. Synairesis requires that we step *outside* the whole that we are so intimately a part of, to view it from the *mind's eye*, as a *would-be universal* observer.⁶³

⁶¹ Diaphaneity is a term introduced in Gebser (1949) for spherical perception of whole phenomena; imaging is a practice central to working developmentally. Together they constitute a way of seeing phenomena in their implicate (multi-)dimensionality: **Wholeness—Aliveness—Centeredness**. This approach upgrades Goethe's method of revealing ur-phenomena by describing *every* developmental stage at once. Phenomena are now revealed in the transparent four-dimensionality of a sphere in motion. Never isolated, but merely foregrounded for study, but never unwoven from all its interconnectedness.

⁶² Gebser, 1949:312.

⁶³ The term "universal observer" is described in Bennett (1956).

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I developed the following prototype of a synaesthesia instrument for diaphanous imaging. I surveyed *all* possible ways to describe the term, including all existing English prefixes of the root word “scribe,” and allowed these to self-order and self-organize *into* a coherent whole. They seem to fit *fairly seamlessly into* our emergent circumsphere, supporting its implicate dimensionality.

4.5.1 synaesthesia: breadth dimension (Wholeness)

From the perspective of the breadth dimensions, we have access to the following viewpoints.

- describe. To describe a whole entails giving a very general description of it, in its *broadest* terms, a *first* impression, or an image.
- circumscribe. To circumscribe a whole means to describe its active surface, what contains it, what separates it, and what makes it *not something* else.

⁶⁴ Composed by this author (unpublished).

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- conscribe. To conscribe a whole implies that we describe its *proximate* whole, its *most immediate* context or immanent *outside*.
- superscribe. To superscribe a whole requires that we describe the *greater* whole it is nested *within*.

4.5.2 synairesis: depth dimension (Aliveness)

From the perspective of the depth dimensions, we have access to the following viewpoints.

- subscribe. To subscribe as a whole challenges us to describe its subwholes, the parts-in-relation, *without* compromising its wholeness.
- inscribe. To inscribe a whole means that we describe the interrelations *inherent* in its *unique* patterning, its **patterns of Aliveness—patterns of interaction**.
- ascribe. To ascribe a whole requires an observer—the scribe—to describe *all* possible viewpoints, regardless of *where* they may be positioned *within* the whole.

4.5.3 synairesis: volume dimension (Centeredness)

From the perspective of the volume dimension, we have access to the following viewpoints.

- transcribe. To transcribe the whole signifies that we enter its center, to sense and describe its essence. We can use the following Essence Triad framework for a progressive approximation that reveals its essence.⁶⁵
- core process. The core process concerns itself with *why* a whole functions the way it does, which requires imaging its workings and understanding *why* it is capable of functioning as it does.
- core value. The core value emerges from imaging the workings of a whole, then imaging the consequences of those workings, and what lies *beneath* that must be brought *into* being to pursue the core purpose.
- core purpose. The core purpose mirrors the aspect of a whole that has will, the source of purposefulness, which sustains (*lower nature*) or regenerates (*upper nature*) it by making it *most* effective, *most* able, and of the *highest* value.

4.5.4 synairesis: circumspheric interval (ableness-to-be)

From the perspective of the interval dimensions, we have access to the following points of view.

- proscribe. To proscribe a whole calls us to describe its *highest-order* potential (*upper nature*).
- prescribe. To prescribe a whole requires that we visualize and describe the sequence of its developmental phases *all at once*.

⁶⁵ RIRP, 2024.

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It bears repeating that how we see the world is how we manifest it. To manifest Reality in its fullest Complexity, we are *well* served to radically shift our mode of perception to one that has the capacity to describe the entire whole, from *every* conceivable aspect, in *all* its differentiated Wholeness. Multidimensional perception doesn't come naturally to us. It takes an act of will to generate such a complexified description of any phenomenon. Yet I believe we can train our consciousness to begin rendering Reality in this way, in its self-realizing fullness. In so doing, we'll begin to live *into* the promise of an intimate and conscious correspondence between makers of worlds and the worlds they make. This is beautifully exemplified in the chapter that follows, where we set our sights somewhat higher: we set out to develop a Universe-of-Complexity.

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chapter 5. Universe-of-complexity: a Continuum in 12-steps

The mystery of life is not a problem to be solved, but a reality to be experienced.

Alan Watts

"Es tan triste el amor a las cosas; las cosas no saben que uno existe. | It is so sad, the love for things; things do not know that one exists.

Jorge Luis Borges

Without being one throughout, such a universe is continuous. Its members interdigitate with their next neighbors in manifold directions, and there are no clean cuts between them anywhere. (...) All real units of experience overlap.

William James

5.1 steps towards a Universe-of-complexity

Many attempts have been made to "define" Complexity, as if *it* were an *isolatable, graspable, neatly definable* concept located *outside* the Continuum-of-experience we call the Universe; hence the hyphenated term: Universe-of-complexity. The fallacy lies in the assumption that somewhere there's an "*it*" we, or *anything* else, can be separated from, and that it could be described in absolute, finite terms with *any* certainty whatsoever. As we saw in Chapter 1, *it*, *we*, and *all* of existence are *of-itself-so*, and by definition, an *unboundable, indefinable* Reality.

The verb "define" has at least two meanings: one is *to clearly demarcate the boundaries of a phenomenon*, an *obviously* futile attempt for *any* phenomenon within this Universe-of-complexity, least of all the *unfathomable* totality we call the Universe, whose diversity-in-unity presents itself to us as an unbreakable Continuum-of-experience. The second meaning of the verb "define" is to *precisely describe the nature, scope, or significance* of the challenge we're prepared to embark on with this chapter.

5.1.1 approaching the unfathomable

Yet, the challenge is nothing less than extraordinary: to describe the workings of the whole of the Universe-of-complexity, dynamically and in relative terms, from our vantage point (the *only* one we are privy to) in the *thick (missing) middle* of this *all-encompassing* phenomenon. Could one evoke a *sufficiently* universally complexified system of description that remotely approximates the *unfathomable* nature of such a Reality as ours? I was *entirely* uncertain, that is, until I embarked on an epic journey to experience (there are few verbs sufficiently ad-

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equate) John G. Bennett's Systematics. To say it has changed me is a gross understatement.¹

This chapter is the result of my attempt to apply my understanding of Bennett's opus *to a universally complexified* system of description of the Continuum-of-experience (the explicate layer, anyway)—in 12 progressive steps. This is the *simplest* "definition" that *ought* to be acceptable because it meets the Universe-of-complexity on *its own terms*, as perceived *through* the lens of human experience, as a progression of structures.

5.1.2 differentiation of terms

structures. Systematics is the study of structures—eternal patterns that constitute the primary elements of experience as *simplified* totalities.² Structures are imbued with significance, because they serve to relate fact (*entity as object*) and value (*entity as subject*, a center of phenomenal beingness) *intimately* constellated and nested *within* the Continuum-of-experience, a conduit for Aliveness, a potency *uniquely* expressed through *every* each-form. We can *only* know structures functionally; however, we perceive them *intuitively through* understanding. This way, we can understand their workings (*what they are, how they change*).

system. Systematics is also the study of systems (dynamic system frameworks)—relational maps that reveal structures and, specifically, their forms of relatedness, where relations are treated as primary and elements as secondary.³ A system is a set of *independent, mutually relevant*, and compatible terms. Systems are secondary to structures. Structures are where we encounter our perceptions and where our mental processes encounter the self-realizing Universe. Systems offer eternal forms that retain the coherence of structures; however, no *single* system can independently exemplify the **{self-ordering—self-organizing}** Complexity of real structures. Systems function as relational maps: navigational instruments that can assist us in perceiving the otherwise *less visible* workings of structures, the "territory" of experience. And, as the saying goes, a map is *not* the territory.

5.1.3 premises

The scales of existence present themselves to us as gradations of wholeness *within* the Continuum-of-experience. They can be characterized by basic principles that are *both* empirically generated from collective human experience and developmental, resulting from progressive differentiation. Their empiricity, in particular, means that they account for *all* elements of hu-

¹ The reader might recall my account of my ongoing experience with CAD's Developmental School and Fourth Way lineage which includes Bennett. Beyond this in recent years, I have been in a process of deep study of Bennett's Dramatic Universe.

² "Structure" is a term that Bennett (1956) originally introduced as categories; however, he later revised it in Bennett (1963).

³ "System" is a term that Bennett (1956) originally introduced as frameworks; however, he later revised it in Bennett (1963). We have been referring to these here as dynamic systems frameworks, a term originating from Sanford (n.d.) and RIRP (2018).

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man experience, especially uncertainty and hazard, the hallmark of the cosmic drama *inherent* in our Universe at every turn. Because *vast* regions of the Continuum are *not* accessible to human perception, supra-logical thinking, which stretches *beyond* human experience, is needed—the kind of *insightful* thinking *behind all significant* advances in imaging the workings of our world that lie *beyond* our reach.

5.1.4 structures and their principles

Structures are an orderly progression of eternal forms or patterns recognizable from experience, an implicate ordering that can be described *qualitatively* by primary statements or *first principles*. The structures described herein characterize the *knowable* Universe. As such, they are *structures of fact*, described from a *functional* perspective (that is, in the context of the Triad of Experience, **function—being—will**). Each structure is associated with a number and requires a system with *at least that many* terms to generate an understanding of its working. Therefore, the significance of the associated number is *qualitative*, as well as *quantitative* ({quality—quantity}).

The principles that undergird the progression of structure in the Continuum are as follows:

- 1) Wholeness. Wholeness is the quality of being oneself. It is the *most* basic universal pattern; every entity at every scale is endowed with this capacity. Wholeness is *omnipresent but relative throughout* the Continuum, differentiating *progressively* by *incremental* degrees of togetherness (aliveness) at *each subsequent* scale.⁴
- 2) polarity. Polarity is the *first* differentiation of Wholeness *into* two *complementary yet distinguishable* elements (i.e., {being—nonbeing}; {order—disorder}), which restrain themselves *through* a creative dyadic tension (dynamic relation) that arises *between* complementary poles that gives occasion to dynamism—the agitation that sets our Universe *into* motion.
- 3) relatedness. Relatedness arises from the swirl of polar dynamism of **affirming—denying** impulses, whose contradiction is reconciled in relatedness. All relationships are a combination of these three independent impulses. To engage with this structure, we need a three-term system, or triad. Triads constitute *higher-order* structures; hence, *any* of these complex structures may be reduced to triads of impulses and, therefore, understood in *simpler* terms.
- 4) subsistence. Subsistence is a quality that arises *from* Relatedness, where entities acquire the capacity for the *most primitive* form of identity possible: essence, the pattern of uniqueness required for entities to be recognized as each-forms. To understand these structures, we require a four-term system.

⁴ The principles and premises of cosmopoiesis were originally published in Yanez (2024).

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- 5) potentiality. Potentiality is the bearer of *complex* identity that emerges from *simple* identity in Subsistence. It brings about the development of an *inner* and *outer* dimension in an entity, *now* recognized as a being with a capacity for *some* degree of sensitiveness, hence Life. To understand these structures, a five-term system composed of superimposed triads is required.

- 6) repetition. Repetition is the quality that arises from potentiality, in which an entity acquires the capacity to regenerate and reproduce itself—that is, to make more of its kind. It is a combination of difference (Polarity), Relatedness, and identity (Subsistence). It *underlies* the rhythmicity of a recognizable pattern that enables the condition for knowledge. To understand this structure, we must use a six-term system.

- 7) structure. Structure emerges from repetition as an organized wholeness that has *now* acquired the capacity for self-regulation. The pattern *behind* this scale is the universal form (the all-form), the source of *all* each-forms; exemplified, for instance, by the development from acorn to oak tree. To understand Structure, a seven-term system must be applied.

- 8) individuality. Individuality emerges from structure as the quality of free agency *inherent* in selves with the power of choice—the power to recognize their *dimensionalized self—Self—SELF*. To understand the emergence and workings of initiative (*will*) residing in organized structures requires an eight-term system.

- 9) pattern. Pattern arises *through* Individuality, as a universal capability to participate *within* patterns. There are two kinds of patterns: passive patterns resulting from self-ordering processes (*restraining* impulse), and *active* patterns, the source of self-organizing processes (*activating* impulse). Understanding the structure of Pattern necessitates the application of a nine-term system.

- 10) creativity. Creativity emerges from the structure of Pattern and acquires the capacity to evoke *new* patterns *into* existence. This structure is *essentially polar* in character and requires a ten-term system to understand it.

- 11) domination. Domination emerges through Creativity that has acquired the power to reconcile **order and disorder**. In this sense, it is a precursor to Creativity; however, it *does not* participate in it. It can be thought of as the relatedness of universal (*eternal*) forms—meta-patterning. To understand these complex structures, an eleven-term system is needed.

- 12) autocracy. Autocracy is the *last* structure *within* the natural order, *completing* the first region of the Continuum. It emerges from domination as *underived* power, law *unto itself*. It is the *source of universal similarity*. It arises *prior* to the second region—the struc-

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tures of value, the “*next*” iteration of 12 structures—gradations of aliveness—*along* the *upward-spiraling* Continuum.⁵

These principles are *not* different kinds of Wholeness but rather gradations (*qualities*) of the *same* original *first* principle (*quality*) of Wholeness we *began* with, differentiated *into* 12 steps. What is significant to recognize here is that significance *itself* is found in restoring qualities to what had *once been reduced to mere* quantity; this is the essence of bringing *anything back* to Life.

This is the *most basic* “definition” possible for our self-realizing Universe, which we’ll build on in the following section of this chapter.

5.1.5 elements of experience, dimensionalized

To contextualize the above principles, it is essential to provide further *concreteness* to the notion of elements of experience.

As terms-in-relation, **{function-being-will}** exist only in relation to *one another* and together form the Triad of Experience. Their relation can be understood through three aspects: cosmic, objective, and subjective. Together, their *possible* combinations account for *all* the diversity of experience.

table 5.1: secondary aspects of the elements of experience⁶

element of experience	cosmic	subjective	objective
function	universal	knowledge	behavior
being	Being itself	consciousness	materiality
will	authorizmos	understanding	law

function. Function, as the *knowable* element in experience represents a *fragment* of the total universal process. Every description, whatever its kind, is of necessity functional. A whole can be described *completely*, down to the *smallest* detail, in terms of function. These are the structures (gradations of wholeness) or patterns of function.⁷

- universal process. Process presents itself to our experience. Everywhere we look, *something* is going on. It is universal, inescapable, and has no boundaries; as such, it is the *cosmic* aspect of function. It orders itself *into* scales and organizes itself *into* recognizable patterns *within each* scale. These recognizable patterns are the potential subject mat-

⁵ These are the subject of Bennett (1961), and have been consciously excluded from the scope of this Study.

⁶ Sourced from Bennett (1956); arranged into a tabular form by this author.

⁷ Yanez (2024) has my original interpretation of Bennett’s Levels of Existence, or as referred to here, Gradations of Wholeness. See Annex F for a summary table.

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ter of knowledge, which the overflowing universal process provides in abundance. Indeed, there is *more* process than we could *ever* capture as knowledge. Hence, the experience of the process must *necessarily* be reduced to knowledge of the function.

- behavior. Functions are the observable behavior of wholes. Behavior is the *external* comportment of a whole, as confirmed by an *impartial* observer; hence, behavior represents the *objective* aspect of function.

- knowledge. Knowledge is that which reconciles the behavior of the individual whole—the *unique* expressions of Aliveness—with the Wholeness of the universal process. It arises from the *recognizable* differences—the diversity, changes, patterns, and forms—that each of us is able to distinguish within an *otherwise all-encompassing* context. Hence, it remains *exclusive* to one's *own* experience and therefore represents the *subjective* aspect of function.

being. Being can be described as the source of Aliveness. Being *itself* is *not* a process; it is pure potential, and therefore, remains *independent* of becoming, and as such is *not* actualized in time. Every entity in the Universe has *some* degree of aliveness or inner-togetherness. There is a middle range of entities that possess *sufficient* degrees of aliveness to be recognized as *living* beings.

- universal Being. Being can be designated as the *cosmic* aspect of *itself*, the *Itself* that is *of-itself-so*. Every whole being is actualized in time, for a duration of time, according to the degree of its *own* force of inner-togetherness. Being is multivalent: the quality of Aliveness is *entirely beyond* measure, and, as such, *beyond* the scope of knowledge. Although we *cannot* assess the quality of consciousness present, an observer can at best make a modest inference from the degree of *outward* coherence and consistency of appearance.⁸

- materiality. Materiality is the *external* aspect of being. The degree of materialization—the intensity of the inner-togetherness of a given whole—is the *only* aspect of being that presents itself *externally* and is therefore *objective*. Hence, we describe materiality as the *objective* aspect of being. Being is, and must *always* remain, inaccessible to knowledge. Nevertheless, by learning to become sensitive to the degree of materiality present in a given whole, we may find a clue to the appreciation of Being. We can do so *through* consciousness.

- consciousness. Consciousness can signify the degree of awareness available to *any* whole, which depends on its degree of inner-togetherness, *irrespective* of its nature, constitution, scale, or duration. The *higher* the degree of inner-togetherness, the *greater* both its freedom of choice and its potential for relating to *other* wholes. Consciousness is that which enables the material presence of an individual to exist in harmony with universal Being.

⁸ We should take the opportunity to associate two related terms, Bennett's (1956) active surface and Portmann's (1974) opaque surface, a *higher-order* differentiation of active surface.

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will. Will is the impulse *inherent* in every whole *toward* its self-realization. Will *is not anything, nor* does it do *anything*. It is simply eternal form. Will is the *universal* active element, and, in particular, the active element in every recognizable whole, every each-form. Ultimately, in a Universe, we experience an overwhelming coherence—*some* intuition of *universal* order—for which there cannot exist a contradiction of entirely separate wills. Will is *everywhere* the same, universal, *yet everywhere unique* as it expresses *through all* its each-forms, and therefore, serves to reconcile the *grandest contradiction of all*: **{unity—diversity}**.

- authorizmos. Authorizmos is the manifestation of one *singular, unlimited* cosmic will (Will) expressing itself as manifold and limited in the extraordinary diversity of each-forms. Authorizmos represents the cosmic aspect of will. It is a universal acceptance of self-imposed limitations (restraining impulse) *inherent* in every each-form. In this way, will acquires the *objective* character of law.

- law. Law is universal and gives form to *all* process. All experience is of process. As such, law represents the *objective* aspect of will. For *singular* wholes, law is the range of *all potential actualizations*. Every whole, at every scale, has its *own* law; since Wholeness, which pervades *everything*, is relative—expressing itself in a *manifold* multiplicity of ways—it follows that law must also be relative.

- understanding. Understanding is that *inner* condition, the capability to comprehend the operation of *universal* will as it expresses itself *through each singular* each-form—the apprehension and affirmation of *the intrinsic* form or pattern to which events *must* con-form: the characteristic '*why*', '*thus*', and '*how*' of *each singular* whole we encounter. It is the capability of holding the '*why—how*' as one question, whose answer is *never* fully attained; yet persistent questioning brings us one step *closer* to understanding. Understanding is what allows the individual to participate *radically* in the self-realization of the cosmic will *without* losing their *own* identity. It follows, then, that understanding is required to live *fully within* the limits of our *authentic* experience—to be *fully* Human.

How we know the self-ordering Wholeness, perceive the self-organizing Aliveness, and understand the self-realizing Centeredness of the complex phenomena we encounter in experience has cosmic significance. After *all*, experience is the common ground of *all* existents. Every entity *everywhere*, regardless of scale, is connected via the “medium” of experience we refer to as Continuum. Yet this experience, although continuous, is *not* the same *everywhere*—a microorganism and a whale experience their respective worlds very differently. In the next section, we take a deep dive *into* the relativity inherent in the structuring of Wholeness.

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5.2 gradations of wholeness in 12 steps

Systematics is grounded in existential hypotheses that affirm the relative universal wholeness of *all* existence. This notion of *relative* universal wholeness requires that the Continuum-of-experience be one-dimensional, an {unfolding—enfolding} progression of togetherness—a *single-valued intensive* magnitude that expresses itself in an *infinite* myriad of ways, *yet always* as parts-in-relation whose togetherness we experience as *ordered* structures *stratified* by gradations of potency. Potency is the criterion for scale and can be understood as the *maximum* degree of individuation *accessible* to members of a *particular* structure. Individuation ascertains how far an entity can be an “*itself*,” the degree of independence from its environment.

On the *broadest* possible terms, and based on *observable* behavioral patterns, the *basic* hypothesis posits that the Continuum can be differentiated *into* threefold character, or modes of existence:

- hypernomic dominant, or universal existence;
- autonomic dominant, or organic existence;
- hyponomic dominant, or physical existence.

To account for the interpretation *between* modes of existence, two transitional hypotheses are also presented in the schema, describing the Continuum of our Universe.

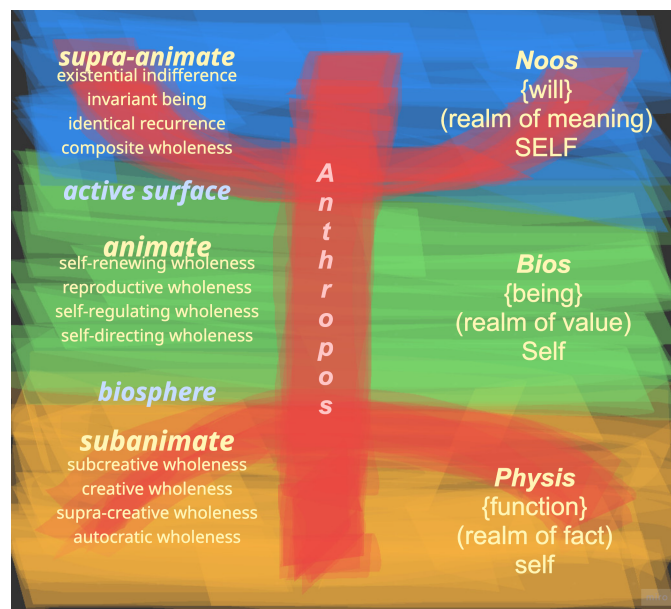


figure 5.01: hypotheses of existence⁹

⁹ Composed by this author (unpublished).

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5.2.1 hypothesis of subanimate existence

The first *basic*, or *modal*, hypothesis is that of subanimate existence. This is the physical realm of hyponomic entities—Physis—passive in *all* its actualizations (the restraining or receptive impulse of the Law of Three); a passive character is also present in entities of *higher* potency. Subanimate existence arises *from* (and returns *to*) hyle, the *universal* element of potential, whose gradations flow forth from the implicate—*some indeterminate* ground state—and culminate in the determinate nature of thinghood, as follows.

- 1) hypothesis of existential indifference. The first level of potency is that of *existential indifference*, a scale constituted by *unipotent* entities: universal validity of structure laws, the determining-conditions that guide the unfolding of *all* existence, and therefore are *prior to* and exist *independently of* the nature of *any* existent, each-form. It exists as the first principle, Wholeness. Wholeness enables a coherent formulation of knowledge about *the* common character of structures (i.e., generalized geometry, dynamics, statistics, semantics, logic, kinetics of uniform motion, and four-dimensional physics). Yet knowledge of structural laws, which are simple and primitive, is *older* than history itself.
- 2) hypothesis of invariant being. The second level of potency is that of *invariant being*, a scale constituted by *bipotent* entities, self-identical entities without the capacity for mutual action. These express the principle of polarity. They are found organized as complementaries, whose creative agitations give birth to a dynamism of forces. Invariant being is *exemplified* by corpuscles and light. In the realm of knowledge, these translate *into* field theories/force-fields, dynamics, electromagnetism, and five-dimensional physics.
- 3) hypothesis of identical recurrence. The third level of potency is that of *identical recurrence*, a scale constituted of *tripotent* entities, unobservable but whose approximations are found in Nature. Identical recurrence expresses the principle of relatedness and is *exemplified* by ultimate particles. In the realm of knowledge, these translate *into* the behavior of rigid and elastic bodies, electromagnetic radiation, six-dimensional physics, statistical mechanics, and quantum theory.
- 4) hypothesis of composite wholeness. The fourth level of potency is that of *composite wholeness*, a scale constituted by *quadripotent* entities with the capacity for both change and duration. Their composite wholeness, or thinghood, depends on a store of potentialities, a superfluidity of means for the attainment of ends. Composite wholeness expresses the principle of subsistence and is *exemplified* by physical objects, things with thinghood. In the realm of knowledge, these translate *into* properties of matter, exchange processes, chemistry, and mechanics.

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5.2.2 transitional hypothesis of *active surface*

The capacity for active surface, which arises herewith, serves as a portal or gateway *between* subanimate and animate existence, where we experience a bifurcation *between* two modes of existence: the functional comprehensiveness (Wholeness) of subanimate existence and the *higher-order* being-intensity (Aliveness) of animate existence. Active surfaces manifest as colloid states that *both* contain a whole and enable its interaction—exchanges of hyle—with its environment, which it depends on for potential energy.

5.2.3 hypothesis of animate existence

The second *basic*, or *modal* hypothesis, is that of animate existence—Bios—a living world of autonomic entities, whose degree of aliveness reconciles the impulses of affirmation and denial, represented by Life and Death. This degree of aliveness is experienced as the ability to use the environment as a means of self-preservation, and its gradations unfold from a *basic* capacity for self-renewal, culminating in complete individuality, as follows.

- 5) hypothesis of self-renewing wholeness. The fifth level of potency is that of *self-renewing wholeness*, a scale inhabited by *quinquepotent* entities with the capacity of non-reproductive self-renewal. It expresses the principle of potentiality, and as such, it is an *organized* potency, because through the presence of an active surface, they experience an *inner* reality in contrast to an *outer* world. Self-renewing wholeness is exemplified by *all* living beings. Every living whole is sensitive to *other* wholes, to its environment, and to its *own inner* state, a being state with the capacity to con-form to its environment; it is this power of correspondence that distinguishes the threshold of animate existence. In the realm of knowledge, it translates to viral science and biochemistry.
- 6) hypothesis of reproductive wholeness. The sixth level of potency is that of *reproductive wholeness*. This level is inhabited by *sexipotent* entities with the capacity for asexual reproduction, growth, and regeneration. This level of potency expresses the principle of repetition and is *exemplified* by cells, stable patterns that repeat themselves rhythmically in time and space for a given duration. The cell is the *fundamental* constitutive element of *all* living organisms, each-forms that are *uniquely* differentiated in form, size, temporal duration, and regulative rhythms. In the realm of knowledge, this translates to cytology, protozoology, and embryology.
- 7) hypothesis of self-regulating wholeness. The seventh level of potency is that of *self-regulating wholeness*, a scale inhabited by *septempotent* entities with the capacity for maintaining and regulating a functional balance. This level expresses the principle of structure, whose stability arises from the *continuous* interplay of two patterns: *organization*—a *higher-order*, *Life-affirming* pattern (negentropy, activating impulse) sourced from potential energies available in an environment—and *disorganization*—a *lower-order*, *Life-denying* pattern

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(entropy, denying impulse) of *any temporally-actualized* body vulnerable to its environment (**{organization—disorganization}**, **{Life—Death}**). Mediating and reconciling these two impulses is the self-regulating power of organic sensitivity. True organismic individuation begins with self-regulation. *Individuation*, a *higher-order* capacity for selfhood, is a prerequisite for relating with others of like kinds via the interplay of **{inner self—opaque surface}**, and therefore, an inherent capacity of sexual reproduction and a predisposition for social organization. Septempotence is *exemplified* in species as true, *first-order* organizations, or simply, individuals.^{10,11} Septempotent each-forms exist as cells of individuality within the collective bodies they constitute. In the realm of knowledge, this translates to biological sciences, development and growth, and the phenomena of birth and death.

- 8) hypothesis of self-directing wholeness. The eighth level of potency is that of *self-directing wholeness*, a scale inhabited by *octopotent* entities gifted with the power of choice and, hence, the capacity for *conscious* self-direction required for the principle it expresses, complete individuality. This level of potency would be exemplified by entities that have achieved the highest order of integrality or inner-togetherness, *rarely* found *among* Humans. These entities are challenged to live *into higher-order* potential by developing themselves sufficiently to collectively assume the cosmic role of conscious reconciliation. In the realm of knowledge, this translates to psychology, herd behavior, and organic species.

5.2.4 transitional hypothesis of biospheric wholeness

Linking the scales of animate and supra-animate existence on the Continuum-of-experience is the capacity for biospheric wholeness, in which *all* organic Life is experienced as one complete whole—the living web that we, and *every* living being, are *tightly* nested *within*. The Biosphere has emerged as a *planetary* property of Earth—a film-like, active surface encompassing a thin *outer* layer on the surface of our Planet—constituted by an *immense* diversity of each-forms. It exists as a living entity in its *own* right, whose timescale pertains to the processes of transformation at the scale of the Solar System. Biospheres reconcile the relatively short lifespans of their each-forms with cosmic timescales.

Although Earth's Biosphere seems to be a *singular* occurrence, we can posit that the *eternal* pattern of the Biosphere may manifest *elsewhere throughout* this exquisite Universe. Its eightfold structure completes a cycle of existence; it marks the end-point of Life as we *know it* and stands at the threshold of novempotence, *biospheric wholeness*, a transcendent pattern sourced *through* Earth, implying that *all* manifestations of Life *within* it are *unified* in respect to **{function-being-will}**. As such, it's being—the *visible* pattern of interrelation among

¹⁰ Opaque surface is Portmann's (1974) term for organismic level active surface. It was introduced into this discourse by Yanez (2024).

¹¹ Ordering of organisms as complex organizations of the first order (individuals), second order (societies), and third order (species) order is presented in Morin (1977).

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genera—provides a means for reconciling and harmonizing *evolution*—the *functional three-fold mechanism* (lithosphere, hydrosphere, atmosphere) that regulates its actualization—and *involution*—its *complete individuality*, a direct expression of will, the cosmic creative power, *voluntary* and *conscious* self-realizing, that organizes its potentialities, an abundant *concentration of consciousness* with no *apparent* terrestrial purpose, which points *towards* the Biosphere's role in the *general economy* of the Solar System.

5.2.5 hypothesis of supra-animate existence

The second *basic*, or *modal* hypothesis, is that of supra-animate existence, a *cosmic* world of *hypernomic* entities existing *beyond* Life. It is permeated by *supra-individual consciousness*. This is *not* the world we have access to, except through participation in its complex realization via impulses, forces, and energies. It is characterized by a *deeply layered, multi-scaled* concentration of Centeredness, whose gradations unfold from a *basic* capacity for emission of pattern and culminate in *all-encompassing* pattern, as follows.

- 9) hypothesis of sub-creative wholeness. The ninth level of potency is that of *sub-creative wholeness*, a scale governed by *novempotent* entities that express the principle of pattern and, as such, are endowed with the capacity to emit pattern. Entities at this scale are *constituted* by planets, such as our *own* Mother Earth, whose patterns provide the *existential* boundary conditions for living and dying. Planets are intricately organized *around* stars in solar systems and are therefore recognized as sub-creative wholes, incapable of generating patterns themselves. In the realm of knowledge, this translates to planetary dynamics and the study of patterns.
- 10) hypothesis of creative wholeness. The tenth level of potency is that of *creative wholeness*, a scale governed by *decempotent* entities, which express the principle of creativity. As such, they are sources of *all* creativity in this Universe. This level is *constituted* by stars, the universal atoms, organized, *radically* independent, and isolated centers of their solar systems. As such, they are the *sole* generators of patterns and producers of *creative* energies for their constituent entities. In the realm of knowledge, it translates to the study of solar systems and their cosmic individuality.
- 11) hypothesis of super-creative wholeness. The eleventh level of potency is *super-creative wholeness*, a scale governed by *undecimpotent* entities responsible for the capacities of relatedness and transcendence. This level of potency manifests as domination and is *constituted* by galaxies whose character is *universally dominant, generalized Complexity*, whose determining-conditions delimit *all* interaction in the *known* Universe. In the realm of knowledge, it translates to the study of universal transformation.
- 12) hypothesis of autocratic wholeness. The twelfth and final level of potency is *autocratic wholeness*, the *ultimate* principle or scale, a *duodecimpotent* entity, the *entirety* of our

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knowable Universe. Its *all*-encompassing pattern is autocracy as the *ultimate* fact. In the realm of knowledge, this translates to understanding universal order and cosmology.

Bennett's Gradations of Wholeness are summarized in a table in Annex F.

5.2.6 significance of the progression of structure

In subanimate existence, *most* of what we find is the same, or constituted of the same "stuff," pure potential, which makes its way to thinghood, the *most* basic condition for functional self-ordering Wholeness of objective existence. In animate existence, *everything* is differentiated. The potential from the subanimate is restrained by a dizzying multiplicity of each-forms, the ultimate expression of the self-organizing Aliveness of living beings. Super-animate existence reconciles the subanimate with the animate via the universal unity of the cosmic will of the One, the first principle, which is *now* the ultimate coherence of *everything* there is, was, or could be within a self-realizing Universe. The universal applicability of structure (framework laws, systematics) points *toward* a unifying dynamic that seems to pervade *everything*, *everywhere*, and that we could say lies *behind* the implicate qualities we have been differentiating: inner-togetherness.

Along the way, we've made a few discoveries about inner-togetherness. For one, the *greater* an entity's intensity of inner-togetherness, the wider the potential range of actualizations (potency) open to it. Also, there is a direct correlation between the degree of consciousness available to *any* entity of like kind and the intensity of the inner-togetherness it possesses. At least up to and including the gradation of septempotence, an entity must actualize according to the laws corresponding to *each* level.

So what? What does this mean for us, from the perspective of the missing middle: our realm of being? The pivotal clue lies in the notion that *biospheric wholeness* is a transcendent cosmic pattern sourced *through* Earth. This, once again, implies that *all* manifestations of Life *within* it are *unified* in respect of {function-being-will}. We are unified in serving one shared purpose: the imperative (authorizmos) for *ever-greater* degrees of Aliveness.

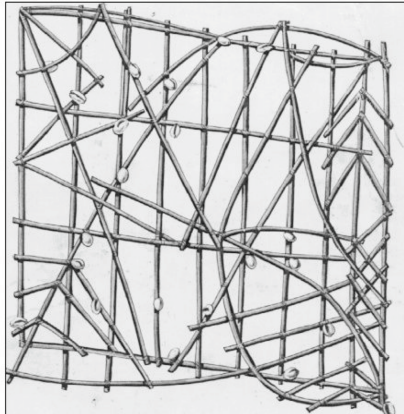
And the universal applicability of the structure that unifies *all*, *that* makes our Universe an intimately navigable Reality, if for no other purpose, so that we might, as biospheric beings, respond to our shared imperative for Aliveness.

5.3 navigating a Universe-of-complexity

Systems enable us to shed light on structures, the eternal forms whose patterning of relations they mirror. They serve as relational maps, instruments that preserve the pattern of relationships *among* the elements of a given whole.

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Polynesian stick maps



Ancient Polynesians used maps to navigate around the vastness of the Pacific.

Without a written language, they instead utilised local materials to pass on information.

The Shells indicate islands or island groups.

The Sticks show Ocean Swells and their direction. (Swells change direction as they pass islands)

5



Kabbalistic Tree-of-Life

figure 5.02: examples of relational maps¹²

These instruments—with their relational basis sourced in eternal forms—may be superimposed *on* occasions encountered in our experience of reality, enabling us to navigate them, that is, to understand the workings of otherwise *invisible* connective forces. Relational mapping is *exquisitely exemplified* by the *individualized* Macronesian stick maps used for centuries by navigators to read the hidden dynamics of waves, currents, landforms, and stars. Dynamic system frameworks are offered as *just* this kind of map.

5.3.1 the workings of systems

A system is a set of independent but *mutually relevant*, compatible terms; each of which can be understood only *relative to* the rest of the terms in the system.

system terms. The order of a system—the number of terms—indicates its relative scale, and terms are named using Greek designations: one-term: monad, two-term: dyad, etc. Their numbering refers *back* to the structures that constitute the Gradations of Wholeness. Each term of a system *within* a given order should possess a *unique* character, and specifying these is integral to the study and praxis of Systematics.

system connectivities. System terms have *no fixed significance* of their own; they *require* the system as a whole. Therefore, the *inherent* connectivities are common to *all* systems of the *same* order. The *mutual* relevance of terms can be approached through *first-order* connectivities, that is, by considering *all* terms in pairs. *Higher-order* connectivities (tetrad *onward*) can be studied as subsystems (e.g., the duodecad could be studied as four triads,

¹² The first image is sourced from Polynesian Shell Map (n.d.); the second image is sourced from Sephirot Vector Images & Graphics for Commercial Use | VectorStock (n.d.).

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three tetrads, or two hexads). Every system *exemplifies* modes of relating that are typical of the number of terms: monad: 0 connectivities; dyad: 1; triad: 3; tetrad: 6; pentad: 10; hexad: 15; etc. If connectivities are directional, the number is doubled. All system connectivities are significant for understanding the workings of a structure in the Continuum.

progression of systems. The twelve systems provide insights *into* the degrees of organization of the structures that constitute the Continuum. Different systems suit *different* purposes or functions, depending on which aspect of the structures in the Continuum is under study; *often*, the first four systems are *sufficient* for *many* purposes. *Higher-order* systems (pentad-octad) can be invoked to understand the workings of a structure. The *highest-order* systems are *typically* reserved for *second-order* organizations, entities such as societies and communities, which are *too* complex to be described in terms of systems alone.

Every process in the Continuum 'begins' from *undifferentiated wholeness* (monad) and contains within itself the possibility of unfolding *into something of significance* for its *greater* whole. The monad requires the surrender of *any* notion of distinction and the *immediate* sensing of the whole of *any* phenomenon under consideration. Each order of system is associated with a *systemic attribute*, a *particular* mode of experiencing the world, as follows. See Annex G for a Systematics summary table listing structures and their *respective* systems.

5.3.2 systems of function

The first four orders of the system indicate *how* structures work. They are intended to navigate *occasions* of *subanimate existence*.



figure 5.03: monad¹³

¹³ Composed by this author (unpublished).

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monad. The monad gives totality *without* distinction of parts; hence, its systemic attribute is universality. It is meant for navigating *occasions of undifferentiated diversity*. Monads do *not* have *decisive* boundaries; the sharing of an *essential* character unifies their content. Each *new* situation that we turn our attention to presents a *confused* immediacy, yet it also evokes the yearning to uncover an *organized* structure. Typical sorts of monads are populations, fields, existential questions, and streams of discourse. Monads, by identifying what is *included* and what is *excluded*, in practice end up being complementary, opening the path for the emergence of a dyad.

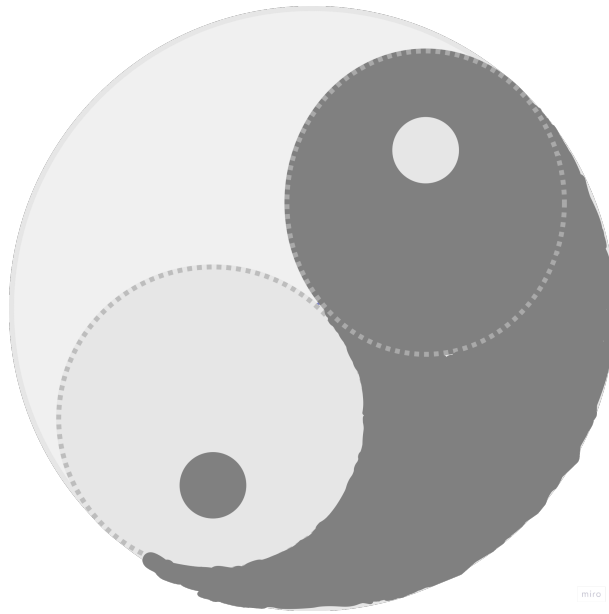


figure 5.04: dyad¹⁴

dyad. The dyad presents difference *without* degrees; its systemic attribute is complementarity. It is meant to navigate *occasions of invariant being*, that is, a cyclicity of polar opposites of **positive—negative** elements. Every totality is *imprecise*, characterized by *quasi-infinite internal diversity—what it is—and external connectedness—what it does*. Each opposite in the polarity is *essential* to the other; they are complementary. The mind tends to think in opposites. With every perception, there is a differential between central and peripheral vision, **figure—ground**, without which there could be *no* awareness of, or interactions with, the world. However, reduced to *either/or* dualities, these have proven *inadequate as* modes of thinking.

¹⁴ Composed by this author (unpublished).

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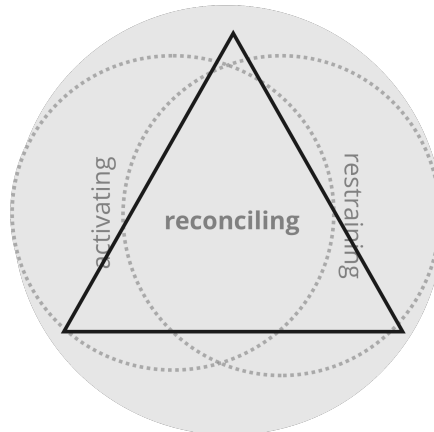


figure 5.05: triad¹⁵

triad. The triad gives relatedness *without* relativity; therefore, its systemic attribute is dynamism. It is meant for navigating *occasions* of *identical recurrence*. The surpassing of the dyad without its collapse *into* duality is achieved by moving *into* action. All activity is initiated by acts of will. We can discern three junctures in the actualization of events: 1) the *act* that establishes dynamism through the correspondence of the affirmation and receptivity impulses; 2) the *action* that sets a process in motion through the relatedness of the impulses; and 3) the *activity* itself, its ongoingness. To give a *rudimentary* image of the term characters: affirmation is the impulse *behind* dedication; receptivity is the impulse that *opens* to a field of action; reconciliation is the impulse that enables the dynamism “*to be*”. In *concrete* situations, the impulses permeate and blend with one another. The triad has *tremendous* value. The awareness that for *any* occurrence to be possible, three independent elements *must* be linked enables the mind to navigate the *tight* relation of the *originating* impulses that compose *any* action. As such, it is the *first* system to account for the flux of experience.

¹⁵ Composed by this author (unpublished).

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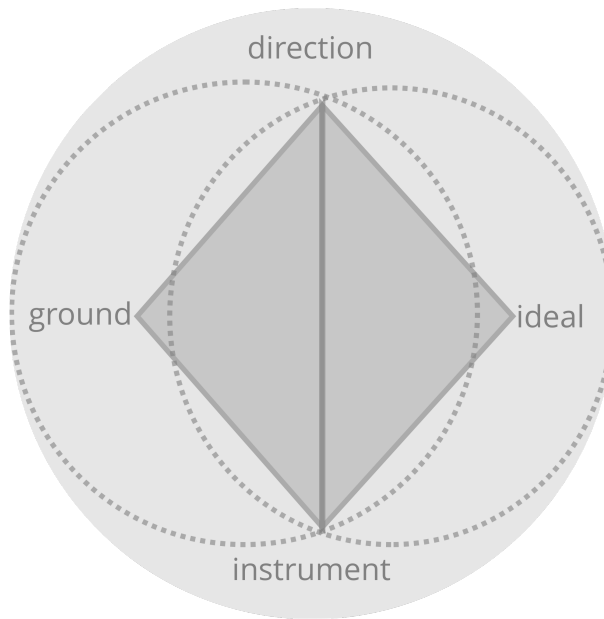


figure 5.06: tetrad¹⁶

tetrad. The tetrad provides structured activity and combines relativity and order; its systemic attribute is activity, *distinct from* potential. It is intended for navigating *occasions* of *composite wholeness*, pertaining to a transition in order. For example, when perceptions in the mind are transformed *into* understanding. Typically, such *ordering* activities are adaptable and calculated. These activities derive from four sources, which *naturally* organize *into* two pairs: one pertaining to the *why* (*motivation*) and the other to the *how* (*means*). Each activity arises from a *tangible* ground and has an ideal or aspiration. Since the activity is *purposeful* and *effectual*, it has direction and an instrument.

5.3.3 systems of being

The second four orders of the system describe *why* structures work as they enter the Continuum. They are meant to navigate *occasions* of *animate existence*.

¹⁶ Composed by this author (unpublished); inspired by Bennett (1963).

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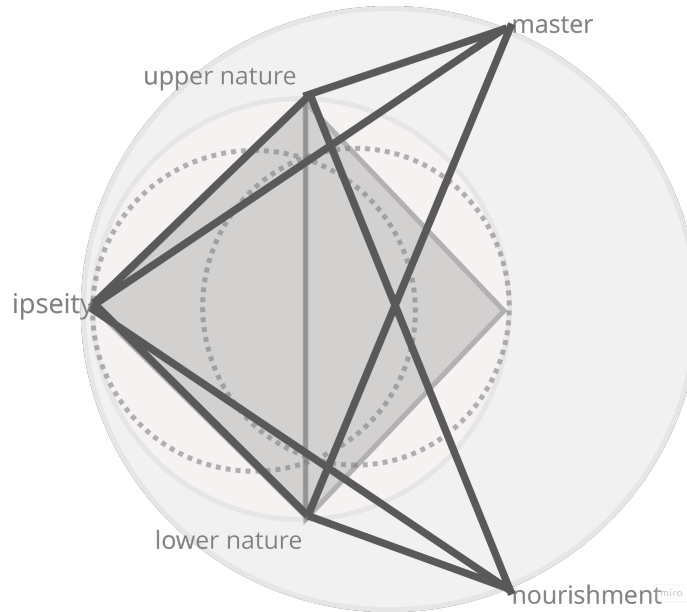


figure 5.07: pentad¹⁷

pentad. The pentad conveys both *inner* and *outer* significance; therefore, its systemic attribute is potentiality, *distinct from* actual occurrences, in which entities, with the capacity for an *inner* and *outer* world, *first* appear in the Continuum. The pentad is meant to navigate *occasions of self-renewing wholeness*—the entities we encounter in experience that have meaning in their *own right*—they are endowed with a *recognizable* essence.

The pentad establishes a *unique* character and a range of *inner* and *outer* significance. For an independent structure, *nothing less* will do. Any *real* thing, in its *perpetual* state of becoming, is potentially *more than* it *ever* actually is. This is true of situations as well as of entities. *Inner* significance is determined *within* limits; the *lower nature* is the *minimum* condition for maintaining Wholeness; the *higher nature* is the *highest* degree of self-realization possible. The *outer* range of significance *emanates* from the correspondence *every* entity has with its world: the *significant* action, which ranges from *nourishment*, what an entity *needs* to maintain its identity, to “*master*,” the *highest* end served.

¹⁷ Composed by this author (unpublished); inspired by Bennett (1963).

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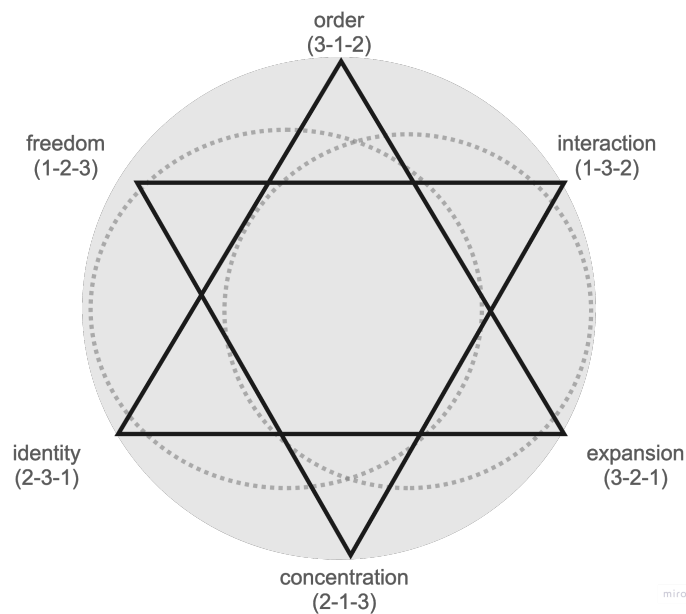


figure 5.08: hexad¹⁸

hexad. The hexad presents the emergent quality of the recurrence of structures and the capacity for transformation *without* loss of identity—the eventness that *nourishes* the trajectory of lived experience. Its systemic attribute is coalescence. It is meant for navigating *occasions of reproductive wholeness*—an act of realization whose significant transformations produce *something more than* an actualization in time—a succession of states in which one is subsumed by the next. A *new* event, a *present* moment, captures the attention of a mind that is going-on in time. The event and the mind align; that is, they are *unified* by an act of will. The extent of that union specifies the potency of the coalescence of that mind. Coalescence is accomplished by a synthesis of *different* modes of action—the *fundamental* laws that govern the unfolding of *possible* events, the combination of which gives rise to the attribute of cyclicity—recurrent phases of action.

¹⁸ Composed by this author (unpublished); inspired by Bennett (1963).

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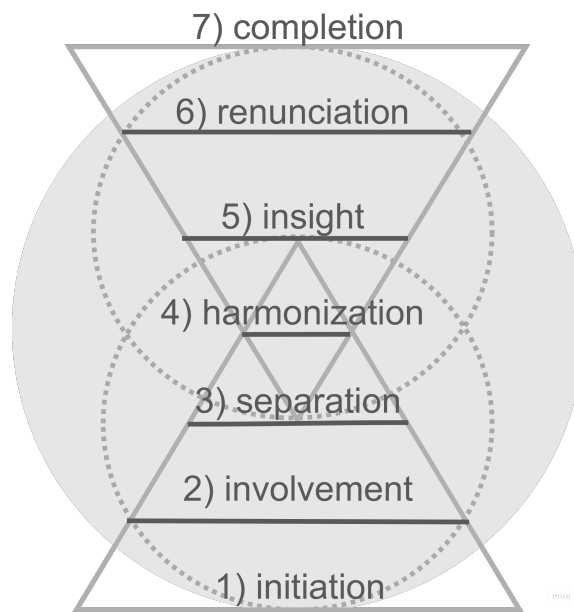


figure 5.09: heptad¹⁹

heptad. The heptad reveals the capacity for completeness, *combined with* distinctions of quality that produce structure, thereby revealing the systemic attribute of transformation. It is meant for navigating *occasions* of *self-regulating wholeness*. The heptad concerns the *complex* structure of action, in which a change—a *particular* kind of change—in the quality of the action—a transformation—occurs. In the case of an entity, upon self-realization, it acquires *entirely* new properties, *not even* present as potential—a *new* range of significance opens up. Whilst *not* losing its identity, it is integrated *into* a *greater* whole—the form is transformed. Transformations are *comparatively* rare but of *major* significance in human life. The terms of the system are an *ordered* sequence of states—a synthesis of qualities and stages, where the quality is present *throughout* the total action at *every* stage. In other words, there is both a *structural* differentiation of terms and a blending *between* them.

¹⁹ Composed by this author (unpublished); inspired by Bennett (1963).

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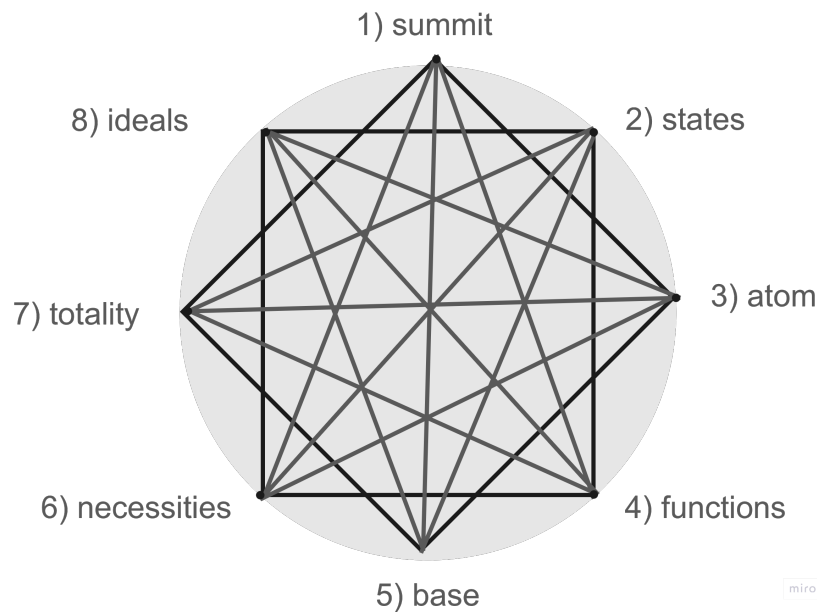


figure 5.10: octad²⁰

octad. The octad brings about *fully realized* structures, each understandable without reference to *other* structures; therefore, its systemic attribute is completeness. It is meant to navigate *occasions* of *self-directing wholeness*, a *total* order in which *all things find their place*. The octad enables a *total* understanding of a given situation, an arena that specifies the region of action: the *total* content of the situation under the influence of a *particular* will, whether personal, social, or species-wide. The arena is symbolized by the common region of the two squares, *within which* the reconciliation of contradictory demands occurs. The *structural (restraining)* elements (1-3-5-7) interact with the *active (affirmative)* elements (2-4-6-8) to enable completed action.

- structural elements. The structural elements delimit *both* the scale of influences: **{spiritual (1: summit)—material (5: base)}** and the aspects of structure, which we know as the gradations of wholeness: **{atom (1)—totality (7)}**.
- active elements. The active elements relate to those we've seen in the tetrad: motivation or will of **{ground (6: necessities)—goal (2: states)}**, and means **{direction (8: ideals)—instrument (4: functions)}**.

5.3.4 systems of will

The third set of orders of system indicates the harmony of structures and the *enabling* conditions required for fulfillment of their destined purpose within the Continuum. They are intended to navigate *occasions* of *supra-animate existence*.

²⁰ Composed by this author (unpublished); inspired by Bennett (1963).

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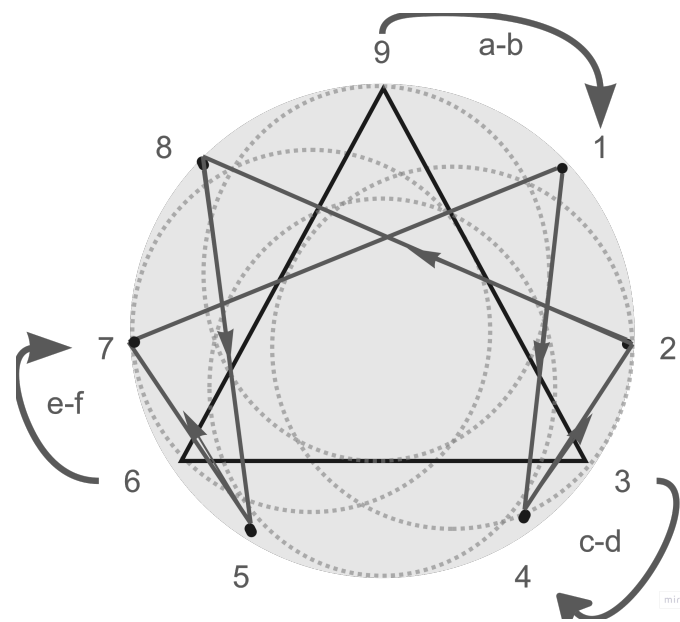


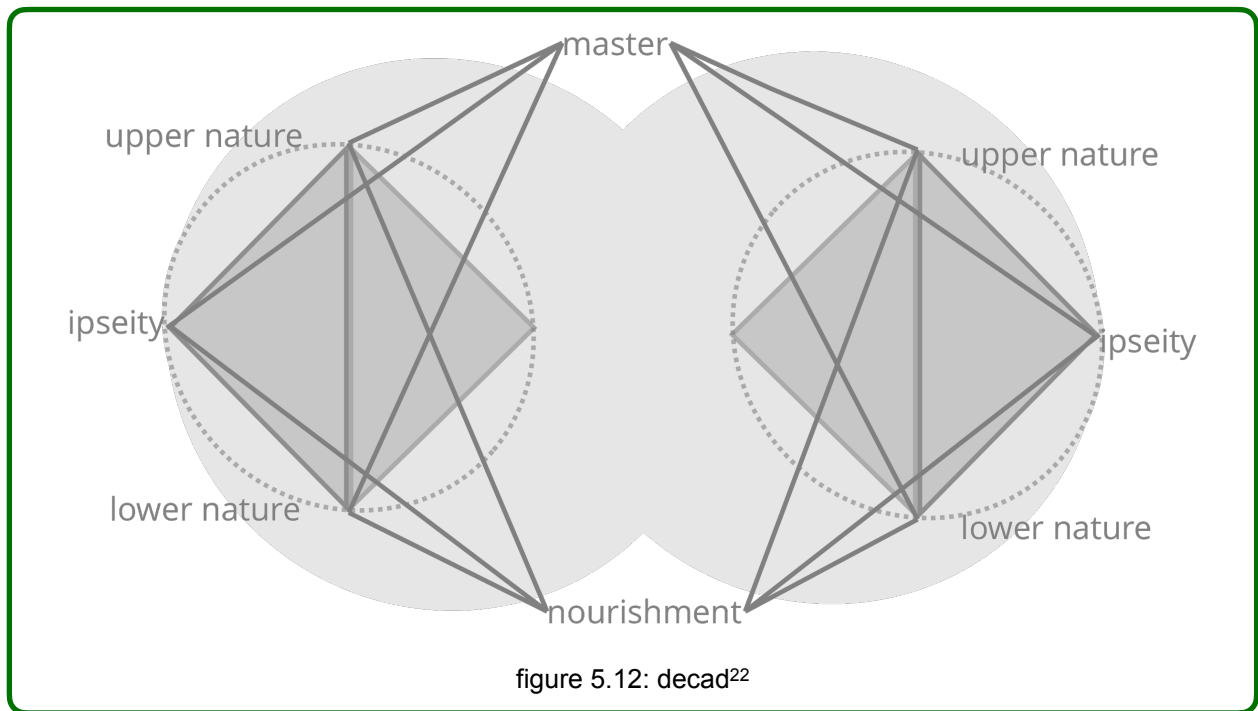
figure 5.11: ennead²¹

ennead. The ennead combines a sense of *shared* purpose *with* uncertainty about its fulfillment—its systemic attribute is therefore harmonization. It is meant to navigate *occasions* of *sub-creative wholeness*, that is, the hazards and uncertainty surrounding the initiation and completion of a *purposive* process. This system is *first* in the progression toward acquiring the capacity to account for purpose and uncertainty. Self-regulation—the correction of course—is necessary to avoid deviation from the advancement of *any* aim.

Uncertainties may lie in wait *outside* the *unfolding* situation, which might render it futile. The overcoming of hazard is achieved through a synthesis of dynamism and coalescence—dynamism (triad 9–3–6) initiates a process to reconcile hazard and achieve harmony, and coalescence (hexad 142857) is the *inner* sequence that directs and coordinates the completion of a process in artificial conditions of a contrived environment. Dynamism provides the means for the process to function, and coalescence integrates the complexity of action required of an *independent* event.

²¹ Composed by this author (unpublished); inspired by Bennett (1963).

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decad. The decad engages with the enhancement of significance, typically *between* two or more *human* communities; hence, its systemic attribute is integrative complementarity. It is meant to navigate *occasions* of *creative wholeness*, that is, complex wholes such as *human* communities. When two coexisting regions interface in a way that *each's* significance is magnified, we have integrative complementarity. As such, the decad can also be viewed as a synthesis of two pentads—two *independent* modes of significance harmonizing *into* one *total* meaning. This dynamic systems framework proves *invaluable* for engaging with the challenges posed by complex, *paradoxical* perceptions of *what it would mean to be fully Human*.

²² Composed by this author (unpublished); inspired by Bennett (1963).

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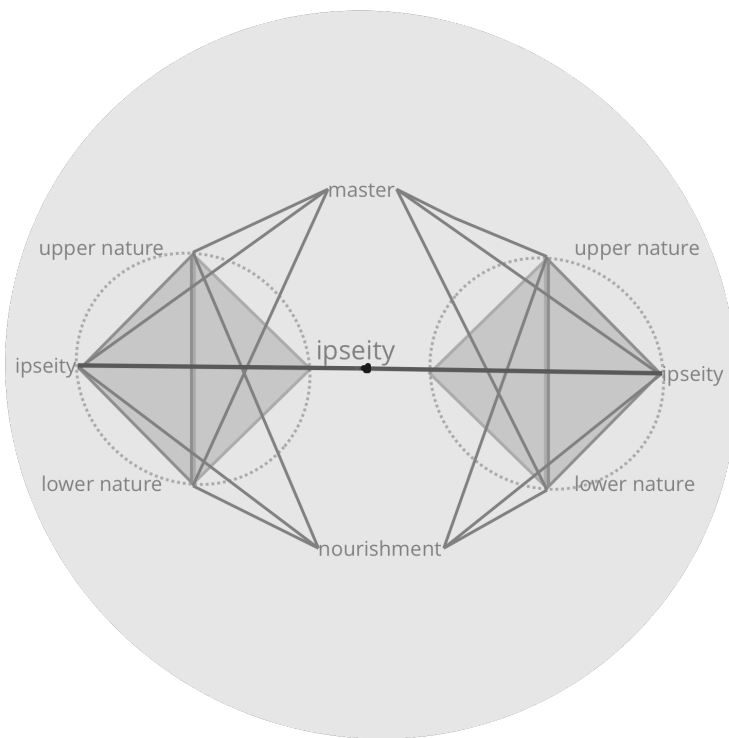
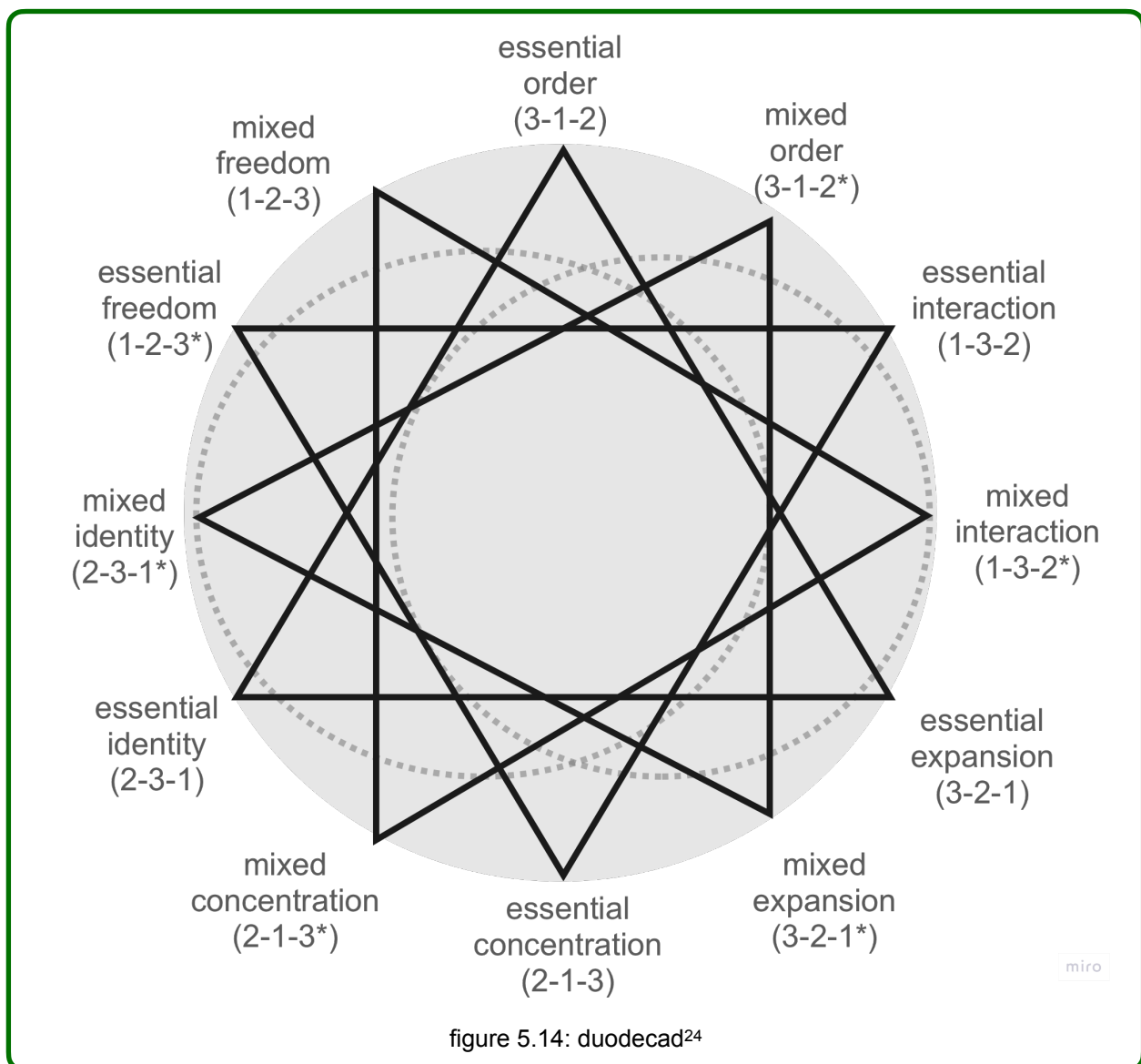


figure 5.13: undecad²³

undecad. The undecad is similar in function to the decad, in that it works through the enhancement of significance; the difference is that it guides *active* cooperation and *mutual* realization *among interlinked but non-dependent* entities, *each* belonging to a *different* structure. Its systemic attribute is synergism. The eleven-term system applies *wherever* there is *mutual* realization *between* structures of different kinds.

²³ Composed by this author (unpublished); inspired by Bennett (1963).

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duodecad. The duodecad is applied to the *ultimate* undertaking regarding the challenge of hazard. It proceeds with a *comprehensive* survey of *any* region in the Continuum, including levels of existence, qualities of energy, substances, essence classes, values, and roles in an ideal human society. As such, its systemic attribute is perfection. The duodecad has proven *easier* to apply than the ten- and eleven-term systems because it can be considered in terms of triads, tetrads, and hexads working in *dynamic* cooperation.

5.3.5 significance of dynamic systems frameworks

Dynamic systems frameworks give Humanity the ability to find its place once again within the grand schema offered by the Continuum-of-experience. With Systematics, the structures and

²⁴ Composed by this author (unpublished), and inspired by Bennett (1963). The duodecad was rendered from two hexads; I could have been rendered from 4 triads or 3 tetrads.

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systems enable us to locate ourselves and navigate the otherwise overwhelming, dizzying complexity that surrounds us and in which we exist.

The gift of total order provided to us by the octad is an order in which *all* things find their place. This has extraordinary significance for us Humans, who have lost our way. With total order, we find a healthy sense of restraint, where we can see each scale and which expressions are appropriate. Autocracy is an expression of the Universe; domination belongs to solar systems and galaxies; *neither* comes naturally to Humans. Creativity is the sole expression of stars; although we can participate in it, it is *beyond* our direct reach. Pattern is ours to recognize and apply, but it's squarely the purview of planets. And complete individuality is *not* for *any* one of us alone, but for the entirety of the communion of Life.

In this chapter, we explored the *coherent* potency of Systematics, Bennett's Gradations of Woleness, the living structures that compose Reality, and the systems we can apply to understand their Workings and navigate their *progressive* degrees of complexity, *each* on its *own* terms. Structures are differentiated by *structure-preserving transformations*, processes we emphasized *earlier* as planned fabrications that unfold *organically* and entail the *most exquisite* kind of play. Play, *not* in the sense of child's play, although they do carry that *same* quality of innocence. It is a play that experiments with *all available* alternative forms at *each* step, to sense which alternative brings the *highest* degree of aliveness to *unfolding* living structures.

In the next chapter, we explore the notion of Sacred Play. This chapter is *pivotal* because it *shifts* the direction of our Study from a focus on theory to an emphasis on practice.

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chapter 6. sacred play: re-awakening our fullest humanness

To make the world work for 100% of humanity in the shortest possible time through spontaneous cooperation without ecological offense or the disadvantage of anyone.
R. Buckminster Fuller

The best life insurance for any species in an ecosystem is to contribute usefully to sustaining the lives of other species, a lesson we are only beginning to learn as humans.
Elisabet Sahtouris

This is the real secret of life—to be completely engaged with what you are doing in the here and now. And instead of calling it work, realize it is play.
Alan Watts

It is a happy talent to know how to play.
Ralph Waldo Emerson

6.1 context

Humanity is driving the unraveling of an *exquisite* thickness of relations that constitute Earth's wild ecosystems, complex organizations at the heart of our Biosphere's capacity to regenerate Aliveness. We are losing the patterns that gave shape to our world. These patterns are transforming *dramatically into* what, we don't know. Our mode of realization, based on life-destroying industrial patterns, devours wild ecosystems and human social systems alike at an *ever-alarming* rate. We are *stuck* in a mode of realization that isolates us from the living world, one that is *significantly* interrupting Earth's planetary cycles and living processes at an *unprecedented* scale for the sake of *unsustainable* economic growth.

Since the 1950s, we have known that Humans are complicit in this unraveling.¹ More than half a century would pass *before* an *eventual* response emerged. In 2015, the UN Sustainable Development Goals (SDGs) were established as a *planetary* framework to steer Humanity *away* from ecological collapse. By 2030, its stated goals are to have shaped a *better* world. Yet with 5 years to go until the finish line, Humanity finds itself on a fast track *toward* global annihilation. What happened?

The SDGs are *significantly* flawed. They are plagued by *internal contradictions*, chief among them the *uncontrollable* economic growth that is antithetical to the health of living systems. The SDGs fail to reconcile the widening gulf *between* our Biosphere and us and disregard the *extraordinary* complexity of the *fragile* equilibrium of biotic processes that (RE)generate Life.

¹ In the late 1950s, Spencer Weart, historian and former director of the American Institute of Physics / Center for History of Physics, first warned of an impending global climate catastrophe.

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6.1.1 UN-sustainable development

I *first* learned of this framework for sustainable development sometime *before* I attended a special meeting of the Commonwealth. At the gathering, participants debated the meaning of regeneration, *and vigorous* critiques of the SDGs emerged, *specifically* regarding their inability to integrate a living systems paradigm. Realizing their *relative* significance, I felt an *innate* impulse to rewrite them. I informally suggested as much to the Secretary General, whose indignant reaction signaled to me that I was *likely onto something*. Some months later, upon my arrival in Portugal, I became involved in *several* SDG-based projects, one in particular, in which I was charged with developing a schema to systematize practices for thousands of member ecovillages of the Global Ecovillage Network (GEN). I learned firsthand how *virtually* meaningless the SDGs were for communities.² The following morning, I sat and redrafted *all* 17 goals and 174 targets from a regenerative perspective. Few accomplishments had *ever* felt so satisfactory. I was *definitely onto something*.

6.1.2 shortcomings

I have been engaged in the practice and study of regenerative development for years. Intuitively, I had a strong sense of the shortcomings the SDGs faced. These can be summarized *in* six points.

- 1) fragmentation. The SDGs are contradictory fragments, *haphazardly* adapted from the *lapsing* Millennium Development Goals.³
- 2) wishful thinking. Most SDGs are unachievable without *far-reaching* societal changes.⁴
- 3) unsustainable. The SDGs institutionalize the structural violence inflicted by *unchecked* economic growth and fail to address the *deep* societal transformations Humanity must undergo, if it is to rejoin the living web.⁵
- 4) inaccessibility. The SDG goals and their *respective* targets were *primarily* designed for nation-states and multinational corporations, and, as such, are *inaccessible* to communities whose efforts might localize transformative change.⁶
- 5) reductive. The SDGs are reductive. The complex, interconnected, *non-linear* dynamics of living systems are *not* reflected in them. Their goals and targets—expressed as one-time achievements—seem *ineffectual* for navigating ecosocial complexity.⁷

² Many ecovillage practices far-exceed SDG targets; the exercise of matching these to SDGs became a perfunctory checking off of a checklist.

³ Henfrey et al., 2022; Swain, 2018.

⁴ Swain, 2018.

⁵ Henfrey et al., 2022; Swain, 2018.

⁶ Henfrey et al., 2022.

⁷ Ibid.

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- 6) non-aspirational. The SDGs are *neither* concrete *nor* Life-affirming. They fail to inspire the *far-reaching* societal transformations implied by their stated intent.

In other words, they fall far short of envisioning Humanity's potential in a way that might guide us *through* the looming metacrisis that characterize our present moment.

Let's take a step *back* to look more *closely* at the source of the internal conflict. After all, development is *just* a word that can be used in *many* contexts. Here we see the power of significance and the elements' relationship to their context.

6.2 the development of development

Sustainable development is failing Humanity. There is no shortage of *powerful* criticism. Its very conception is *inherently* imprecise and vague. We are called to examine exactly *what* kind of development is being sustained.⁸

Indeed, the term "development" *usually* carries an economic connotation; however, it encompasses a range of meanings and perspectives. *Originally*, it referred to dynamic Life processes of transformation that tend to result in *higher* orders of "complexity, organization, or functionality" and can serve a *broad* set of contexts (biological, psychological, economic, technological). In the 19th century, Marx gave it its economic connotation, which *now principally* implies quantitative growth.⁹

Our planetary-scale predicament obviates the fallacy that "sustainable" can be sustained for *much* longer.¹⁰

6.2.1 contemporary development paradigms

Contemporary development paradigms include the following.¹¹

- 1) Modernization Paradigm. The Modernization Paradigm emerged *after* World War II and was organized *around* the Western ideal of progress: *ever-expanding* industrialization and technology, demanding *continual* quantitative growth and the institutions that underwrite it. This paradigm is *not* without criticism, criticism which has yielded alternatives.
- 2) Human Development Paradigm. The Human Development Paradigm emerged in the 1990s and drew attention to the concept of human well-being. This meant a *better* quality of life for *all* humans. Although it advocates a set of rights for humans (basic needs, poverty reduction, social equity), it remains conditional on modernization.

⁸ FDC, 2023a.

⁹ EWO, 2025.

¹⁰ Wahl, 2017.

¹¹ FDC, 2023b.

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- 3) Sustainable Development Paradigm. The Sustainable Development Paradigm arose *in parallel*. It emphasized aligning economic growth with people and the Planet and aimed to address the needs of the present *without* restricting the ability of future generations. In theory, this balances the social, environmental, and economic aspects of development. In practice, boundless quantitative growth is *equally* catastrophic for people and communities, the Biosphere, and the Planet.

Two ways of thinking about development have emerged that *partially* open the path *toward* the qualitative aspects of development: Inclusive Development and Decentralization/Local Development.^{12,13} Both modes point the way *toward* a qualitatively different kind of development, and yet, they remain dependent on the sustainable development paradigm.

6.2.2 developmental paradigm

A fundamental paradigm shift is awaiting Humanity. We are witnesses to its emergence.

developmental (qualitative) paradigm. With the advent of the regenerative development paradigm, we see a *significant* shift *toward* qualitative growth embodied in the 7 First Principles.¹⁴ These state that:

- 1) All things, beings, and places are whole.
- 2) Every whole is endowed with a *singular* quality of Aliveness—a *unique* essence.
- 3) Every whole has a *specific* range of potential, determined by its capacity for self-realization.
- 4) Wholes exist to develop their potential.
- 5) Every whole is nested *within* a continuum of wholes.
- 6) The differentiated individuation of wholes *better* enables them to participate *within* fields of relation.
- 7) Wholes can participate as nodes, adding *unique* value that can assume the form of vocations, roles, and livelihoods in service to *greater* wholes.

In short, its *developmental* nature, as Gregory Bateson might say, is the *difference that makes a difference*. The cosmic principle of implicate dimensionality pervades *everything*

¹² Decentralization/local Development emphasizes that the participation of local communities is essential to development. The rationale is that due to their proximity, they are best-suited to understand the unique needs and challenges of their localities. When empowered to share their local knowledge and exercise their decision-making ability, it makes possible development of local economies with *greater* responsiveness.

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¹⁴ This represents this author's interpretation of Carol Sanford's overarching framework from Sanford (n.d.).

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and is *everywhere* in effect. *True* growth is *always* qualitative. It constitutes at *least* a twofold movement: **{enfolding—unfolding}**.¹⁵

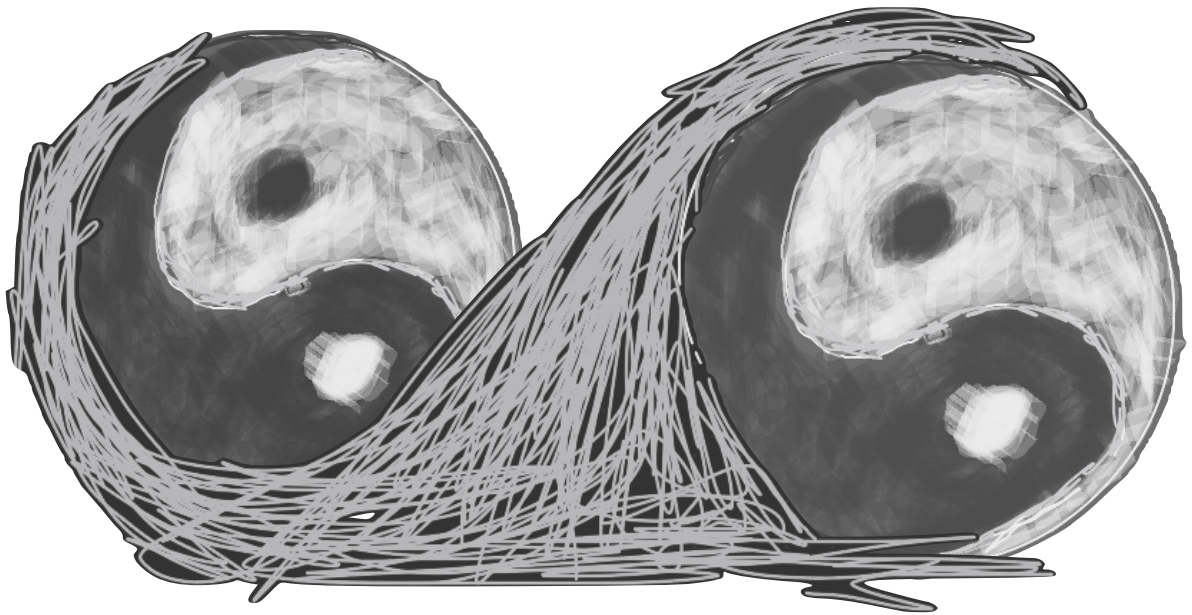


figure 6.01: **enfolding—unfolding**¹⁶

enfolding—unfolding. *Enfolding* is the *outer* motion that encompasses a whole *within* an active surface, imparting the quality of Wholeness. *Unfolding* is the *reciprocal inner* motion, originating from the center of an emergent whole. The center is home to its essence, from which a distinctive pattern *unfolds* and imparts to the whole the quality of Aliveness. This *unique* constellation of parts-in-relation constitutes and differentiates the emergent whole. *Simultaneously*, the **{enfolding—unfolding}** brings *into* being a quantity—a *newly* differentiated whole—via the emergence of quality, a *concentration* of Centeredness—the process of centering.

To the extent that qualitative growth occurs, the whole experiences an intensification of inner-togetherness, projected *outward* as materiality that displays a *greater* degree of aliveness. In this way, the *outside* world experiences the *inherent singular* value that *each* whole brings *into* existence simply by virtue of being itself.

Hence, we can say that wholes don't 'scale up'; they scale-link.¹⁷ Quantitative 'growth' is indeed a mental illusion: it is *all* part of one *self-realizing universal* fabric expanding through a continual process of **{enfolding—unfolding}**. The realization that I am *intimately* nested

¹⁵ The description herein attempts the impossible: to use one-at-time words to evoke an all-at-once image of interconnected phenomena in perpetual motion. As it does so, it zooms in, but in no way does this suggest that it is somehow separate from the entirety of the cosmic fabric.

¹⁶ Composed by this author (unpublished).

¹⁷ The phenomenon of scale-linking was introduced in Yanez (2024) within an economic context. Here it is imaged within a broader developmental context.

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within *greater* wholes, and to the degree that I perceive these as *greater* selves {self—Self—SELF}, I am experiencing growth of a *qualitatively different* order. This is a development that truly regenerates itself. This *is* the essence of regenerative development.

And so the question arises, *how* will we get there? How will our communities and societies make a collective paradigm *shift toward* a mode of realization that prioritizes the principle of qualitative growth? Not *just any* qualitative growth, but growth constituted by the implicate qualities, a conscious growth that emerges from the collective inner-togetherness of communities answering the imperative for *greater* aliveness in their lifesheds, authorizmos, and the cosmic will. The next section begins to respond to those questions.

6.3 Regenerative Development Aims

Regenerative Development Aims (RDAs) are a *well-beyond-sustainability* reshaping of the SDGs, rendered *through* the lens of a regenerative paradigm that projects a vision of a world where Humanity flourishes by weaving itself *seamlessly into* the web of Life (see Annex H for a table mapping SDGs to RDAs; complete RDAs can be found at <http://rda.yanez.earth>). Regenerative development implies a *continual* striving *toward* a world where we go *beyond mere* functional solutions (recycling or planting trees) to *upcycling* our mode of realization as Humans—*how* we show up in the world and *how* we co-create our reality. It also implies regenerating our will *to* effectuate Humanity's reintegration with the living web; this time, consciously.

RDAs address the shortcomings of the SDGs. The premise is that the SDGs do *not* set the bar *high enough* for Humanity to *gracefully* transcend the *intensifying* metacrisis that characterize our moment in time. These Aims are aspirational. They assume we desire a culture wholly different from the one *now* dominant. Each RDA responds directly and deeply to the questions: What would it *mean* to be whole? Whole human beings, *whole* communities, *whole* societies—a *whole* species capable of *continually* regenerating a *mutually beneficial* relationship with the *entirety* of the web of Life.

The following three subsections give a sense of the self-realizing nature of the RDAs' development process and of my approach to it.

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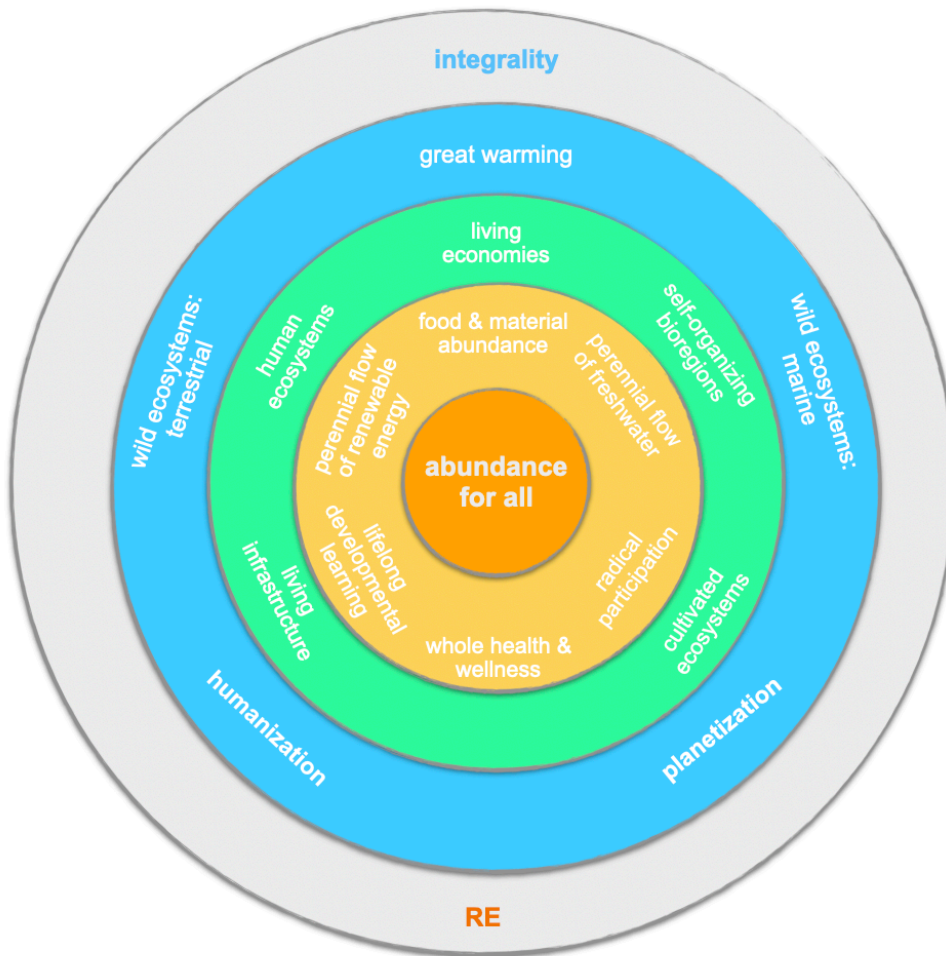


figure 6.02: RDAs¹⁸

6.3.1 RDAs' integral patterning

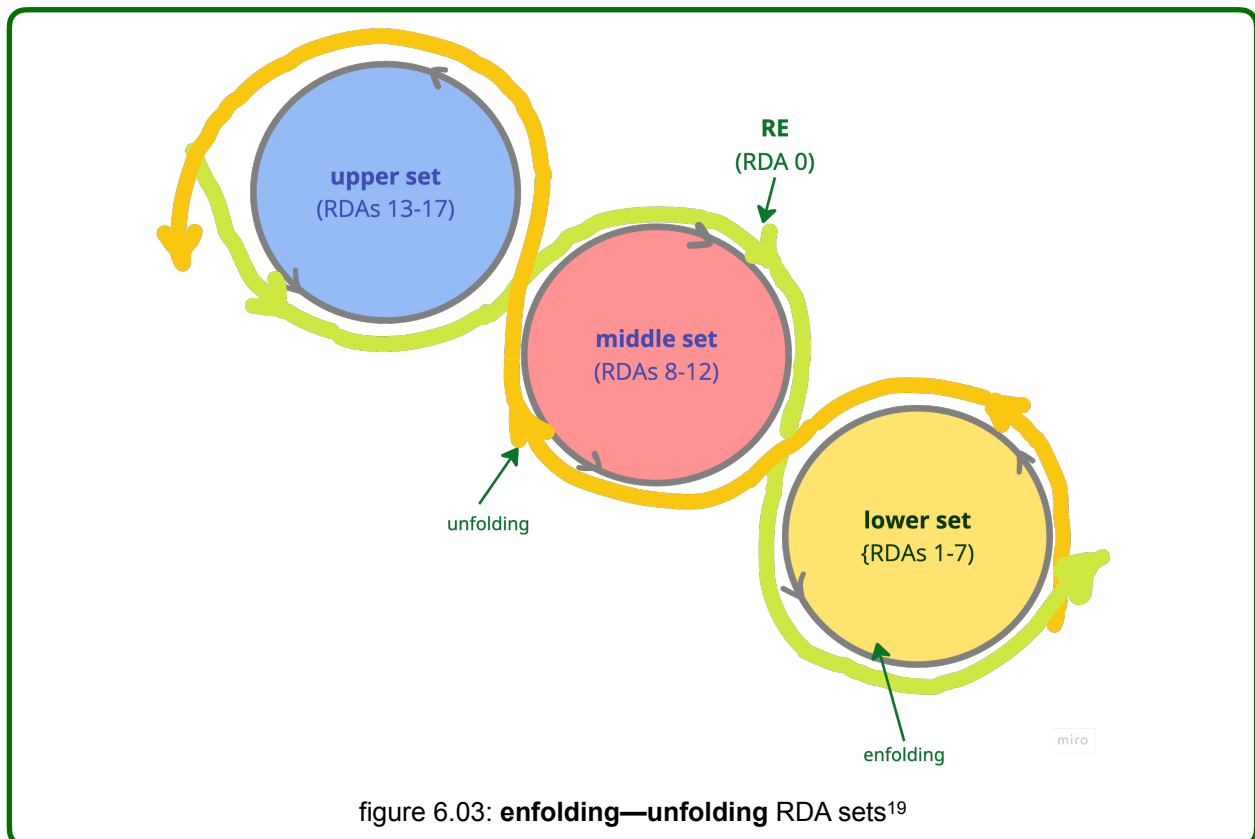
Throughout the 6-year (on-and-off) process of differentiating the RDAs from their *more* primitive, ancestral SDGs, an *integral* pattern emerged, rendering the RDAs as a *constellated* living structure; *each* RDA, a whole *unto* itself, in dynamic relation with *the* others. Although I didn't alter their sequence, they *organically* ordered themselves to achieve a *higher* level of significance according to the following framework.

framing. It is *only* fitting that the Law of Three emerged as framing—the three cosmic laws (activating, restraining, and reconciling) that are tendencies or impulses governing *all* processes in the Universe at *every* scale—to order the RDAs, which are *consciously* reoriented *toward* manifesting the *upper limit* of our potential as a species, a potential predicated on our capacity to be one *among many* species, in a way that harmonizes the whole. And if we develop this *collective* capability, it will likely have been guided by these three Laws.

¹⁸ Composed by this author (unpublished).

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ordering and organizing. As previously mentioned, the RDAs, from a certain point onward, began to take on a *life of their own*. With me as their co-conspirator, they naturally sorted themselves *into* the present framing; granted, I *never* deviated from the *original* order of the parent material, so their lineage could be traced. Yet as *each* progressively revealed its *singular* essence to me, its significance to *the* others grew, and I marveled at how they were organizing and ordering *themselves*. The following thick description may evoke an image.



- lower. The *lower* set of RDAs (1-7) emerged as the activating or affirmative impulse. These RDAs are organized *around* the *implicit* abundance *inherent* in Wholeness.

- Picture the fertile ground of existence, rooting us in place, so that its fecundity—cosmic abundance—can be actualized in us. The functional nature of Earth's generous cyclicity of matter, complicit with Physis that materializes subanimate existence: our *singular* bodies, our *collective* bodies, our places. We surrender to an *ancient* yearning, a longing to belong to *something greater* than us, that we experience *directly* in the *localized* wholeness of place. Rather than disrupting the flow of place-sourced potential, we *open* ourselves to receive its gift of abundance.

- These RDAs call for a reordering—a *planetwide, community-scale* shift in priorities—where we step out of our *own* way and *consciously* embrace a *new*, shared purpose: a *self-ordering* imperative for Wholeness (authorizmos).

¹⁹ Composed by this author (unpublished).

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- middle. From the gift of *abundant* Wholeness arises the middle set of RDAs (8-12) as a restraining or receptive impulse. These RDAs are organized *around* the *implicit* relationship (both *inner* and *outer*) *inherent* in *self-organizing* Aliveness.

- Image a labored opening, a mesoscale, as *yet* undefined, uncontested, readying itself to begin anew, inviting us in. As we cross the threshold of its active surface, instead of emptiness, we encounter the thickness of relationship *inherent* in an already-shared reality—the lifeshed. For us wayward Humans, this is the *missing middle*—the bioregion—engaged in the messiness of birthing the unknown, what is awaiting to become. An opening where we play with *every possible* form of self-organization, and from which we (RE)generate *new* cultural patterns.

- These RDAs, in their Aliveness, call us to (RE)pattern our world so that we can bring forth a *new* shared reality. Fortunately, we are *not* starting from scratch. We are privy to the patterning of Aliveness and the relating of our wild ecosystems, and the imperative for Aliveness from our Biosphere guides us.

- upper. The *upper* set of RDAs (13-17) emerged as the reconciling impulse. These RDAs resolve the dynamic tension *inherent* in **{Wholeness (lower natures)—Aliveness (upper natures)}** as a *self-realizing* Centeredness.

- Visualize the lightness of spirit pulling us *upward* from our mesoscale messiness. This is the First Principle, the Source of Essence, the source of *every* particular essence. Now image that Essence radiating from the core of our being, an internal compass orienting us *toward* our *higher* selves, the SELF privy to divine mind, the virtual world of ideas and form. The *seemingly inaccessible* Cosmos is *elegantly* mirrored *deep within every* center. The quality of Aliveness we wear on the *outside* correlates with the quality of inner-togetherness we maintain *within*.

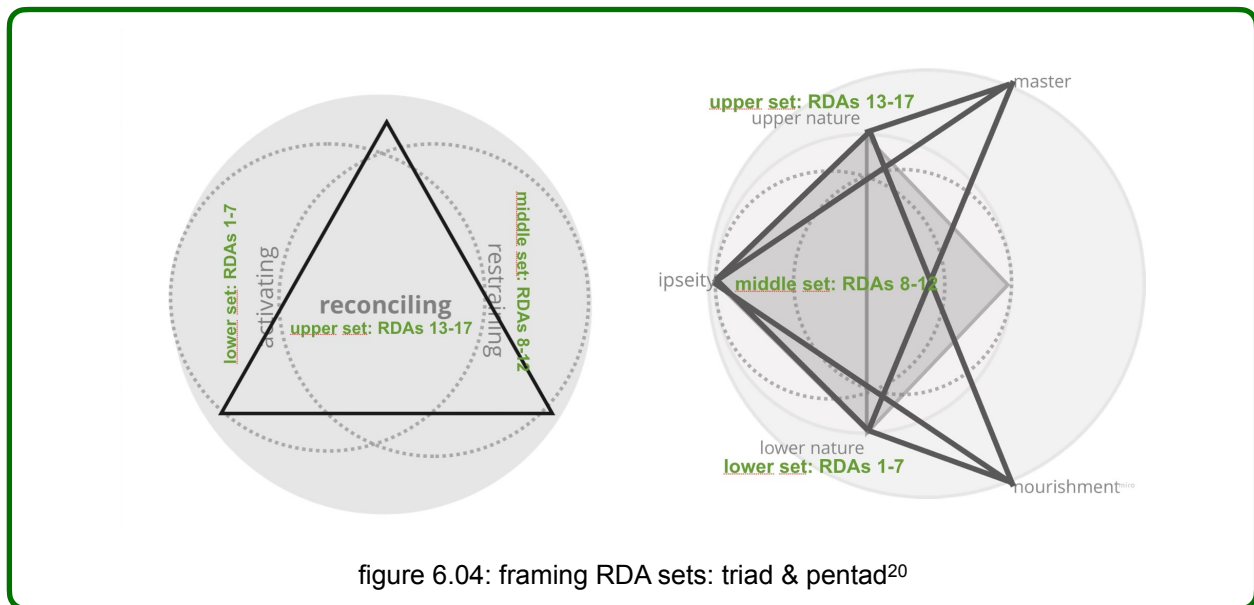
- These RDAs call Humanity to a *collective* centeredness, inviting us to (RE)orient our perception of our world and ourselves as Humans, and to reconcile our relationship to it. This reconciliation is made possible by an *equivalent* reconciliation, the harmonizing of our *inner* selves, so that we may generate the collective will to (RE)inhabit the living web in an integral manner.

- integrality. The wildcard RDA (0) emerged, *surprisingly*, as the integral dynamism of the RE: **{Wholeness—Aliveness—Centeredness}**.

- With your *mind's eye*, picture a *constant* cycle of potential transforming *into* an actualized entity and then dissipating *back* again, endless regeneration. This is where our material *lower* natures are spiritualized, and our spiritual *higher* natures are materialized.

- This RDA completes one iteration *upwards along* the spiral in our quest *towards* a *fully human*, Humankind.

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6.3.2 RDA summary

activating RDAs. The *lower set* of RDAs *exemplifies* the tendency toward cosmic affirmation. They speak to the universal, *unbroken* Wholeness, whose cosmic ground is the *eternal* source of potential energy that materializes, *abundantly* nourishing *all* of Earth's processes and cycles. These *same* processes and cycles that compose our *lower natures* *nurture* our embodied Wholeness. The Activating RDAs require from us an engaged surrender to the *greater* wholes we belong to, so that we, and *all* beings, may receive and *fully* participate in the abundant gift of Life, in the *myriad* ways it manifests.

- RDA 1: abundance for all. This Aim aspires to *elevate* Humanity's role to one of celebrating and honoring the abundance *continually* gifted to us.
- RDA 2: food and material abundance. This Aim aspires to enable the Sun's abundance to produce, *within every* community, an excess of food and material abundance—fuel, fiber, feed, and "farmaceuticals"—necessary for *all* **{Human—more-than-Human}** communities to prosper.
- RDA 3: whole health and well-being. This Aim addresses restoring the flow of *whole* health to *all* beings, Human and otherwise, so that *all* may *authentically* develop to serve the *greater* wholes in which they are *intimately* nested.
- RDA 4: lifelong developmental learning. This Aim inspires the *widespread* implementation of *lifelong* developmental learning that readies Humans for the *most essential* role, that of radical participation in the self-realizing Complexity of the living wholes *within* which they are nested.

²⁰ Composed by this author (unpublished).

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- RDA 5: radical participation. This Aim celebrates the nestedness of *each* being *within* the *greater* wholes in which they partake; radical participation invites us to *fully* and *authentically* inhabit our bodies, our communities, our ecosystems, and our lifesheds.

- RDA 6: perennial flow of freshwater. This Aim recognizes the sacredness of water to the whole of Life. It challenges us to use water consciously, for the express purpose of bringing *ever-greater* aliveness to ourselves and to the whole of the Biosphere, and to allow it to flow *profusely* and *perennially* unburdened, *through* each of us, *through all* beings, communities, and ecosystems (wild, cultivated, human).

- RDA 7: perennial flow of renewable energy. This Aim is dedicated to "re-placing" energy, putting it *back into* place, prioritizing renewable energy sources, and developing the capacity of human communities to receive *surplus available* energy from their lifesheds, so it flows *abundantly* to them.

This set of RDAs collectively challenges us to set aside our (*divided* selves) egos, release our propensity for control, and restrain ourselves so that we may *gratefully* and *gracefully* accept and share in the abundance *naturally* available to *all*.

restraining RDAs. The *middle* set of RDAs *exemplifies* the tendency toward cosmic receptivity. They open a mesoscale—a *missing middle*—of *extraordinary* creative tension *between* our *lower* and our *upper* natures, where the flow of place-sourced potential can be *widely* distributed *throughout* the human sphere; a potential channeled *through* the cosmic receptivity embodied in a *vast* multitude of social forms. These Aims challenge us to take on a *qualitatively different* active role than *the present one*—one that aims to bring a *greater, not lesser*, degree of aliveness to our Biosphere. They invite us to *completely* transform how we conceive of, and therefore *consciously* self-organize, our mode of presence with, and participation in, the *entire* web of Life.

- RDA 8: living economies. This Aim summons Humanity to rethink *what*, and *how*, we value; to reinvent *itself* in the context of living economies, economies with the *inherent* capacity to nourish *themselves* exclusively from the *surplus* surplus-value-of-Life.²¹

- RDA 9: living infrastructure. This Aim challenges Humanity to *actively* propagate living infrastructure dedicated *solely* to cultivating living economies in bioregions *everywhere*.

- RDA 10: self-organizing bioregions. This Aim invites us to *consciously* organize ourselves as bioregions—*imprecise* mesoscales, ideal *missing middles*. Bioregions—permeably "bounded" *only* by their inner-togetherness—present themselves as *optimal* scales for tending to a thickness of relations: *constellated communities of place*, *intimately* nested *within* their lifesheds.

- RDA 11: human ecosystems. This Aim *radically* reconceives human settlements, endowing them with the capacity to grow *organically* from place, *to be contiguous* with wild ecosystems, and to participate *integrally* in their value-adding processes.

²¹ Yanez, 2024.

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- RDA 12: cultivated ecosystems. This Aim aspires to the *wholesale* transformation of *degraded* landscapes *into cultivated* ecosystems dedicated to carbon farming—*perennial-based* agricultural approaches that aim to *permanently* store carbon where it belongs: in soil, crops, bodies, and other living structures.

This middle set of RDAs constitutes the Great Work we must carry out to *comprehensively* (RE)-self-organize every aspect of Humanity.²² Here we are called to recover our capacity for play, *deeply* buried in our collective memory, so that we might begin *again*—to experiment with a *cornucopia* of social forms, the seed-patterns of a *new* civilization, that (RE)generates a *qualitatively different, fully human* mode of presence *within* the Biosphere.

reconciling RDAs. The *upper* set of RDAs *exemplifies* the tendency toward cosmic reconciliation. They invite us to *step into* our *higher* natures, to conjure up the Will at work *within* us, and to reconcile the abundant Wholeness of the Activating RDAs with the patterned Aliveness of the Restraining RDAs. In short, they *collectively* invite us to transcend our *barely* human humanness and *fully* integrate the latent, *fully human* potential awaiting us. These RDAs *simultaneously* challenge and guide us as we move *from* emergency *toward* emergence, *into* what some have called the Ecozoic Era, an *integral* mode of relating for Humankind as a *cosmic* force for self-realization.²³

- RDA 13: great warming. This Aim opens the way for the reconciliation of Humankind with the Biosphere, as Humanity enters a *decisive* moment of metacrisis affecting the *entirety* of the communion of Life.²⁴ It calls us to initiate an epoch of Great Warming in human relations: *toward each* other, toward *every* being, toward the *entirety of the* living world, but *most* essentially, *within* ourselves.

- RDA 14: wild ecosystems: marine. This Aim calls us to *completely* rethink our relationship to ourselves as Ocean: to learn to see *plainly* our role in participating in and caring for this Earthly source of vitality, viability, and evolution. Indirectly, our challenge here concerns how we (RE)inhabit terrestrial ecosystems.

- RDA 15: wild ecosystems: terrestrial.²⁵ This Aim challenges us to *delve into* our cellular memories, so we may “re-place” ourselves—to source *ourselves* from place. Terrestrial ecosystems (lifesheds) offer us the *perfect* mesoscale (*not too* small, *not too* big) for the *immense* learning journey *ahead*.

- RDA 16: humanization. This Aim is dedicated to our *collective* transformation as a species. A species, in the messiness of *completing* the process of humanization, that requires from us, a collective *quantum* leap from adolescence to species-wide maturity, so

²² The Great Work is a reference to Thomas Berry, who speaks of it in the same context, as a civilization-wide endeavor.

²³ A term coined by Geologist Thomas Berry in Berry (1988).

²⁴ Another term coined by Thomas Berry. Ibid.

²⁵ Note: The remaining RDAs have yet to be fully developed.

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that we might transcend our *invasive* mode of realization—colonization and occupation of our planetary home.

- RDA 17: planetization. This Aim welcomes Humankind to *fully* and *consciously* inhabit their *rightful* place within the Continuum, as *nested singular* bodies, social bodies, ecosystem bodies, lifeshed bodies, and the biospheric body; we *are all* this and more, even if we *just* don't know it yet.²⁶

This set of RDAs requires us to journey to *the* depths of our *collective* interior, which must result in a *resounding* "YES" to Life and to Cosmos. There is *no way around* it, *only through*, becoming one with the Biosphere in the *fullest* sense of the term. For this, we must see in our *collective* Selves the *highest-order* potential so that we spiral *upwards together*, *towards* our *next* transformation of form: a Humankind flourishing with *all* that is.

RE. Everything returns—is in constant flux. "RE," as Edgar Morin so aptly wrote, is *upgraded* from prefix to paradigm.²⁷ This Aim is the "RE" that brings *ultimate* realization to the body of RDAs.

With integrality, we can perceive, in our *mind's eye*, the *spherical* fullness of a phenomenon *developmentally* and *transparently*, and ourselves *within* it. This is known as diaphanous imaging, the approach that emerged *during* and *continues* to be central to this Inquiry.²⁸ It is *becoming* apparent that this capability will likely *become* central to Humanity as it prepares to participate *radically* in its *own* reinvention.

- RDA 0: Integrality. This Aim is dedicated to harnessing the gift of conscious self-awareness and developing it to its *fullest* expression, so we might perceive ourselves in the *fullness* of our being, intimately embedded in a *wondrous* Universe-of-complexity. This RDA, in its integrality, illuminates and renders visible the *whole* process in its dynamic **{Wholeness—Aliveness—Centeredness}**, so that we may *consciously* partake in it.

As Thomas Berry intimated, due to our *highly developed* capability for proprioception, we are the Universe *beginning* to know and reflect on itself, so that we might be grateful for, and celebrate, *all* that it is us.

²⁶ The phenomenon of nested Wholeness implicated by the term Continuum-of-experience is addressed in Yanez (2024).

²⁷ Morin, 1980b.

²⁸ Diaphaneity is a term introduced in Gebser (1949) for spherical perception of whole phenomena; imaging is a practice central to working developmentally. Together they constitute a way of seeing phenomena in their implicate (multi-)dimensionality: **Wholeness—Aliveness—Centeredness**. This approach upgrades Goethe's method of revealing ur-phenomena by describing every developmental stage at once. Phenomena are now revealed in the transparent four-dimensionality of a sphere in motion. Never isolated, but merely foregrounded for the purpose of study, yet never unwoven from all its interconnectedness.

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6.3.3 RDA individual pattern

Here, we make sense of the structure that emerged from the developmental process of the RDAs, which differentiated *themselves* over time, and we offer one in particular as an example.

RDA determining-conditions. I intuitively arrived at a *minimal* viable structure for the RDAs by developing constitutive rules that serve as the determining-conditions for their self-organization, differentiation, and *eventual* self-ordering. Each RDA must have the following characteristics.

- aspirational. It would express the *highest-order* potential *imaginable* for Humanity.
 - aim. Goals would be *intentionally* restated as open-ended aims. A goal implies a finality to be achieved. An aim implies a *continual* process of becoming, implicit in regenerative development.
 - pathways. Similarly, *each* target would become *one of many* potential pathways. Targets are *quantity-centric*, *non-scalable*, and *not applicable* to communities that, in *some* cases, have *already* surpassed them.
- developmental. It would be developmental by expressing its:
 - Wholeness. It would make its ancestral SDG whole by addressing its shortcomings.
 - Aliveness. It would ensure it came *into* its Wholeness by integrating living-systems thinking.
 - Centeredness. It would come to Life by differentiating itself and revealing its *own* essence.
- structurally-open. Aims would apply *wiki-based* technology to enable a global *community of practice* to care for their *further* development over time.
 - scale-accessible. They would be accessible and applicable across *any* scale, from *small* groups to *translocal* communities.
 - non-prescriptive. It would *not* be stated in a *prescribed* form as a commandment, but rather as an invitation to pathways *forward*.

structure of each aim. In the process of *each* Aim describing *itself*, an *internal* living structure emerged as follows.

- reference. Although the SDG numbering scheme *seemed* arbitrary, cumbersome, and linear, the decision was made to keep it as a way to tether the RDAs *back* to their earlier, albeit *more* primitive, manifestations. This serves as a Rosetta Stone of sorts, guiding SDG users *toward* RDAs and offering a range of potential pathways from complacency with the status quo (*below* Humanity's *lower* nature) to integrality with the Biosphere (our collective *upper* nature). These also serve as a reminder of *how* we *previously* limited our perception of our world and of ourselves *within* it.

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- context. The context sets the tone and provides the backdrop that gives *each Aim real-world* relevance. It offers a baseline from which we start and to which *each Aim* responds in its *particular* role in making our world whole.
- living systems. Living systems present the *referent* pattern, whose *qualitative* relationships we aspire to infuse *into* the human social systems we are attempting to re-pattern. Here, we image the workings of *relevant* biospheric phenomena that guide the ongoing development of *each RDA*.
- aim. The Aim itself is essentialized in the *most concrete* terms possible.
- pattern-generator. For *each Aim*, we have proposed a set of *non-prescriptive* pattern generators to guide communities in developing their *own* pathways. This feature transforms *each Aim into a community-scale* instrument for generating a *diverse* range of *relevant* patterns and for designing pathways. Communities can use these to guide their choices about *how* and to *what extent* to integrate *each Aim*.

See Annex I for a complete example of an Aim. See <http://rda.yanez.earth> for completed Aims.

The subject of the next section had been *intuitively* hovering *at the periphery of* my awareness for *some time before* it became plainly clear why. And *now*, it is likely the *most* essential element, if I were to choose one, that has emerged in the process of engaging with this Study.

6.4 sacred play

Humanity has been gifted with—an *entirely* fresh perspective on itself—an emergent, developmental cosmology spanning the *last* 30,000 years, which I refer to herein as sacred play.²⁹ It presents a constellation of findings from *cumulative* evidence across anthropology, archaeology, and related fields that are *directly* relevant to the RDAs.

re-wind. The following essentializes the findings.

Human societies *before* the introduction of farming were characterized *primarily* by *adventurous* social experimentation: they tried *everything*. They were certainly *not* confined to small bands of hunter-gatherers. Their *evolving* social complexity was *not* a *determining* factor in their form of social realization. Qualitative developments, such as farming, did *not* imply inequality, private property, or hierarchical modes of realization.

Many of the earliest cities *around* the globe did *not* require authoritarian or bureaucratic regimes. There was no *direct* mechanism to convert wealth *into power over* others. What was dominant, particularly in what would become the Americas, was a *high* intensity of relational bonds (an inner-togetherness, a thickness of relations) based on *mutual* care.

²⁹ Graeber & Wengrow, 2021.

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freedoms. Three freedoms were *implicit* in ancestral human societies:

- 1) movement: the ability to forsake one's community and the security of being accepted elsewhere, *regardless* of distance or language;
- 2) structure: the ability to oscillate seasonally *between* ordering structures; and
- 3) agency: the ability to disregard authority *without* impunity.

Their freedoms were *not* based on rights but on substantive grounds—on potential, in what was *actually* possible.³⁰

These early peoples were *conscious* political actors, free to *play* with *every possible* form of social realization. Key to their freedom of play was that: 1) it was ritualized, *woven into* their seasonal rhythms of Life; and 2) their complex social structures supported it. In the Americas, for example, these complex social structures enabled *extreme* flexibility in their modes of realization, whereby they were *simultaneously* distributed *into* small, *localized* family groups and were also members of geographically extensive, *translocal* clans whose members, although separated by language and social norms, were bound by *common* patterns of ritualized play. And, *play* they did!

ritualized play. Ritual play was sacred to them. So much so that *this*, and *not* trade, was the *primary* motivation for dedicating *immense* energy to maintaining *continent-wide* networks of *active* communication and holding *massive* annual gatherings at monumental *ritual* sites built solely for this purpose.

Somehow, Humanity got *stuck* in a mode of realization, based on structural violence, *not* sacred play, a mode that *no longer* serves *all* of us (it probably *never* did), the Biosphere, *or* those we share it with. “What *ultimately* matters is whether we can rediscover the freedoms that make us [*fully*] Human in the first place;” rediscover, the *essence* of sacred play.³¹

6.4.1 re-play

To *most* contemporary Humans, the freedoms outlined above and the mode of realization they enable would be *unrecognizable* and *inconceivable*. Yet the majority of our past as Humans was dedicated to *ritualized* collective play across *wildly diverse* social forms.

collective play. Our ancestors played and applied *every conceivable* form of governance, food production, economy, social structures, and *many other* aspects of Life. For them, the ritual moments *throughout* the year provided a “living” laboratory for experimenting, learning, and sharing knowledge *across vast* distances. We could populate *multiple* libraries with their lived experience—presumably extraordinary bodies of living knowledge. And, *oh*, could we use it now!

Indeed, the *earliest* peoples exhibited capabilities *far beyond* contemporary Humans.

³⁰ For example, someone living in poverty has the right to buy a house, but will never be able to afford it.

³¹ Graeber & Wengrow (2021):22.

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- intellectually robust. They were proven to be *more* aware, more reflexive, more creative, and more capable.
- imaging-capable. They were capable of grappling *with* and navigating Complexity by perceiving a wide range of *potentially realizable* scenarios and then *consciously* choosing *particular* pathways *forward* to experiment with, fully aware that if these scenarios didn't serve the *greater* whole, the "game" could be easily changed.
- self-conscious political actors. They demonstrated the ability to organize *domination-proof* societies, free of *oppressive* governments and *life-depleting* bureaucracies.
- flexible. They cycled seasonally *between* modes of realization that persisted *well past* the emergence of agriculture: a growing societal and material living structure that allowed *sufficient* agency to experiment with different possibilities.³²
- highly individuated. They valued and exhibited a *high* tolerance for eccentricity and *extreme* individuation.³³

"We are projects of *collective* self-creation."³⁴ *What if*, for the longest time, we had already been *fully* Human? *Visionary*, *thoughtful*, and *playful* Earthlings, playing our way *into* a Universe-of-complexity, and in the process, co-creating our social realities.

social complexity. Early human societies, *almost everywhere*, were *far more* complex than we had *ever* conceived. Ironically, by *all* accounts, our European ancestors were the *least* culturally evolved. Lacking a thickness of social relations early on, they were *not* afforded the vital interplay of human interaction *necessary* until *much later* in the course of human social development, when we witness a bursting forth of cultural expression, but also a *culturewide* fixation on destructive conflict. It is essential to note that for the *greater* part of the human story, war in the form of destructive conflict was *almost* nonexistent.³⁵

This is significant. It implies that the abundance or scarcity of ritualized collective play, especially in *formative* moments of human social development, has been and remains a *vital* factor in the evolution of human social complexity. In fact, in the absence of play, societies failed to develop *sufficient* human social complexity. In these instances, violent force, *not* play, emerged as the *default* mode of realization.

The RDAs aspire to enable a *higher order* of social complexity—a *greater* magnitude of implicate qualities **{Wholeness—Aliveness—Centeredness}**—at *every* scale. As we've seen, this entails an *intensified* thickness of relation: periods of *localized* human interaction

³² Surprisingly, many societies intentionally avoided the adoption of settled agricultural lifeways. They were acutely cognizant of the pitfalls of arbitrary authoritarian power, which was strictly limited to the ritual season.

³³ These had a significant role to play in key moments that necessitated fresh, out-of-the-box thinking that brought about social dynamism, insightful modes of realization and creative pathways *forward*.

³⁴ Ibid:22.

³⁵ The healthy human societies, not unlike those of other species, depended on ritualized play, and in particular play fighting, at key developmental moments, especially in adolescence. Remnants of these are still found today in carnival celebrations and sporting events, to name a few.

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alternating regularly with instances of ritualized collective play, *translocally*.³⁶ This pattern resonates with the concept of a transformative ecosystem: the interplay *between communities of place* (CoPl) and *communities of practice* (CoPr), whose dynamic relation **{CoPl—CoPr}** opens the field to *potentially transformative* learning and change.³⁷

6.4.2 playing it forward

Our Universe-of-complexity is nothing if *not* an ongoing process of constant, dramatic change.

play as cosmic pattern. As Shakespeare might have said, *all* the Universe is a stage for the *unfolding* (and *enfolding*) cosmic drama. This is *not* a *mere* metaphor. Many *insightful* minds have foregrounded this image in our collective consciousness: a *participatory* Universe—an epic cosmic play; one in which *every* living being has a *significant* and *unique value-adding* role by transforming energies in their *own unique* ways.^{38,39} And for Humans, this entails that the transformation must be *consciously* realized.

imaging transformative change, revisited. One way to image transformative change in real time is *through* the application of a dynamic systems framework called Three Lines of Transformation.⁴⁰ This framework is based on the *dimensionalized* self in Chapter 2, where, as the reader may recall, we concluded that one can *only ever* transform oneself. In so doing, the *dimensionalized* self (**self—Self—SELF**) grows *qualitatively*, in a *scale-linked* fashion. Here, we revisit and extend this framework to differentiate the specific modes of realization required for the conscious transformation of energy across the three distinct, yet inseparable, levels.

³⁶ “Thickness of relations” is a concept introduced by Christopher Alexander in relation to degrees-of-aliveness of living structure and developed further in Yanez (2023).

³⁷ The term transformative ecosystem was introduced in Yanez (2023). The dynamic relation occurs at the intersection of *communities of place*, where changemakers intervene locally guided by learning effectuated in translocal *communities of practice*, whose role is to abstract interventions from a multiplicity of localized contexts into patterns to guide future interventions.

³⁸ Insightful minds include such notable thinkers such as Alan Watts, Thomas Berry, Joseph Campbell, and J.G. Bennett. This image, with roots in mythology/cosmology, forms the basis for an understanding of ourselves as Humans, that transcends the confines of our planetary existence.

³⁹ This is a central theme of the Fourth Way tradition. Reflected in Bennett (1964) and Ouspensky (1949).

⁴⁰ Originally, this framework was referred to as the Three Lines of Work, I have taken the liberty to rename it, so it can cohere with the next framework I present, where the term “work” takes on a differentiated meaning.

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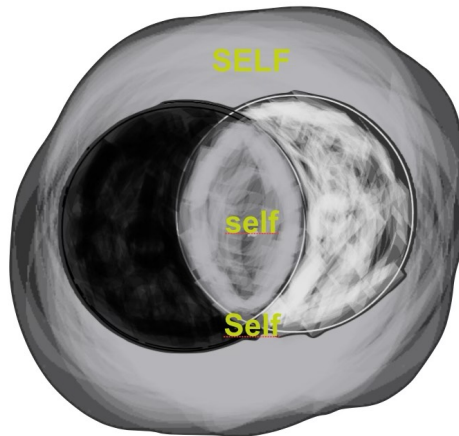


figure 6.05: self-Self-SELF, revisited⁴¹

The emergent role of play within my *understanding of the workings of self-transformation* has led me to further elucidate this framework, now expressed as **(work—play—love)** or modes of participation.



figure 6.06: **work—play—love**⁴²

- first-line work (self). The role of the first-line is *now* differentiated as work; our *true*, and perhaps *only*, *work in the world*, discovering and living *into* our essence. This entails harmonizing the centers, which yield *greater* degrees of inner-togetherness.⁴³ This work is *never* completed and *cannot* be practiced in isolation; rather, it *is practiced* in close correspondence with *second-line* play.

⁴¹ Composed by this author (unpublished).

⁴² Composed by this author (unpublished).

⁴³ According to Gurdjieff, our centers or bodies include: spiritual, intellectual, emotional, movement, sexual, and instinctual.

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- second-line play (Self). The role of the second-line is *now* differentiated as *collective* play—in the sense of playing *well* together, developing and living *into* our potential while engaged in a shared purpose. This entails the interplay between {inner—outer} elements: {CoPI—CoPr}, a *potentially transformative* ecosystem guided by a sense of *shared* direction in service to the *greater* whole.⁴⁴ In doing so, second-line play readies the *greater* whole for its *eventual* transformation.⁴⁵

- third-line love (SELF). The role of the third-line is *now* differentiated as love; it exists to provide a *clear* imperative (will) to the second-line. *No* direct action occurs at the systemic level; rather, it is served by being cared for *consciously* and *deeply* by the parts-in-relation, which cohere to meld *into* its Wholeness.

- RE. And then there's the {RE}, the retroactive loop, the *proverbial* difference that makes the difference, which maintains the relation in dynamic harmony.

This framework more accurately captures the *developmental* nature of regenerative development.

transformational by-passing.⁴⁶ The SDGs promote *top-down*, *centrally conceived* interventions, whose *forceful* delivery effectuates systemic disempowerment of the second-line (non-state actors, local communities, civil society at large). Their *fragmented* mode of thinking, combined with their *decontextualized* mode of realization, makes them blunt tools⁴⁷ with a *severely* limited range of *transformational* potential. The SDGs, along with their mode of realization, require *significant mutation* if they are to effect their *desired* social transformation. They are *not* transformational because they focus *solely* on the third-line.

Community-led initiatives (CLIs) are changemakers engaged in Communities of place *everywhere*. They are sources of local, *intervention-based* experience. CLIs *often* have *particular* and *diverse* modes of realization that are *quite* different from the SDGs. As local actors, they *invariably* fall short of addressing the *wider* ecosocial context in which they're embedded.⁴⁸ CLIs, participating in Communities of place, are *only half* of the second-line relation.⁴⁹ Transformative ecosystems also require interplay with *translocal* CoPr, which opens the second-line to a *greater* range of potential for transformative learning, especially if they're

⁴⁴ The developmental interplay of inner-outer is accomplished *through* two complementary practices: internal locus of control and external considering.

⁴⁵ Readying is a concept differentiated by Bateson, N. (2022).

⁴⁶ This section is sourced almost from Henfrey et al. (2022), except where noted, and translated into terms coherent with the Three Lines of Transformation framework presented above.

⁴⁷ Blunt tools, as opposed to more precise instruments, such as RDAs.

⁴⁸ These modes of realization include framings, organizational schemas, approaches, practices, and responses.

⁴⁹ A vivid example of this is their inability to confront structurally unsustainable development, explicitly or implicitly perpetuated via numerous SDGs, due their dependency on economic growth for their organizational survival.

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engaging in the practice of knowledge commoning.^{50,51} But *even* this doesn't complete the dynamic relation of **{work—play—love}**. These represent differentiated modes of participation dependent on which level of self one is engaging with.

Neither the SDGs, with their *perennial* shortcomings, *nor* CLIs, with their *limited* scope, are adequate to lead the way *toward* the *deep* social transformation required of us *all*. What is called for are *bottom-up*, *community-led* strategies amplified by the (RE)generative *aspirational* potential latent in the RDAs.

potential for social transformation. RDAs are designed as *both* aspirational “spirit-guides”—engaging with our collective *inner* compass, essential for navigating the complexities of the *wider* ecosocial context—as well as precise instruments for **{RE}**. The **{RE}** is our capability to *playfully* disrupt ourselves, which speaks to the very essence of sacred play. Individually, it requires *rigorous* discipline. Collectively, it unfurls as *potentially-enjoyable* ritualized play.

The RDAs are *exquisitely suited* to guiding iterative, community- and bioregional-scale group processes for 1) clarifying the essence of *each* player (CLI) and 2) developing the potential *within* the context of the emergent whole, a transformative ecosystem. For transformation to take place, *all* three levels, or lines, must be developed *simultaneously*, *and* what's *often* missing in *most* cases of attempted change-making is a healthy second-line (*bingo!* the *missing middle*), the *uncontested*, messy mesoscale. The RDAs are the *precise* instruments for bracing open and actively engaging with the second-line.

praxis of sacred play. There are four elements that I, as a practitioner, would consider *nodal* to the process of holding space for sacred play, guided by the RDAs.

- magnetic centers. Recognize CLIs who present themselves as magnetic centers by exhibiting a *relatively high* degree of inner-togetherness and radiating essence *so strongly* that there's *no* doubt about *the unique* value they are bringing forth as wholes nested *within* Communities of place, bioregions, and continental regions, whose role, by virtue of their interventions, is to generate lived experience and *live* the patterns.
- CoPr. Engage with *magnetic* centers that are *actively* participating in Communities of practice and *translocal* organizations, whose membership is constituted *primarily* of CLIs and other allied changemakers, dedicated to caring for the growing bodies of living knowledge in a given field of practice—a *contemporary* version of the clan system, whose role could be to recognize and learn from patterns and ritualize them.
- ritualized play. Engage with centers that constellate *around* magnetic centers, which are willing to commit to participating in reiterative group processes tailored to playing *through* the RDAs during seasonal instances of ritualized play—festivals, summits, gather-

⁵⁰ Lutterer, 2012.

⁵¹ Knowledge commoning is the practice of translating the experience of interventions from communities of place into reusable patterns of framing, understanding, organizing, and acting, which are cared for by communities of practice. See Yanez (2023).

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ings—where *alternate* modes of realization *across every* aspect of social Life are experimented with and *collectively* experienced; in short, centers motivated to play with patterns.

- patterns and pathways. Engage with constellations of centers, with the explicit aim of generating *new* assemblages of patterns—pattern language—that can generate pathways *forward*—a personalized set of aims for CLIs as integral actors, bringing *greater* degrees of aliveness to *transformative*, second-line ecosystems.

The RDAs, unlike their predecessors, are *not just* empty words. They have been *consciously* and continuously (RE)fashioned as instruments for infusing regenerative thinking (see Annex J) *into community-scale* processes. The heavy lifting of *rigorous* discipline has been transferred to and embedded *within* the RDAs. They are designed to enable communities to generate and explore a wide range of *Life-affirming* pathways and patterns.

The RDAs will prove *ineffectual* in the world if they *remain* pure potential; unless, they become *ritualized* in the {RE} of sacred play.

6.4.3 RE-cap

It is becoming increasingly clear that what is being called for is a *civilizational-wide* reboot. What this entails is a significant re-patterning of our world. And, one may wonder, *how* will this come about? *Who* decides which patterns are Life-affirming? *Who* will generate these patterns? Shall they be prescribed from *on high* by *some* world government or *higher* power? Will communities be forced to adopt them?

Here's where living systems or regenerative thinking comes *into* play!⁵² If human social systems are to integrate *gracefully* with the living web, they must attain the requisite *self-realizing* Complexity *inherent* in Earth's Biosphere. For human social systems to develop this capability, they *must* move *simultaneously* in at least two directions: *unfolding* Aliveness sourced from the uniqueness of the Life-place they inhabit; and, *enfolding* Wholeness guided by a living systems paradigm.

Unsustainable development is *no longer* viable, acceptable, or necessary. We know better. Regenerative development, based on a living-systems paradigm, is *not only* possible but *something quite* like it seems to have been the *conscious* mode of realization for Humans for as long as they've been *around*.⁵³ Somehow, we have worked ourselves *into* a mode of being that fails to serve *most* of Humanity, other living beings, and especially the Biosphere.

The RDAs are *not just another* instance of empty rhetoric. They serve three broad aspirations, enabling human communities to: 1) (RE)lease themselves to the *self-ordering* Wholeness so they can receive the gift of biospheric abundance; 2) (RE)pattern *every* aspect of human culture implicated in the diminishing of *self-organizing* Aliveness in our Biosphere;

⁵² See Annex J for a lite primer on regenerative thinking.

⁵³ The original instructions of the Iroquois Confederacy are one example.

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and 3) (RE)orient their perceptions of our *self-realizing* Universe and assume their *conscious* role in its self-realization.

At first, I conceived the RDAs as a set of instruments that would guide Humanity's eventual evolution at *some* future moment. Now I realize we were, *almost everywhere, already* exceptionally evolved, albeit at regional scales. This *ground-shattering* realization restores ancestral peoples to their *fullest* humanness and, in doing so, re-stories us, restoring the possibility of (RE)awakening to our *own* fullest potential.

Who exactly are we waiting for?

In the following chapter, I present several pieces that directly address at least two of the RDAs. The reader will enjoy a deeper look at them, hopefully rendering a clearer image of the transformative potential that may be in store for human social systems.

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chapter 7. pathways of potential: re-patterning the Human

*If we don't change our direction, we're likely to
end up where we're headed.*
Chinese Proverb

*You never change things by fighting the existing reality.
To change something, build a new model that makes the
existing model obsolete.*
R. Buckminster Fuller

*The potential of the economy is ultimately life potential.
The question of value is a vital question. Capital has its
invisible hand on the pulse of life.*
Brian Massumi

7.1 preamble

Beyond their stated intent as *essential* instruments for *community-scale* sacred play, the bottom-up movement has been unfolding a *new* reality. The RDAs have emerged, perhaps *not* so surprisingly, as the complementary, *top-down* movement—an *enfolding* meta-framing for the re-patterning of *entire* fields of human endeavor.

The RDAs have self-realized. They have self-organized—that is, *they have* shaped themselves internally using the 7 First Principles as constitutive rules. Each Aim is guided by a regenerative development paradigm and, as such, exists to regenerate a living-systems mode of thinking whenever it is applied. They have self-ordered—they are acquiring their *emergent* meta-framing according to the cosmic principles—{*activating—restraining—reconciling*}—*inherent* in the implicate qualities of generalized Complexity—{*Wholeness—Aliveness—Centeredness*}—established herein. The RDAs are *well suited* to effectuate implicate dimensionality to *comprehensive* fields of human endeavor, as these engage in the sacred play—the (RE)patterning consciously directed *toward* the *higher-order* self-realization of *fully* human social systems.

With this chapter, we aim to demonstrate the potency of the RDAs as a meta-framing for establishing a *fully* human research agenda engaged in imaging the *highest-order* potentialities for the Great Work of civilization-wide re-patterning *ahead*. To do so, we present robust summaries of two published papers, *each* addressing a *specific* Aim. This chapter has therefore emerged as two acts, separated by an intermezzo.

Act 1 directly addresses RDA 11, the self-organizing bioregion. It presents a paper titled The Self-Organizing Bioregion that explores *what* we have in common as cosmic beings; *how* we might self-organize *around* this—what we have in common; and specifically, *how* we engage in the praxis of commoning a *growing* bodies of *living* knowledge in a pluriversal, *already-shared* reality. Our point of departure is Wholeness, and our proverbial stage is set with the

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Universe-of-complexity as the background. The *main* protagonists, the *relative* wholes in question, are social worlds.

Act 2 takes on the controversial RDA 8, living economies. It presents Economies of Scale-Linking, Part 1, aimed at rethinking *how* we co-create value in a Universe-of-complexity. The point of departure is Aliveness. Our stage is set as the Continuum-of-experience, and the *main* protagonists, the *relative* wholes in question, are economic systems.

The Intermezzo, Economics of Aliveness, serves to reconcile the first and second Acts, two *seemingly* disparate subjects of bioregion and economy, by *loosely* laying the groundwork for RDAs 2 and 12. Living economies are place-sourced, and therefore express themselves primarily at the scale of bioregions. Authentic livelihoods are being-sourced, and therefore are the *principal* element in the co-creation of value. Authentic livelihoods participate in an ecosystem's capacity to regenerate Aliveness (genuine wealth).

7.2 act 1: the self-organizing bioregion¹

Human societies seduced by a *reductive* Western scientific tradition continue to exhibit and perpetuate a *limited* capacity to interpret Reality. This is producing an *increasingly* impoverishing effect on the aliveness of our Biosphere. The unraveling of its self-realizing Complexity, from which *everything* we know as Human has evolved, and of which we are an *integral* strand with an *essential* role. This Research's aim is that Humanity might *concretely* invoke self-organization in our knowledge systems and in our bioregions, enabling communities to care for *what we have in common*.

Act 1 takes its point of departure from the notion that Humans, as makers of worlds, co-create our *own* reality: that is, *how* we know what we know about the *workings of our world directly* informs how we (RE)produce it, *over and again*. Act 1 introduces a meta-narrative that reintegrates the Human as an *integral* element in the *ongoing* regeneration of Life.

*We animate the concept of pluriverse to put it in motion and set it in relation to other related concepts. We examine Edgar Morin's principles on complex organization of Reality, explore the potential of applying the principle of self-organization vis-à-vis Christopher Alexander's Theory of Centers, and seek a significant upgrade to Hess & Ostrom's conceptualization of knowledge as commons by introducing a living systems approach to commoning. This author's lived experience provides the connective tissue to integrate theories and concepts and lend concreteness to otherwise abstract notions.*²

7.2.1 orientation

"The pluriverse can be imaged as a *polycentric* meshwork of *extraordinarily diverse, infinitely nested, and messily arranged* self-ordering totalities, whose vague or uncertain boundaries

¹ This section is sourced in its entirety from Yanez (2024) unless otherwise noted.

² Ibid:1.

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overlap and bleed *into* one another.”³ The reductionist approach is *insufficient* to describe this magnitude of *pluriversal* complexity. This is so, because it *artificially* encloses *limited* portions of the pluriverse within *externally imposed, impermeable* boundaries, effectively isolating them from one another and from the worlds they are nested *within*. In effect, it reduces the pluriverse to a *one-world world* of *isolated* fragments, a fragmentation that expresses itself at *every* order of organization.⁴ This undermines possibilities for commoning—the collective caring for *what* we have in common.⁵

This act explores commoning *within* the context of bioregion because it offers an optimal scale for re-inhabiting the commons.⁶ It centers on the question of *who* decides where and how a bioregion is bounded, and *who* is included or excluded. Our premise is that *nobody* has to, or, better *yet*, that *everyone* can. Hence, the emphasis on self-organization. The term “bioregion” is a placeholder for the *mostly mis-placed* geographic mesoscale (*missing middle*), an *as-of-yet uncontested* opening *somewhere* between local and global. The phrase “*already-shared* reality” is adopted to express the interstices *between* **{Human—more-than-Human}** worlds, a *potentiality* anticipating reinhabitation.

The first section advances the premise that “ecosocial systems are living systems with *deep* cosmic roots, whose degree of aliveness stems from their *uninhibited* capacity to self-organize, a capacity that is enabled, as we shall see, by paying attention to *what* we have in common.”^{7,8} Our destination: a meta-narrative with the requisite complexity *within* which *all* worlds fit together.

7.2.2 part 1. cosmic solidarity, or what we have in common

I dedicated a decade and a half of my life's Work (2003-2018) to invoking self-organization in my home bioregion.⁹ The *key* question that guided this particular research was already working within me as an insight *even* then. There were as *many* potential versions of bioregion as there were overlapping, distinct eco-cultural worlds.

Life's work. Early in my work life, an intuition took root and grew *within* me that the “one-world world” I was participating in was *unbearably* insufficient, *immensely* deficient. A first

³ Yanez, 2023:1.

⁴ A phrase from the pluriversal literature akin to Vandana Shiva's phrasing “monoculture of mind”, a world where a dominant paradigm reigns supreme.

⁵ We will make deeper sense of this phrase later, but it is too vital not to plant a seed upfront.

⁶ Bioregions can be functionally defined as eco-cultural territories that coincide loosely with watersheds or Lifesheds. Re-inhabitation is the term used in the Bioregional context when signaling the reconstitution of a new social reality within an already existing ecological reality. Berry, T., 1988; Mumford, 1938; Sale, 2017; Yanez, 2004 and 2006.

⁷ Degree of aliveness is a term introduced by Alexander (2002a), to denote a quality of aliveness present, to some degree, in everything.

⁸ Yanez, 2023:1.

⁹ Invoking is a calling into being of something that is already yearning to be brought forth. An invitation to, and setting the conditions for, self-organizing to unfold towards *greater* aliveness.

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encounter (2003) with Universe Story—an emergent meta-narrative *unfolding around* the notion of an *already-shared* reality—opened me to pluriversally coherent ways of worlding, including deepening my awareness of the concept of bioregion, which would *relentlessly* possess me for *some* time to come.¹⁰ It also awakened me to the premise and promise that Humans could have an *integral* role in the realization of this *already-shared* world.¹¹ A yearning for *deeply grounded* insights, born *intuitively* from my lived experience, motivated me to engage in scholarly research. The first encounter in 2003 with an *all-encompassing* meta-narrative might explain *why* I am drawn to and have a propensity for thick description, in an attempt to express the *ineffable* qualities of what can *only* be experienced *all-at-once* images, using flat, *one-at-a-time* words.

{*implicate—explicate*}. I resonate strongly with the *pluriversal* discourse of the *exquisite* diversity of worlds. Yet narratives of a *one-world* world, *too often* leave the *implicit* unity *behind* the diversity to chance. Here, I reclaim the *unity-in-diversity* narrative by applying Bohmian ontology to better understand the pluriverse—the *explicate* order—in relation to *all* that remains unseen and unexplainable—the *implicate*.¹² With this in mind, this section *further* complexifies the notion of Wholeness, which is *dimensionalized*, *textured*, and *everywhere differentiated*.

unfolding the pluriverse. Growing a pluriverse requires *new* foundations,¹³ a meta-epistemology capable of holding *all* existing modes of knowing *in* relation. The possibility that the pluriversal worlds *unfold from* and, in due course, *enfold back into undivided* Wholeness merits a shift in *how* we approach inquiry.¹⁴ The *new* foundation for the pluriverse begins with *undivided* Wholeness, where *all* worlds interpenetrate *one another* and render *novel* perspectives on the Universe-of-complexity.¹⁵

A *complexified* version of the notion of pluriverse inspires a meta-narrative of the *most extraordinary* universe possible, a promise *beyond* ableness *toward* our *highest-order* potential as Humans. We are *still* in our early stages of humanization, and a source of "*uncertain planetary agony*" because we continue enacting *limited* narratives of *who we are*.¹⁶ Our gift of *conscious* self-awareness, *currently* testing planetary limits, *deepened* and *complexified*, might *yet* serve to root us in commoning.

¹⁰ Universe Story, known more broadly, as the New Cosmology, centered mainly around the work of Thomas Berry, Bryan Swimme, and others. It represents an elegant convergence of ecology, spirituality, quantum physics, indigenous and eastern philosophy, etc.

¹¹ The term worlding is used as shorthand for the process of producing an image of the *workings of the world* from which one then shapes Reality.

¹² Bohm, 1980.

¹³ Kothari et al., 2019; Yanez, 2023.

¹⁴ Bohm 1986; 1980.

¹⁵ Ravn, 1989.

¹⁶ Manghi, 2006.

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enfolding by worlding. Our reductive Western intellectual tradition *all* but eradicates the Human from having an *active* role in world-making—the (RE)generation of *vast* worlds of meaning.¹⁷ Worlding, or the continual (RE)generation of a world-of-experience, draws meaning from and shapes how we participate in a self-realizing Universe.^{18,19} We *rarely* consciously participate in producing worlds-of-experience. Indeed, via *thoughting* we reproduce others' world-of-experience, from which we pattern our human social worlds.²⁰

Our premise, complexified, would read: a diminished world-of-experience automatically defaults to habitually unfolding a one-world world, a human social world characterized by the external imposition of social order²¹; one whose suppression of pluriversal expression invites social disorder and struggle for power over an increasingly fragmented, objectified, de-humanized human social world.²²

And, it doesn't have to go that way; we can choose a *participatory* Universe, where Humans and Universe complete each other.²³ Part 1, concludes that the cosmic role of the Human is *radical* participation, rooted in *undivided* wholeness. A necessary *next* step in our humanization is *radically-conscious* participation²⁴ and *radically-authentic* participation, one that claims authorship over *each* of our worlds-of-experience and the narratives we unfold within them.

7.2.3 part 2. invoking self-organization: unfolding Aliveness

One instance of the mystery of this self-realizing Universe stands out *most* emphatically, and its dynamics I *now* recognize and the words to thickly describe; I will integrate the pattern language phrases emerging herein to describe *otherwise* ephemeral qualities.

¹⁷ Morin, 1977.

¹⁸ The term worlding is used as an equivalent to the term mode of realization.

¹⁹ Ravn (1989): Meaning arises via active organizing process of interpretation, which extracts meaning from the flow of undivided Wholeness and embodies in explicate vortices or forms (terms, concepts, categories) in order that we may "construct a stable world for the human mind to inhabit," (ibid:11). The web of meaning we generate can not be reduced to any element or teased apart from our existence. This web of meaning constitutes a "unity of becoming" or Life-world (Husserl), "finite provinces of meaning" (Schutz), phenomenal fields (Rogers), or simply a world in the making in pluriverse terms. The principle we arrive at here is that: "we act not on the world as it 'is,' but as we perceive or experience it to be," (ibid:83).

²⁰ Thoughting is a concept developed by Bohm (1981; 1994). Regenerative thinking, on the other hand, can distinguish parts of a whole while holding them in relation to each other and their greater whole.

²¹ Social construction of reality is described in Berger and Luckmann (1966), where some subset of worlds-of-experience becomes more or less permanently inscribed into habits, roles, social forms, institutions, structuring the "backbone of society."

²² Yanez, 2023:8.

²³ Abram, 2011; McGilchrist, 2009, 2019; Wheeler, J.A., 1984.

²⁴ This is equivalent to the phrase we've used *throughout*: conscious transformation of energies.

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readying for change. I began to feel a readying that I had *never* felt before.

*Readying is a process where organisms prepare to respond in new ways that make consequent change possible. Forcing a singular outcome is the opposite of readying. Unready change is violent because it cuts short the learning needed for differentiation. Here we are abandoning the idea of change, instead focusing on the unseen flexibility that produces readiness for change.*²⁶

The idea of local food emerged in *one too many* conversations, and I felt *all too keenly* the lack of a local food system; it was a *thick*, felt sense of the *unseen* coalescence—a uniduality of movement that is both a caring for the *current* form and a process of becoming. My colleagues felt it, too. In response, we organized the Greater Everglades Community Food Summit, which invoked self-organization like *never before nor* since. The living structure it generated is *still* evident today.

living structure. Living structure *unfolds* naturally over time by generating “meaningful relationships in *every* direction.”²⁷ These *subtle* relations, and the *connective* tissue they form, are the patterns of Aliveness *inherent* in *any* living structure.²⁸ The *invoking* I can *only* describe as an open invitation to what followed: a *system-wide, polycentric* unleashing of will to enact fooding in the bioregion. In the self-organizational processes, the emergent whole begins to differentiate, awakening a *further* degree of aliveness. Every point in space, whether organic or inorganic, has *some* degree of Life in it, *some* degree of “self,” according

²⁵ Courtesy of Earth Learning archives.

²⁶ Yanez, 2023:9.

²⁷ Alexander 2002b:188.

²⁸ Ibid.

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to its living structure. “Life is a quality which inheres in space itself, and applies to every physical structure of *any* kind at *all* that appears. Each thing has its Life.”²⁹

The pluriverse is Aliveness at every turn, and *somehow* our *less-than-Human* social world *literally* degrades Biospheric aliveness. Our aim in this subsection is to develop a *dynamic* understanding of self-organization that can be realized *within* human social worlds. Christopher Alexander’s theory of centers holds that Centers are the building blocks of Wholeness. Life is Wholeness. Wholeness can be described as the nesting and overlapping of *all* the coherent entities that exist locally *anywhere* in space; *greater* differentiation of Centers brings *intensified* aliveness. *Highly differentiating* centers with *thicker* nesting and overlapping acquire a *higher degree* of **{Wholeness—Aliveness—Centeredness}**. “A center is a role that entities play *within* the self-organization of a *larger* pattern. Visible centers form nested living structures.”³⁰

self-organization. What is relevant is that whole and parts-in-relation co-occur—they are *already-shared*, so there can be *no* privileged parts. Centers differentiate *qualitatively* by intensity, by attracting and integrating *less-differentiated* centers. Self-organization requires developing what is *radically authentic*—the *difference that makes a difference*—*within every* center.

Development, like *any isolated* idea, has *often* been weaponized when *not* grounded in a self-realizing Universe. Alexander’s theory of centers offers a qualitatively different take on development—a *developmental* development: *each* differentiating center has a nodal relationship to the differentiating *greater* whole, and vice versa, forming a retroactive loop. The emergent uniqueness of *each* center enables co-arising with *other unique* centers—what we can describe as *constellated* differentiation.

What worlds together in explicate reality does so because they are the *most radically-authentic* expression of Aliveness *possible within* that gradation of wholeness. And this implicates the *entirety of the* pluriversal Universe.

invoking self-organization. As we observed in the *unfolding* meta-narrative of the food summit example, specific rules of the game (local first, organic when possible, perennial best) guided our self-organizing fooding interventions. Constitutive rules, without which there is no game, guide *relatively* autonomous interactions.³¹ These are *key* to invoking self-organization; this is where *any* design intervention ought to focus.

We might arrive at a *more complexified* notion of invocation, if we hyphenate the term as in-vocation, which awakens a *yet-unexpressed* sense of collective vocation, *inherent* in the *readying* activity of a *constellated* differentiation of centers, whose *nested* thickness of rela-

²⁹ Yanez, 2023:10.

³⁰ Yanez, 2003:11.

³¹ The determining-conditions introduced earlier in this Study, would be considered cosmic constitutive rules. Alexander (2002b) discusses these using the terms rules of the game.

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tion allows them to remain *flexibly-attuned* to unseen change as these weave themselves *into* living structure.

The emergence of a living structure, *ought not* be left to chance. A constellated system of centers arises through a *singularly* stepped sequence, hence the term “unfolding”—enabling *each next* level of living structure to emerge from the *previous*, where it is enfolded, and from which *another* unfolds, and so on.³² What is *most* significant for this Study is the finding that generating living structure requires the *radical* participation of beings in their *fullest* relational capacities to discern the degree of aliveness present at *each differentiating* step of the self-organizational process.

This *deep* dive *into* the richness of self-organization has enabled the development of a more *complexified* understanding, so that we might invoke self-organization *within* the human social world, if we dare. *How* to do so is what we explore next.

7.2.4 part 3. regenerating commoning in self-organizing bioregions

As I reflect on my lived experience with self-organization in my *home* bioregion, what bewilders me is how I knew *intuitively* where and how to intervene. This begged the question I wrestled with regarding commoning: Can the process of invoking self-organization, *somehow* be systematized?

knowledge commoning. It is becoming evident to me that knowledge commoning *must* play a *pivotal* role in commoning, translating lived experience *into* a *growing* bodies of living knowledge through *reiterative* learning processes.

- commoning. The thinking *around* commons falls *into* two *opposing* perspectives—institutional and social-immaterial, each myopic in its *own* way.³³ Both deepen a pathology of separation *between* Human and more-than-Human social worlds. We encounter a third, *reconciling* perspective: commoning, in which the practice of radical participation differentiates into collective caring. Commoning concerns how *what we hold in common*—the dynamic relation **{Human—more-than-Human}** world—is cared for collectively. Utilized as a verb, “commoning” shifts attention *toward* the *relata* to disrupt *Human-centric* world-making and open it to radical participation in a *thick* trans-species social ecologies of *entangled subjectivity*, a “messy, necessarily incomplete, give-and-take ...” *between* Humans and non-Humans.^{34,35} The ongoing negotiation *between* these two worlds implies a commitment to *perennial* knowledge-making.

³² Ibid.

³³ Bresnihan, 2015+.

³⁴ Relata are the relations that constitute our world. The meaning of relata is embedded in the roots of the word commons: “com” (together) and “munis” (vocation); hence, it points to collective vocation.

³⁵ Bresnihan 2015+:7.

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- knowledge-as-commoning. Knowledge-making—our capacity to articulate the *less-than-articulate* world of *unpredictable*, complex interactions—is essential to commoning. The *more-than-Human* world is *simply inaccessible* to us, and amassing fragments won't do, unless we intend to *repeatedly* reproduce a *fragmented* world with a *minimal* degree of aliveness. "Knowledge-as-commoning unfolds with the emergent character of *practical* engagements that bind together beings *within* an *enmeshed* mutualism of an *already-shared* reality."³⁶ What is being called for is relational, bodies of living knowledge cultivated from lived experience in a *continuous* world, where apparent discontinuities *merely* mask *underlying* universal processes of renewal and regeneration.³⁷ To get a taste of this, I return us to the thinking of Edgar Morin.

Throughout the rest of this section, we briefly examine one approach to knowledge commoning. *Before* we do so, let's step *back* to *further* differentiate the notion of bioregion as a context for the commoning of living knowledge. We can enrich the concept of bioregion by suggesting that bioregions can become *transformative* ecosystems—liminal spaces where *communities of place* and *communities of practice*, two *distinct yet complementary* terms, are set *into* a dynamic, inter(retro)active relation for commoning.³⁸

- bioregioning. Bioregionalism exposes the human social world to the possibility of self-organization. Bioregions, in theory, are self-organizing, constellated thicknesses of place whose boundaries are alive, permeable, "fluid, dynamic... negotiable to diverse groups of local people ... enact[ing] their imaginaries."³⁹ Bioregions become the context for the unfolding of an *already-shared* reality.⁴⁰ The role of the Human, vis-à-vis the bioregion, is further elevated *to* a *conscious celebration* of the *unique* qualities of the Universe bursting forth from *each* Life-place.

- place-sourced commoning. Again, the term "*communities of place*" refers to the *potentially transformative* activity of *geographically proximate* centers, Life-places that differentiate *together* for commoning.⁴¹ They occur at multiple scales, interpenetrate, overlap freely, differentiate, and constellate as their living structure emerges. In every "here," place becomes a *local* instance of an *unfolding* Universe. *Communities of place* are where com-

³⁶ Yanez, 2023:26.

³⁷ This is consistent with the work of thinkers such as Sophie Strand on interstitial intelligence and Nora Bateson's work on transcontextuality of warm data, who advocate for a regenerative living knowledge (my phrasing) one that unfolds at the margins between overlapping worlds-of-experience.

³⁸ Inter(retro)act is a term introduced by Morin (1977) to indicate a recursive loop—**{RE}**—where distinct yet inseparable terms repeatedly produce progressive iterations of *each* other; for example: **{order—disorder}**. These are not closed cycles, but emergent spirals.

³⁹ Lockyer & Veteto, 2013:9.

⁴⁰ Berry, 1988.

⁴¹ Maida, 2019.

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moning *must* emerge, if it is to be place-sourced—to collectively embody the essence of their Life-places, and to *feel into* what brings *further* aliveness at *each* self-realizing step.⁴²

- transformative ecosystem. The potentially transformative activity would likely dissipate if *communities of place* (CoPI) could *not* capture energy and information from the *outside* world. Communities of *practice* (CoPr), through their role in caring for *specific* fields of praxis, can serve as conduits for *translocal* learning.⁴³ **{CoPr—CoPI}** are in a dialogical relation. This dialogical relation forms a *praxis-based, transcontextual* learning loop, wherein *communities of place* generate a world-of-experience, communities of practice abstract patterns from the world-of-experience to create *transcontextual* knowledge in the world-of-forms, and learning that guides *new* interventions in communities of place, there or elsewhere. It is precisely the cyclicity *between place-sourced* worlds-of-experience and *abstracted* world-of-forms that leads us to propose that transformative ecosystems can indeed lead to self-realizing transformations in human social worlds *favorable* for commoning.⁴⁴

Self-organization is *all* but invisible in the explicate world. Here, we explore the possibility of *rendering visible* the thickness of relations from the implicate, virtual world of potential. It opens up the possibility for self-reflection and learning through a rapid cycling of **{virtual—actual}** worlds *co-occurring* in a dialogical relation—the revolving until saturated, and the eventual *spiraling upward* of **{RE}**'s retroactive loop—is *now* a *recognizable* pattern for us. Lastly, a capacity for a mediating ecology emerges, where *thickly constellated* entities become *informational mediator beings*, with a self-organizing life *of their own*, generating *new co-creative*, knowledge-commoning interactions.

knowledge commoning in practice. In developing an approach to a knowledge commoning initiative I was engaged with, three capacities emerged as essential.⁴⁵ The first, *open modeling*, allows bodies of living knowledge to self-organize, thereby unfolding their *own* living structure: the world-of-forms, as described above in the *transcontextual* learning loop. Secondly, this living structure gains the capacity for *noetic twinning*—the formation of an analogue that renders visible the potentially transformative activity of the world-of-experience, enabling self³-knowing via mirroring, in situ, the participatory process of world-making.^{46,47}

⁴² Again, the concept of sourcing from place is a guiding principle of regenerative development (Mang et al., 2016), where interventions are guided by the unique essence, the genius loci of that place.

⁴³ Wenger, 1998.

⁴⁴ The term world-of-forms is introduced herein, as a necessary complementary term to the world-of-experience.

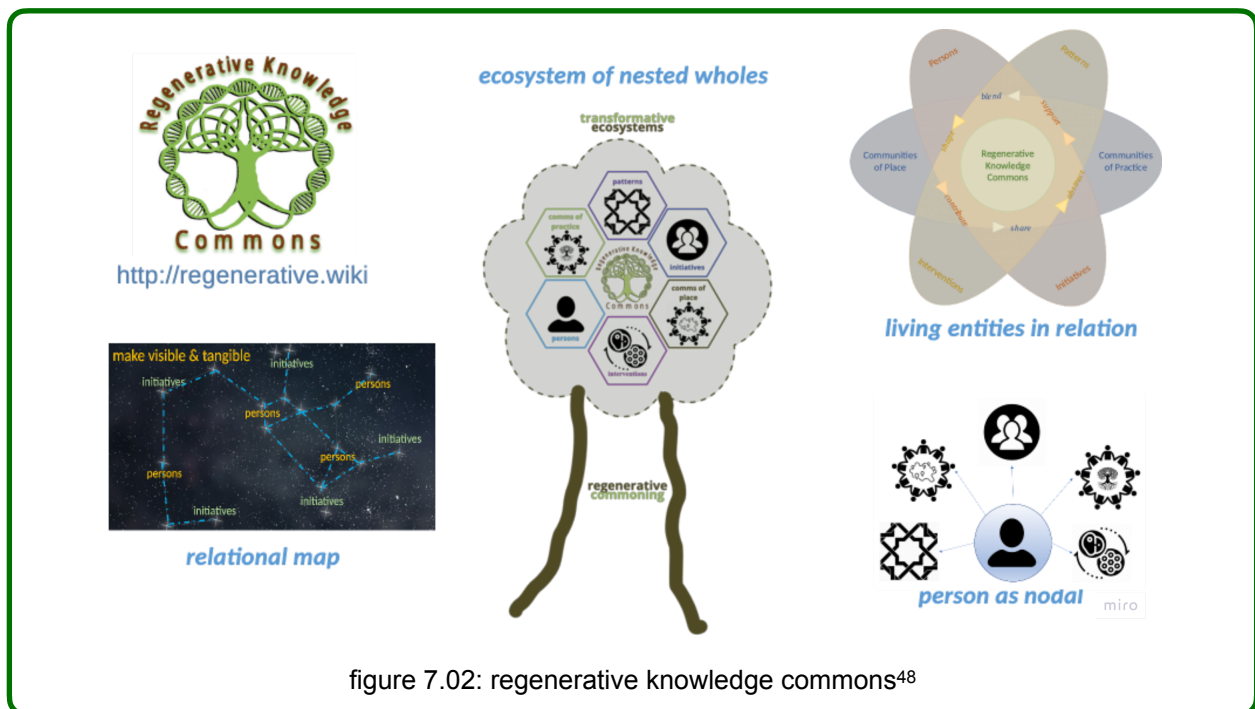
⁴⁵ See the appendices on Yanez (2023) for a case study of the development of the Regenerative Knowledge Commons.

⁴⁶ This term noetic twin is inspired by the oft used technical term, digital twin, which in this case, unfolds both in the noosphere, as well as online.

⁴⁷ Self³-knowing is shorthand for **{self—Self—SELF}**—knowing.

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Here, we describe the design of a working prototype, the Regenerative Knowledge Commons (RKC), as a concrete example of knowledge commoning. RKC is an *open-source*, *wiki-based* system for commoning living knowledge—knowledge to be cared for collectively and shared freely. RKC is intended as a virtual world for practitioners to 1) regenerate themselves (self), their thinking and practices; 2) cultivate relations by self-organizing with fellow practitioners (Self); and 3) inhabit their *greater* wholes (SELF), which they intend to effect. In short, the RKC serves as an *uncontested* opening for self-organizing and *transcontextual* learning through radical participation in knowledge commoning.



The RKC's capacity for *noetic twinning* is designed to make visible and tangible the *constellations of centers* engaged in transforming their *ecosocial* systems guided by a regenerative paradigm. These self-organizing constellations occur both *locally*, as Communities of place caring for their Life-place in *all* its interrelated dimensions and *translocally*, as Communities of practice caring for patterns of Aliveness within specific fields of praxis. As we saw above, where the local and translocal intersect, they form transformative ecosystems. Supporting the emergence, growth, visibility, and potency of such “ecosystems” as they self-organize is the RKC's key purpose.⁴⁹

⁴⁸ Composed by this author (unpublished).

⁴⁹ See the appendices on Yanez (2023) for a prototyping of the Regenerative Knowledge Commoning, a technical summary of the RKC.

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Knowledge commoning opens to the possibility for implicate qualities (**{Wholeness—Aliveness—Centeredness}**) to unfold *regeneratively within* a *fully* human social world. Indeed, we can say it is regenerating in *complex* ways: self³-knowing (RE)generates a *self-organizing* thickness of relations; knowledge is (RE)generated through commoning in an *already-shared* reality; and the will to collectively care for bodies of living knowledge is also (RE)generated.

7.2.5 implications

We are *all* that: undivided Wholeness, permanently self-organizing, blossoming whirling worlds, a pluriverse growing conscious of itself, that is, realizing itself. The fruit of self³-knowing holds the potential, the seed, the promise of radical participation in an *already-shared* reality. In the developing meta-narrative, Humans have an essential role. We discover our *fullest SELVES* and realize that caring for *all we are* is our inheritance from a Universe.

The Wholeness of *all* we are gives rise to a *further* differentiation: Aliveness—the radical participation in the pluriverse of Aliveness. Aliveness differentiates *further into* Centeredness, reflected in locating *each* of our *own radically-authentic* centers as we self-organize our *vast, messy, many-centered* world-of-relation. As the meta-narrative unfolds, we discover selves³ fully capable of *conscious* world-making, a world-making in which *no world is left behind*.⁵⁰ The self-organizing bioregion liberates us from paradigms that *no longer serve* by embracing the aspiration of collective caring, with *sufficient* potency to guide us *toward a fully humanized* version of the reality we *already share*.

And what brings it *all* together, the world-making and the Life-making, is reconciled in Knowledge-making. We have *just* scratched the surface here; however, we will take up this thread again in Chapter 8.

And now, we'll "pause" for an intermezzo, during which we'll introduce *some* concepts related to the notion of the economics of aliveness.

7.3 intermezzo: economics of aliveness

Within the industrial mode of realization, we have seen a systematic erosion of *all* convivial modes of living—a *gross* oversimplification that produces mainly workers and consumers.⁵¹ In earlier cultures, the *primary* concern would have been scarcity of food and materials; now,

⁵⁰ These are still imaginal, virtual, liminal and therefore ungoverned worlds, outside of heavily-guarded, bounded contexts we currently inhabit.

⁵¹ Illich, 1973.

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the *most* “*prosperous*” cultures lack meaning and purpose, which our market system is unable to provide.⁵²

There is an unmistakable need for a symbolic system that generates meaning, and a context in which we realize that meaning, a meaningful whole we can become a part of; *something greater than* ourselves that frames our lives, and provides the means (language and reference points) to understand and navigate it.⁵³ Without a *larger* frame (or shared purpose), society unravels *into* a collection of individuals who are *mere* economic entities competing for their *own* self-interest.⁵⁴

7.3.1 co-evolving a living economy

The following premise provides a foundation for that *larger* frame: All human activity, in order to maintain a *high* degree of aliveness, must be grounded in place.⁵⁵ I posit that we have the potential to reach this grounding *through* the redesign of economies centered on *bioregional* food sovereignty powered by *regenerative* agriculture, which can heal ecological systems and reverse the *worst* effects of the climate crisis.⁵⁶ Regenerative development is about “growing the capability of living beings...to co-evolve *toward* ever *higher* orders of diversity, complexity, creativity and Life. In other words, regenerative development is the process by which potential gets moved *into* existence.”⁵⁷ Regeneration happens at *every* scale, from the hyperlocal (living soil) to the whole of the Biosphere and *everywhere* in between.

Regenerative (i.e., living) economies would grow *organically*, drawing on *beneficial*, value-adding exchanges of energy, information, and materials *within* networks of *reciprocal* relationships.⁵⁸ These exchanges, to be value-adding, must materialize from diverse sources, and the value they generate must accrue *upward*, contributing to their aliveness and to *each subsequent* level of Wholeness. For this to be effectual, exchanges must transition from a transactional to a relational nature.⁵⁹ The value flows of a regenerative economy will embody the self-realizing Complexity of processes found in living systems.⁶⁰ A regenerative economy will redefine wealth in terms of multiple kinds of capital, rather than just financial capital, and in terms of the source of that wealth: the value-adding capacity of living systems to produce

⁵² Popper, 1962.

⁵³ Bjorkman, 2016.

⁵⁴ Ibid.

⁵⁵ Mang et al., 2016.

⁵⁶ Wahl, 2016; Yanez, 2004.

⁵⁷ Mang, et al., 2016:113.

⁵⁸ Fullerton, 2015; Mang et al., 2016.

⁵⁹ Mang et al., 2016.

⁶⁰ Fullerton, 2015.

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ever greater aliveness.⁶¹ This would have a *mutually beneficial* effect on *all* beings, rippling out from *each* Life-place.⁶²

7.3.2 economics of aliveness

Over the past decade, as part of my design practice, I have been *informally* developing an *ecosocial* framework, which I refer to as the economics of aliveness, that extends from and is grounded in the regenerative development principles referenced above. The economics of aliveness is born of the dynamic relationship between {*living economies—authentic livelihoods*}, two terms I explore herein. In this framework, the essence of both terms is sourced from the Biosphere's *wide-ranging* capacity to regenerate Life.

living economies. Living economies engage with a community's collective vocation to regenerate the land's productive capacity. This would be achieved by dedicating *most* of the available, already disturbed land to the growing of cultivated ecosystems. These are analogous to wild ecosystems in their structure and processes; however, they attain a *higher order* of productivity than their *wild* counterparts *through* the application of a *wide* range of regenerative agricultural practices, such as agroforestry and regenerative agriculture.⁶³ The aim of living economies is the self-realization of *fully human* communities that grow the capability to embed gracefully within the *greater* wholes they inhabit, *not merely* to occupy. Living economies can be guided in their development by an imperative to unfold and express the *unique* essence of their Life-places. This implies that *each* community would awaken to its *own unique* vocation of place that could serve to bring *ever-greater* aliveness to its lifeshed.⁶⁴

Living economies would develop the basic capacity for fooding. Fooding implies that living economies self-organize *around* what I'm referring to as primary production.⁶⁵

- primary production. Primary production is defined as the growing and/or harvesting of the food and materials necessary for *all* of a community's inhabitants—along with the potential for a surplus for inter-bioregional trade—while *simultaneously* regenerating the land's productive capacity, i.e., increasing its degree of aliveness (see Table 7.1 for a list of yield categories). Indeed, the *upper* limit of potential for primary production is achieved *through* the cultivation of perennial crops organized into polycultures, with a focus on non-destructive harvesting methods that sequester carbon (carbon farming).⁶⁶ The prioritizing of this type of primary production is mutually beneficial. As a community-of-place within a

⁶¹ Wahl, 2016.

⁶² Mang et al., 2016.

⁶³ Wahl (2016) agrees with this approach.

⁶⁴ Mang et al., 2016.

⁶⁵ We borrow this term from its more prominent context of biology, where it describes the primary producers of the various trophic levels, the photosynthesizers. In terms of human economic systems, the term is used to signify economic production originating at the primary trophic level.

⁶⁶ Toensmeier, 2016.

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larger bioregion evolves a regenerative economy that can create and exchange value, whose intended consequence is the amplification of the land's capacity to regenerate itself. A living economy produces an abundance that nourishes communities in *every* way for their *ongoing* qualitative development. This is accomplished by cultivating complex webs of ecosocial relationships.

table 7.1: primary production yield categories⁶⁷

category	description
food	whole, parts of, products of or ingredients from plants, animal, or fungi
fiber	materials derived from plants, animals or fungi to produce the stuff of everyday life (building, clothing, furnishings, learning, implements, cooking, recreation, bioplastics, production of culture, etc.)
fuel	materials that can be utilized to generate energy for lighting, heating, cooling, mobility, cooking and other activities
feed	whole, parts of, products of or ingredients from plants, animal, fungi grown or gathered from the wild for fodder or forage
farmaceuticals	whole, parts of, products of or ingredients from plants, animal, fungi grown or gathered from the wild used for healing or maintenance of health

- living structure. To express a *higher-order* degree of aliveness, living economies must self-organize *around* the shared purpose derived from their *greater* wholes. Although each Life-place is *singularly unique*, the general pattern likely entails engaging in processes that (RE)weave living structure—a networked web of relations: Human and more-than-Human—*unifying* patterns that participate in diverse flows and exchanges.⁶⁸ In living systems, living structure tends to organize itself *into* assemblages referred to as guilds—the constellating or thick-relating *among* distinct elements that together form a whole and exhibit complex reciprocity, i.e., *indirect* exchanges of value that are *often* difficult to quantify.⁶⁹ Guilds tend to form *around* magnetic centers that act as organizing elements. In human social systems, these centers *usually* coalesce *around* related aspects of food-ing.⁷⁰

- nodes. The regenerative activity of a living economy manifests at *every* node in the meshwork of living structure: nodes are where energies intersect, exchanges occur, and potential actualizes.⁷¹ This is where scale-linking *across* levels of nested systems takes

⁶⁷ Composed by this author (unpublished).

⁶⁸ Capra, 2002.

⁶⁹ Mang et al., 2016.

⁷⁰ Ibid.

⁷¹ Ibid.

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place.⁷² Every living organism can be a node in a *larger* system, and if that nodal activity originates with a guild, the effect of that intervention is amplified.⁷³ Geophysical nodes anchor *living economies* to Life-places,⁷⁴ via the *potentially nodal* activity of *authentic livelihoods*.

authentic livelihoods, or alivelihoods. Authentic livelihoods, or *alivelihoods* for short, add *yet another* layer of significance to the concept of livelihood: Aliveness. Alivelihood is that to which we dedicate our Life energies so that it can bring *both* us, and the *larger* systems the livelihoods serve, *greater* degrees of aliveness. It is a key element of living economies. The living structure generated by living economies nourishes the soil for a *wild diversity* of authentic livelihoods that can *only* flourish *within* the context of the *ecosocial* web of relations.

- ecosocial web of relations. An ecosocial web is a *living meshwork* of diverse relationships and energy flows. Diversification of alivelihoods is *key* to growing a complex ecosocial web for fooding, which extends *beyond* the growing or gathering of crops to include making a *wide range* of value-adding products—secondary production—from the raw materials of primary production. Tertiary production can involve moving, selling, or serving a combination of primary and secondary products; ancillary or developmental practices can include showing how, engaging with, or developing capacity. It is important to note that *another* set of activities will also need to be devoted to {RE}—the decomposition of organic materials and the “harvesting,” recycling, and repurposing of *non-organic* materials (metals, plastics, etc.) already in use, of which there is *no* shortage.

⁷² Wahl, 2007.

⁷³ Mang et al., 2016.

⁷⁴ Ibid.

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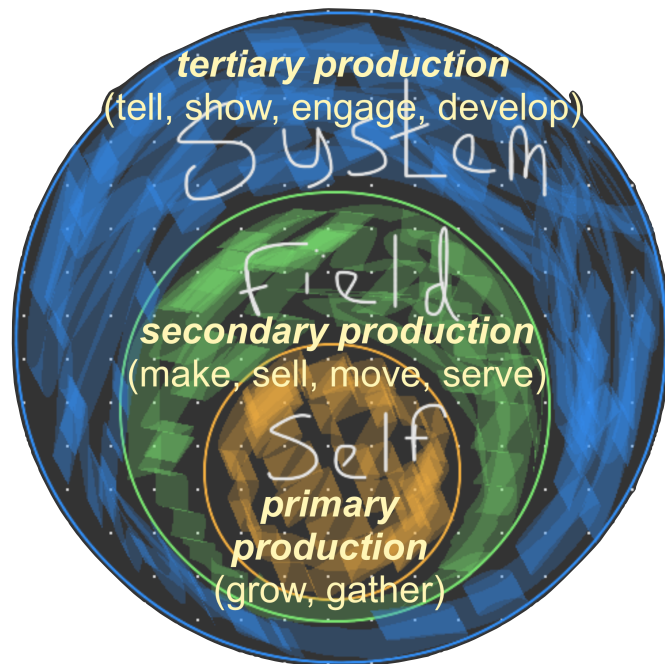


figure 7.03: patterns of production⁷⁵

- role and vocation. The ecosocial web of relationships, the soil for livelihoods, is comprised of a *broad* diversity of roles and vocations, *more accurately* expressed as the dynamic relation {**role—vocation**}.

- roles. Roles are occasions in which individual beings can intensify their degree of aliveness by expressing their *unique* essence through a variety of *contextualized* activities. We might say that roles are *being-sourced*, in that they serve the essence of the being taking on that role. As we have seen, aliveness in the human social world is a bearer of meaning. In this way, livelihoods provide *meaningful* roles for those who engage in them.

- vocation. Vocations are callings from a *greater* whole. When we agree to serve greater wholes, one way we respond is by adopting vocations. The wholeness of *greater* wholes in the human social world, as we have also discovered, imparts a sense of *shared* purpose. We can say vocations are *place-sourced* when they respond to the essence of the particular Life-places they serve—*place-sourced* potential. In this way, livelihoods provide *purpose-filled* vocations to individuals who orient their roles *toward* them.

- guild as missing middle. Guilds, hence, present themselves as the missing middles between roles and vocations: {**role—guilds—vocation**}. This then becomes the place for an ecosocial web of relations to develop and support a diversity of secondary production.

⁷⁵ Composed by this author (unpublished).

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table 7.2: alivelihood patterns⁷⁶

pattern	description
grow	the raising of food/materials from primary production
gather	the collection or harvesting of food/materials from primary production
make	value-added or secondary production using food/materials from primary production
sell	the direct sale of food/materials from primary or secondary production
move	the distribution (preferably locally or regionally) of food/materials from primary or secondary production
serve	the further preparation or transformation (tertiary production) of food/materials from primary or secondary production
tell	formal or informal passing on of knowledge that might inspire authentic livelihoods
show	formal or informal imparting of capacities and skills needed for authentic livelihoods
engage	all ancillary activities that support or facilitate the abundance of authentic livelihoods within the context of living economies
develop	the introduction of new systemic capabilities into living economies

• alivelihood patterns. **{role—vocation}** are generative of a universe of possible alivelihood patterns (see figure 7.2). Alivelihoods offer those who assume them occasions for *unique* value-adding in the world, through which they can express their essence, and accomplish this through a range of potential modes of realization. The premise is that the *greater* the diversity of alivelihoods participating in a given economy, the *greater* the intensity of the implicate qualities *recognizable* in *the greater* wholes in which they participate.⁷⁷ Each alivelihood, then, becomes a node of proprioceptive participation in the ecosocial web and a point of *intimate* relationship with the web of Life, geophysically tethered to their Life-places. This marks a *true* shift *away* from isolated, unhealthy, unidirectional patterns of consumption *towards* a developmental process that enables *meaningful* and *purposeful* Life-making at *all* scales.⁷⁸

7.3.3 significance

The *overall* significance of the dynamic relationship {living economies—alivelihoods} is threefold.

⁷⁶ Composed by this author (unpublished).

⁷⁷ Ibid.

⁷⁸ Ibid.

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- 1) place-sourced. By virtue of being place-sourced, living economies are embodied in the *unique* unfolding patterns of Aliveness within Life-places. Self-organizing Aliveness is, therefore, the *principal* quality to be cultivated.
- 2) being-sourced. By virtue of being “*being-sourced*,” authentic livelihoods are tethered to the gradations of wholeness enfolding at *every* scale of existence. A self-ordering Wholeness is the quality that is preserved and, at the *same time*, differentiated.
- 3) developmental. By virtue of being both place-sourced—dependent on awakening the genuine wealth of place-sourced potential—and being-sourced, it is shaped by the essence of entities engaged in **role—vocation**. The dynamic relation {**living economies—aliveli-hoods**} is infused with the quality of self-realizing Centeredness, which can *only* deepen over time.

We can apply the Law of Three to reveal a *further* layer of significance in the economics of aliveness.

- 1) activating. Living economies, by way of an *activating* principle, *unfold* patterns of Aliveness *through* the *value-adding* presence of alivelihoods.
- 2) restraining. Authentic livelihoods present themselves as a *restraining* principle, *enfolding* at *every* gradation of wholeness.
- 3) Reconciling. The relation {**living economies—alivelihoods**} *reconciles* through the emergent capability of *scale-linking*, producing a *new* quality, Centeredness, resulting from the *self-realizing* interplay of {**enfolding Wholeness—unfolding Aliveness**}.

Our Intermezzo has introduced a set of related elements that characterize my framing of the economics of aliveness, which has emerged from my lived experience. This topic naturally leads to the following section’s exploration of living economies capable of acquiring the capacity for scale-linking.

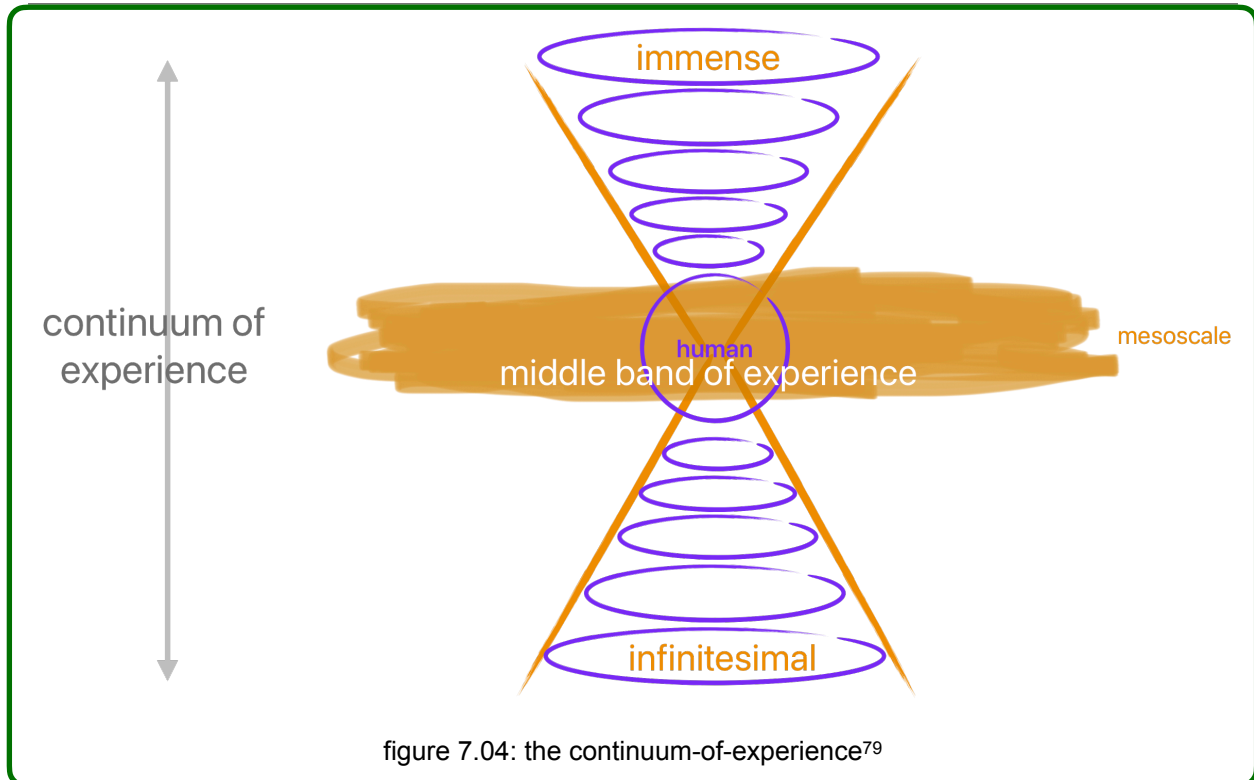
7.4 act 2: economies of scale-linking, part 1

In this section, Part 1 of a two-part study, weaves together *various* strands of deep thinking on *certain* aspects of the *workings of the world*, relevant to the rethinking of value co-creation. The title is a play on words. It insinuates that we *might* transcend the economies of scale (read *unbridled growth*), a central tenet of the dominant paradigm whose mode of realization is associated with a *fragmenting* and *fragmented* worldview that, in the name of efficiency, extracts value from and therefore depletes Life energies from our Biosphere. Alternatively, economies of *scale-linking* illuminate potential pathways *forward*, where the free flow of Life energies, by bringing *ever-greater* aliveness, becomes the *organizing* principle for *how* we co-create value in human social systems engaged in the process of Life-making.

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In this study of economies of scale-linking, we progressively image our way *toward* what could lead to a *veritable* rewilding of (more-than-Human) potential, manifested in *practical* terms through how we engage in a living economy together.

7.4.1 the Continuum-of-experience



nested wholes in every direction. This Inquiry approaches the study of value-creation from the perspective of regenerative development, whose *first* principles center *on* the notion that living systems are nested wholes encountered at *every* scale *throughout* the Continuum.⁸⁰ Within this Continuum, Humans occupy the *middle band of experience*. Peer-ing *downward*, we see the scales *beneath* us, and gazing *upward*, the ones *above*. This likely gave rise to a dualistic mode of thinking, which, to this day, characterizes our *broken* relationship with the Biosphere, of whose ecosystems we abandoned *long* ago. In our place, we left a void that inhibits the flow of the creative Life force.⁸¹ Instead of inhabiting this mesoscale, the *now missing middle*, we colonize a sizable region of the Continuum. Our *dom-*

⁷⁹ Yanez, 2024.

⁸⁰ This is the case, because the scales are always relative to where within them one sits. A cell or a solar system would experience the scales in a very different fashion than a Human. For example, any one of us is nested within a community-place-bioregion-continent-Planet, etc.

⁸¹ Louis Dumont, in his anthropological work, recognized a basic distinction in human social systems between what he labeled holistic social systems: typically small-scale societies, whose values and the arenas of Life organized around these, where never extrapolated away from the singular cosmological Continuum of all that is. This is in stark contrast to the fragmented and disjointed structures of our own modern, individualistic society. (Graeber, 2013.).

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inant mode of presence on the Planet has devolved to an externality; we've excluded ourselves from the *value-adding* processes of Life.⁸²

from community to immunity.⁸³ For us Moderns, who have exiled ourselves from the living world, participation flattens *into* a *systemic* breaking apart. We cannot create value from *beyond* the Continuum; we can do *little else* but extract it! A paradigm of human domination-colonization is in effect. Few can avoid being complicit. By relinquishing our place, a false sense of unboundedness is facilitated, welcoming in *unfettered* exponential growth—a *tragically underdeveloped* idea of development. Our economy of domination is unable to *continually* correspond with biospheric restraints. There is *zero* potential for scale-linking, *only* scale-crashing—whose *unintended* consequence expresses as the unraveling of *vast* living webs of relations. Behind this is a futile quest for immunity from the game of Life. We have *sacrificed* relationships in *all* their forms and banished *ourselves* to the cosmic void.

We can hear a *persistent* and *boisterous* call for a *paradigmatic* shift towards a mode of realization that embraces living systems thinking, one *firmly* rooted in Physis and Bios, because Life is a poiesis *entirely inconceivable outside* the Continuum.⁸⁴ Aliveness, as a quality, is an emergent property of Cosmos; this signifies that *all* beings, Humans included, have a cosmic role to play in the transformation of energies, *each* in their own *particular* way. Life's economy values the production of genuine wealth, an essential, *negentropic* vitality flowing forth *throughout* the Continuum. Mutual exchanges of energies *amongst* a *vast* pluridimensionality of beings is the *key* principle for the co-creation of value. A *broad* horizon of meaning, gifted to us from the totality of *more-than-Human* perspectives, is the source of genuine wealth without which we simply *cannot* be *fully* Human.⁸⁵

The question remains: *how* do we, as a species, inhabit *rather than* inhibit our place *within* this *poietic* Continuum?

cosmopoiesis as framing. I present the following framing as *another* attempt to address the above question.⁸⁶ Sympoiesis is the *mutual* co-creation of selves implicated in a **{self—other}** field-of-relation, an “other,” *without* which no “self” can exist, *except* as a divided self.⁸⁷ Sympoiesis is *often* offered as an upgrade to the concept of autopoiesis.⁸⁸ What was

⁸² The role of all other living beings in the Biosphere are value-adding, that is they bring *greater* aliveness to it, not less.

⁸³ This subsection is sourced entirely from de Siena, 2005, except where otherwise noted.

⁸⁴ See Yanez (2023) for a thick description of Morin's concepts of Physis and Bios.

⁸⁵ Genuine wealth has to do with bringing a *greater* degree of aliveness to the scales of the Continuum we find ourselves participating in.

⁸⁶ The framing is inspired by Morin's Cosmosophy, of which I align with, and, lived experience accrued via my practice of regenerative development. In particular, I am referring to the Three Lines of Transformation framework, which says that if we are to be developmental, we must develop capabilities simultaneously at three scales.

⁸⁷ Haraway, 2009.

⁸⁸ Autopoiesis is described by Maturana & Varela (1972) as the capacity of any living being for self-realizing.

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blatantly absent here was the dimensionality that is implicitly endemic to our Universe. We take this occasion to complexify these terms by distinguishing from them what I call cosmopoiesis, an exquisitely **{ordered—organized}** dynamic unity that expresses itself through everything we can encounter in our experience.⁸⁹

Cosmopoiesis explicitly recognizes the *greater* wholes in which the *sympoietic* fields-of-relation are nested, fields that enable every autopoietic self to assume a *value-adding* role. Cosmopoiesis requires us to consider at least three *poietic* levels co-arising together.

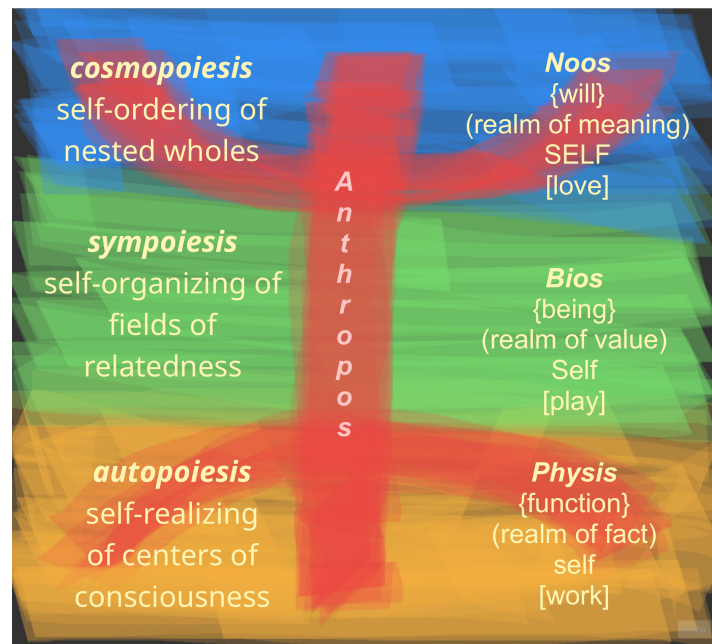


figure 7.05: cosmopoietic levels⁹⁰

Thus, we set the three terms in dynamic relation: **{autopoiesis—sympoiesis—cosmopoiesis}**.

Throughout this section, we explore the significance of this framing. For now, we inquire whether our absence from the Continuum might have *something* to do with *how* we render reality. As William James put it, if experience is *what* we agree to attend to, we *might* attend to rendering a *vastly* different reality, one that potentiates our *fullest* participation in the Continuum.

principles and premises. In Economies of Sale-Linking, Part 1, I presented the following principles and premises to guide our application of the cosmopoietic framing. We can apply this framing to establishing a ground from which we can render reality in its *fullest* Complexity, as a self-realizing Continuum; these are reproduced here *almost* verbatim, minus a few corrections.⁹¹

⁸⁹ Dynamic unity is a term introduced by Bateson, G., 1979.

⁹⁰ Composed by this author (unpublished).

⁹¹ Yanez, 2024.

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cosmopoiesis.⁹² The primal whole is a logical necessity, the minimum that can exist; it constitutes an ultimate Reality. We experience Reality not as an all-form, but as widely distributed each-forms, real enough to be observable in our everyday life. What we experience conceptually as ourselves is really a nucleus of fuller-selves [the Self of {self—Self—SELF}], a much larger field-of-relations. Their nestedness is such that the more limited forms-of-consciousness—lower orders of inner-togetherness—constitute the more inclusive forms-of-consciousness. This Universe is everywhere alive and conscious.⁹³ Any ultimate system of Reality necessitates a minimum of four aspects: 1) all Reality must be an occasion experienced by an experient; 2) there must be a sense of something going on, an event, a change, a difference that makes a difference; 3) everything real must be somewhere experienceable—must take place; and 4) a real entity must appear, be felt, be experienced. Nothing in our immediate Continuum-of-experience is external.

sympoiesis.⁹⁴ We live in a wholly relational world. This world is the realm of appearances, where there is always infinitely more beneath the visible. Everything is Nature precisely because every thing, with thinghood, has a unique nature. Life gives primacy to form. Form-differentiation anticipates the gift of consciousness. Archetypal patterns for world-relating are everywhere in play wherever entities take place. The inwardness of living bodies is essential for relating. The visible exterior of higher-order organisms reflects the inner world, enabling individuals to consciously establish relations. The realm of appearances is always active in the world, availing itself to the sensitive inwardness, a perennial generator of experiencing. The quality of an individual's inner world—their being state—determines the degree of aliveness of their relation.⁹⁵

autopoiesis. All living beings, including Humans, are autopoietic at the most basic level of organization. Their organisms automatically maintain some degree of inner-togetherness for a undetermined span of time. This is the knowable realm of function, all the Life-enabling processes that go on at every moment, beyond the control of the organism.⁹⁶

7.4.2 understanding the Continuum-of-experience⁹⁷

Although I introduced Bennett's meta-framework, Gradations of Wholeness, in Chapter 5, I now take this opportunity to summarize and review it here, precisely because these are the scales we are linking.

Bennett applies the method of progressive approximation to systematize the collective human experience (see Annex F for a summary of the Gradations of Wholeness in tabular

⁹² The principles and premises for Cosmopoiesis were originally sourced mainly from Gustav Fechner by James (1920), except where otherwise noted.

⁹³ Yanez, 2023.

⁹⁴ The principles and premises for Sympoiesis were sourced entirely from Portmann (1974); unless otherwise noted.

⁹⁵ Higher-order organisms have the capacity to consciously self-regulate the state of their inner being.

⁹⁶ John G. Bennett's term.

⁹⁷ The schema in this section in its entirety from Bennett (1956) the essentializing is entirely my own.

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form). It forms a complete whole—a continuum—segmented *into* gradations, an ordered, flowing sequence of structures akin to musical octaves.⁹⁸ It consists of three differentiated regions, each separated by a transition zone. The regions are *further* disambiguated *into* 12 gradations in total (4 per region), *each* marking the emergence of a *new* level of capability *along* the Continuum. Each gradation reaches a *progressively higher order* of wholeness, *thereby* enabling a *greater* degree of aliveness, as *emerging* patterns of differentiation evolve from *abstract*, undifferentiated wholeness to *concrete*, fully-realized wholeness. Each *discontinuous* scale overlaps, interpenetrates with, and *intimately* folds *into* the *next*, *never* interrupting the *underlying* pattern of Wholeness.

Bennett's meta-framework serves as a relational map of the cosmic drama as it evolves. It is a *functional* description of the explicate order, experienceable through our senses, whether amplified or *not*. It provides an *exceptional* opportunity to understand our place within a Universe.

overview of the continuum. The following provides an *extremely* surface-level overview of Bennett's meta-framework.

- sub-animate existence. This region of the Continuum lies within what Morin calls Physis, a *prolific* producer of Wholeness.⁹⁹ This region is *exemplified* by entities that are passive in their relations. Entities range from *undifferentiated* wholes to entities with thinghood. This is the region of the functional, the *knowable* wholes we can experience as fact.
- animate existence. This region of the Continuum is located *within* what Morin signifies as Bios, a *prolific* producer of Aliveness.¹⁰⁰ It is *exemplified* by entities that *actively* reconcile their *inner* and *outer* worlds. Autonomic beings range from viruses—*sometimes* alive, *sometimes not*—to Humans—capable of choosing their *own* destinies. The beings that inhabit this region of the Continuum can *never* be fully known. However, we can experience them as *value-adding* processes through their *unique* presence, and we can be in relation with them.¹⁰¹ This region presents to us a *lower* limit of autopoiesis and an *upper* limit of cosmopoiesis. These gradations extend *across* the range of Being, the *perceivable* quality of Aliveness we experience as value.
- super-animate existence. This region of the Continuum extends *beyond* our Biosphere *into* the cosmic realm, the source of universal will and the *all-pervasive* universal unity we address as Wholeness. It is *exemplified* by entities experienced *only through* our *mind's*

⁹⁸ A musical octave is also a continuum divided into 12 intervals, whose transformation from one scale to the next incurs a qualitative change. The 12 intervals (7 whole notes, 5 half notes) could more perfectly be divided into 60 intervals; but, playing music that way would prove insanely difficult.

⁹⁹ See Yanez (2023).

¹⁰⁰ Ibid.

¹⁰¹ We can know other beings as things with thinghood, and even observe their behavioral patterns, but that's not indicative of the fullness of their being.

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eye and collectively understandable through shared experience. Entities here range from planets to the *fullest* expression of a Universe.

- transitional zones. Bennett identifies two transitional zones that may hold the *key* to our understanding of the workings of scale-linking.

- active surface. The *first* transition, *between* Physis and Bios, is demarcated by the emergence of an active surface, a capacity of beings to regenerate their *inner* being while *simultaneously* navigating the hazards of an *external* environment to access *available* potential energy.

- Biosphere. The second transition occurs *between* Bios and Cosmos, marked by the emergence of a biosphere, a total living whole with its *planetary-scale* active surface.

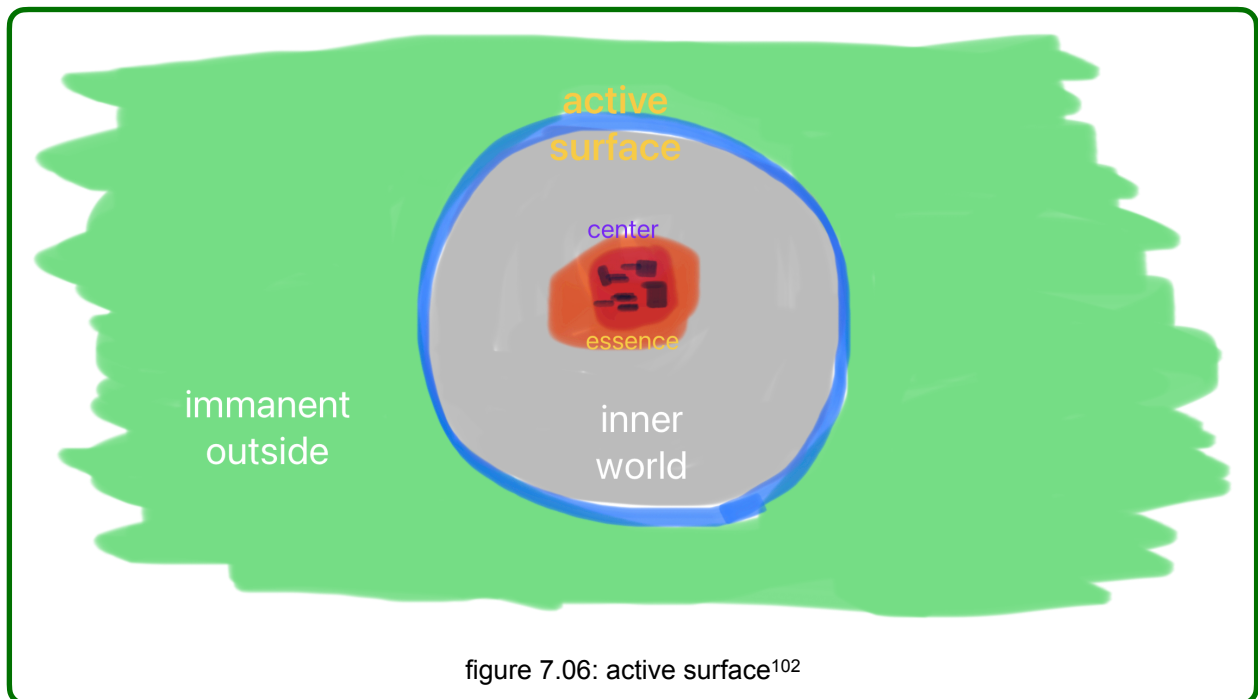
This has major implications for how we understand ourselves in relation to the Continuum. As Humans, we find ourselves *between* the *lower* and *upper* limits of an *extraordinary* world of being, with the capacity to extend our *mind's eye into both* the physical and cosmic realms. This is a gift; one we have abused.

The *globalized* extractive economy's mode of realization *exceeds* these limits, and *effectually* reduces the Biosphere's degree of aliveness to the level of subanimate existence. We *continually* fall short of our potential to render a reality whose organizing principle is *ever-greater* aliveness to the Biosphere.

We alone can *consciously* choose *how* we render our *own* reality. The rest of this section is dedicated to developing a *complexified* understanding of the concept of active surface, so that we can develop economies capable of scale-linking in ways similar to how living systems do.

active surface & scale-linking. The Continuum is woven through and through from an *unbroken* universal fabric of Wholeness, *enfolding* upon itself in a *progressive* gradation of wholeness, *each* gradation *unfolding ever-greater* degrees of aliveness. As it differentiates *into* the region of animate existence, the capability of active surface emerges. Active surface enables a dynamic {inner—outer} relation, effectuating an opening within entities where *interiority* takes root. With it comes the capability *endemic* to living beings to sense an *exterior* world *beyond* their permeable membrane, which renders the living whole recognizable as such. Active surface acts as a *filtering* medium that allows for *ongoing, selective* communication with the *outside* world.

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An active surface enables Centeredness *within* organisms, where we experience a concentration of essence—what makes *each* organism *unique*—that enables it to add value to the *greater* wholes it becomes part of in a *unique* way. Since *each* being is a whole, composed of other wholes and in turn constituting *greater* wholes, we can say that the Centeredness within an active surface is *how* wholes participate in economies of scale-linking. The following table summarizes our cosmopoietic framing as developed thus far.

¹⁰² Yanez, 2024.

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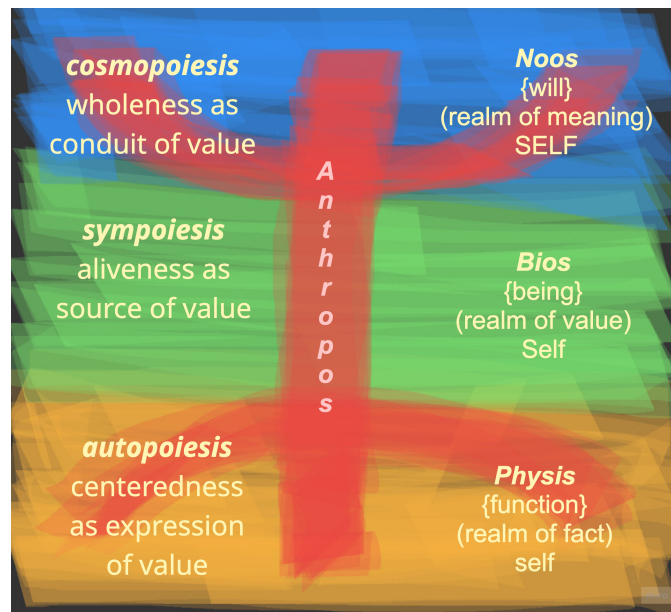


figure 7.07: Cosmopoiesis framing, revisited¹⁰³

relational scale-linking. We can distinguish *various* dimensions of scale-linking *within* our *larger* discourse. Bennett's meta-framing of the Continuum presents the four determining-conditions that guide *all* universal processes: space, time, hyparxis, and eternity. We *recapitulate* here.

- space. Space is composed of three spatial dimensions, *specific* locations where each-forms extend themselves for *some* duration in time.
- time. Time is the actualization of potential in each-forms as they present themselves in space for *some* interval.
- hyparxis. Hyparxis is the ableness-to-be of *any* each-form to actualize in time-space.
- eternity. Eternity is the source of unactualized potential available in *varying* degrees to *all* each-forms in the Universe.

I will use these determining-conditions to organize a *protracted* discourse on scale-linking, which has proven *too extensive* to fit *within* a single writing. This section, Part 1, limits its scope to *relational* scale-linking (eternity): it focuses on rethinking how our economies source value—unactualized potential—from our biospheric world-of-relation; Part 2 will examine *practical* modes of realizing value exchange in ways that bring *further* aliveness to the Continuum.

Subsequent inquiries will be organized *around* the other three determining-conditions, as follows.

- developmental scale-linking (hyparxis). One inquiry would focus on developmental scale-linking, that is, on exploring *how* we create value *through* being *uniquely* who we are

¹⁰³ Composed by this author (unpublished).

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as nested selves ({self—Self—Selves}). It would examine *how* we source value from essence, what generates *greater* aliveness, and how that aliveness, in turn, expresses itself *through* our livelihoods in alignment with the *greater* wholes we serve.

- temporal scale-linking (time). Another inquiry into *temporal* scale-linking might examine *how* we live integrally in the present, allowing sociocultural patterns that *no* longer serve Aliveness to die out and prioritizing the generational passing *down* of those patterns that do serve. This would naturally tie *into* a forthcoming article on how we collectively care for living knowledge.

- geographical scale-linking (space). Beyond *the geographical* scale-linking preliminarily addressed in Yanez (2023), where the bioregion was proposed as an *optimal* scale for developing self-realizing human social systems, scale-linking *between* Communities of place and Planet may be examined. A *subsequent* inquiry may *explicitly* study the role of place in economies of scale-linking.

The dynamic systems frameworks we are applying herein give us a degree of confidence that we are taking *into* account the whole of a phenomenon, such as scale-linking. This is critical, because, as we discovered *through* our cosmopoietic principles: *Nothing* in our *immediate* Continuum is external, *not even* potential, which is ubiquitous and commonplace in daily life, *yet* so inaccessible and abstract that we can *only* intuit its Workings.

7.4.3 value, capitalism, Life

In this subsection, we develop an understanding of the workings of value, of capitalism, and of the economy of Life through imaging, so we might discover a path *forward* that achieves the stated aims of the inquiry presented in this section.

alternative systems of value.¹⁰⁴ Value, as *presently* operationalized in a capitalist context, is in disservice to Life, as evidenced by the *monumental* chasm *between* extracted value and our values, *all* that we cherish as Humans.

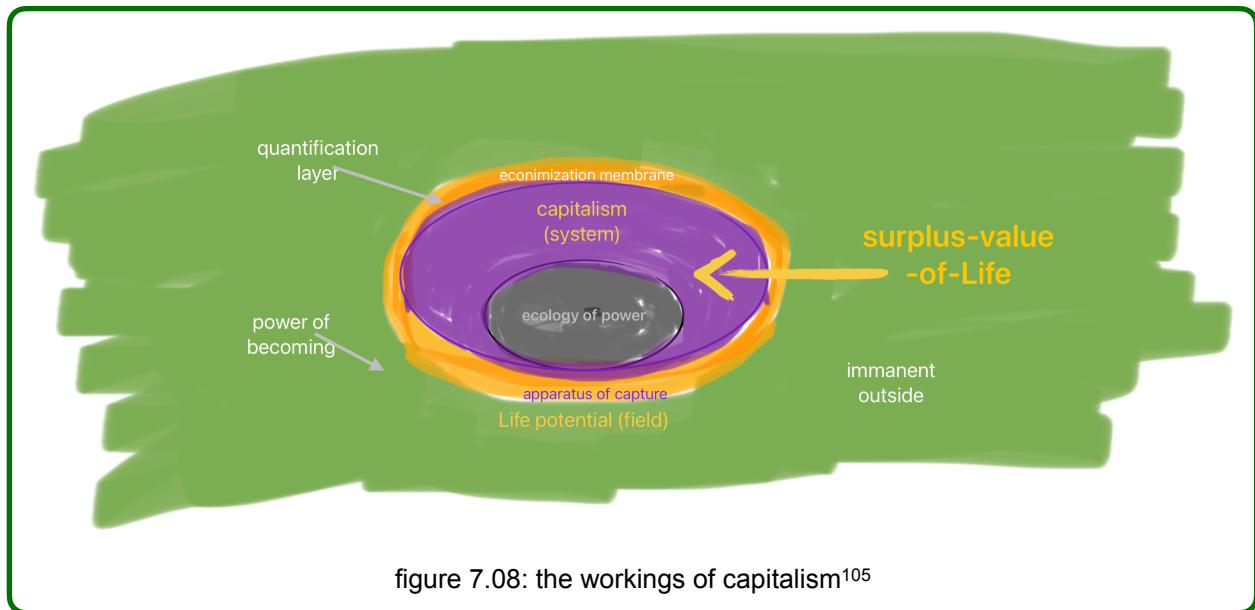
There is a clear and bold call for an alternative, *shared* theory of value from commons advocates and their allies. The motivation is to restore the thickness of relations that have been interrupted for so long by systems of abstract measurement that enable the commodification of the living web-of-relations and the *relentless* Life-grabbing mechanisms that collapse Life *into* debt and deadness. Value is Life. Value theory must be reconstituted *around* the Biosphere's imperative for *greater* aliveness.

In effect, what is being called for is a *relational* theory of value that emerges *organically* from living processes. Not *something* static, but a living notion of value that is *continually re-generated*, as is Life. We can develop *collective* meaning-making capable of deciphering value from *mutual* exchanges of energies and the *value-adding* processes that constitute the

¹⁰⁴ Sourced from Bollier (2016).

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Biosphere. The primary production of Life's processes is what makes capitalism possible in the first place.



the workings of capitalism.¹⁰⁶ Capitalism as a system is *inextricably* entangled *within* a field of living processes, the *immanent outside*¹⁰⁷. It feeds on Life activity¹⁰⁸. However, unlike living systems, there is *no* active surface present to mediate the flow of Aliveness; there is *only* a *one-way* capture. Economization is the apparatus of capture¹⁰⁹ of surplus-value-of-Life—wholly-qualitative potentials *yet to be* lived. Quantification generalizes (reduces *upwards*), reducing the qualitative to a number. Money, essential to economization, operates under the assumption that value is measurable and quantifiable. As such, it is destructive of Life's potential.

the economy of Life. Within the Continuum—the *immanent outside* of the capitalist system—Life has its *own*, *radically* inclusive economy, with its *own* ways of creating and exchanging value.

surplus-value-of-Life. Surplus-value-of-Life is a *qualitative* value based on the “*unexchangeable* currency of experience” generated by *every* each-form as they express the “power of the continuum” *through* their being, in *unique* ways.^{110,111} Surplus-value-of-Life is an *innate* value, constituted by *one-time* events *within* the Continuum that stand out *tem-*

¹⁰⁵ Yanez, 2024.

¹⁰⁶ Sourced from Massumi (2018).

¹⁰⁷ Massumi, 2018:10.

¹⁰⁸ Ibid.

¹⁰⁹ Ibid:39.

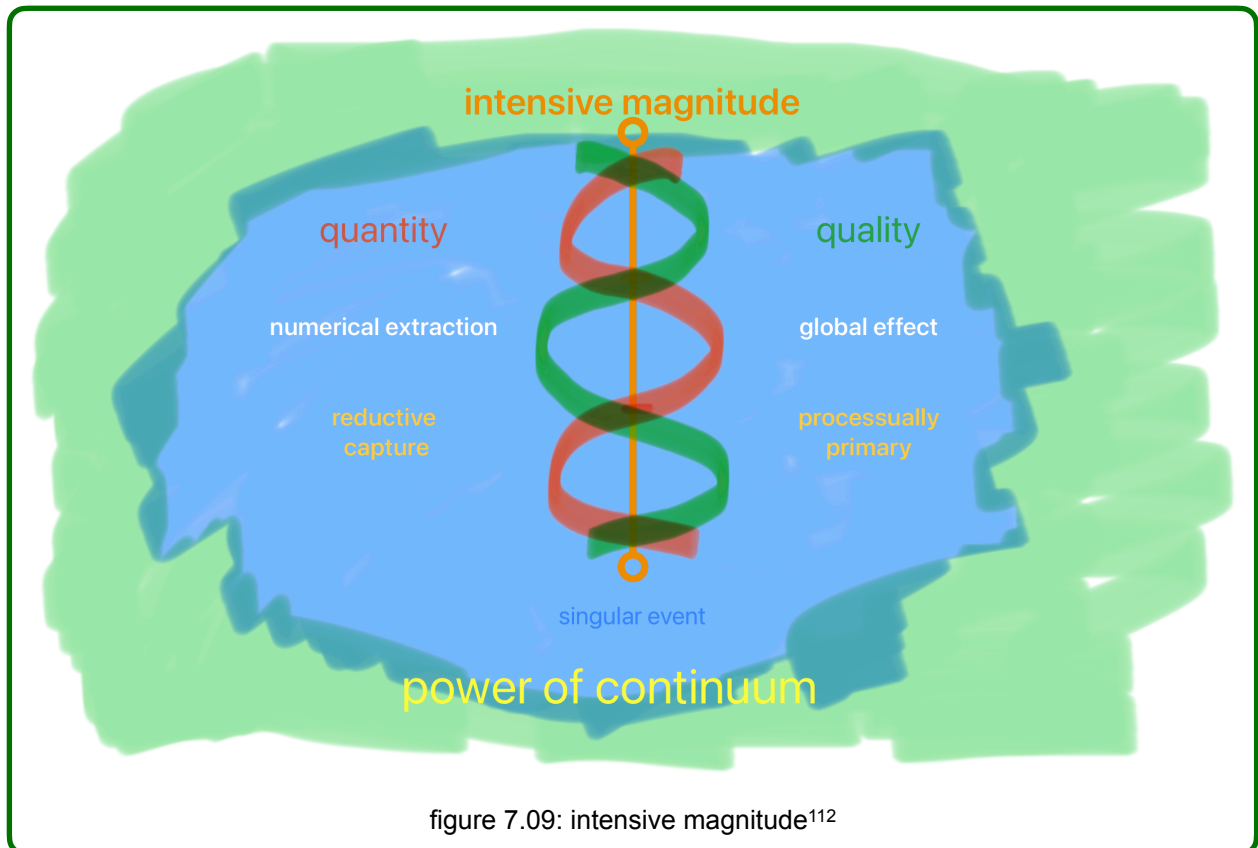
¹¹⁰ Ibid:25.

¹¹¹ Ibid:98.

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porarily from their background, and are therefore rendered *value-able*, in other words, capable of being valued.

nature of events. Qualities such as aliveness or beauty are *felt* qualities that serve as *qualitative* indices for the intensity of the *more-than-humanness* of an event. *Affective resonance* is a process of attunement to these *more-than-Human* intensities, which, when practiced *collectively*, enables a *far more* accurate registration of the surplus-value-of-Life—the *unactualized* potential latent in a given event.



intensive magnitude or {qualitative—quantitative}. All events are *both* quantitative—presenting themselves in the *extensive* dimension of space—and qualitative—producing a difference of *aesthetic* degree. Quality produces a global affect, quantity a *numerical* extraction; jointly they produce *intensive* magnitude.^{113,114} In the dance with quantity, quality leads. (The principal role of the qualitative serves to support the rationale of our larger study on implicate qualities of generalized Complexity.) Quality's capacity to hold space for an event's parts-in-relation to brace *into* the event's wholeness renders them indistinguishable in the self-realization of a Continuum. The intensity of the event, as a *singular* rhythmic movement *within* the Continuum, is irreducible.

¹¹² Yanez, 2024.

¹¹³ Massumi, 2018:98.

¹¹⁴ Ibid.

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Imaging, so that we may understand the workings of value, of capitalism, and of Life's economy, will prove essential in finding a reconciliation through this notion of scale-linking, which we explore together *next*.

7.4.4 scale-linking as creative complicity

regenerative commoning. I was imaging, together with colleagues immersed in discernment *about* regeneration, what the *next* evolutionary step *within* the sphere of systems change might look like. At the center of this exploration was the *perceived* necessity to reconcile the *transformative* desire of systems-change advocates and practitioners with the *very real* restraint that *artificially* limits their potential: economic dependence on the capitalist system, the *ultimate* system they pretend, explicitly or otherwise, to transform.

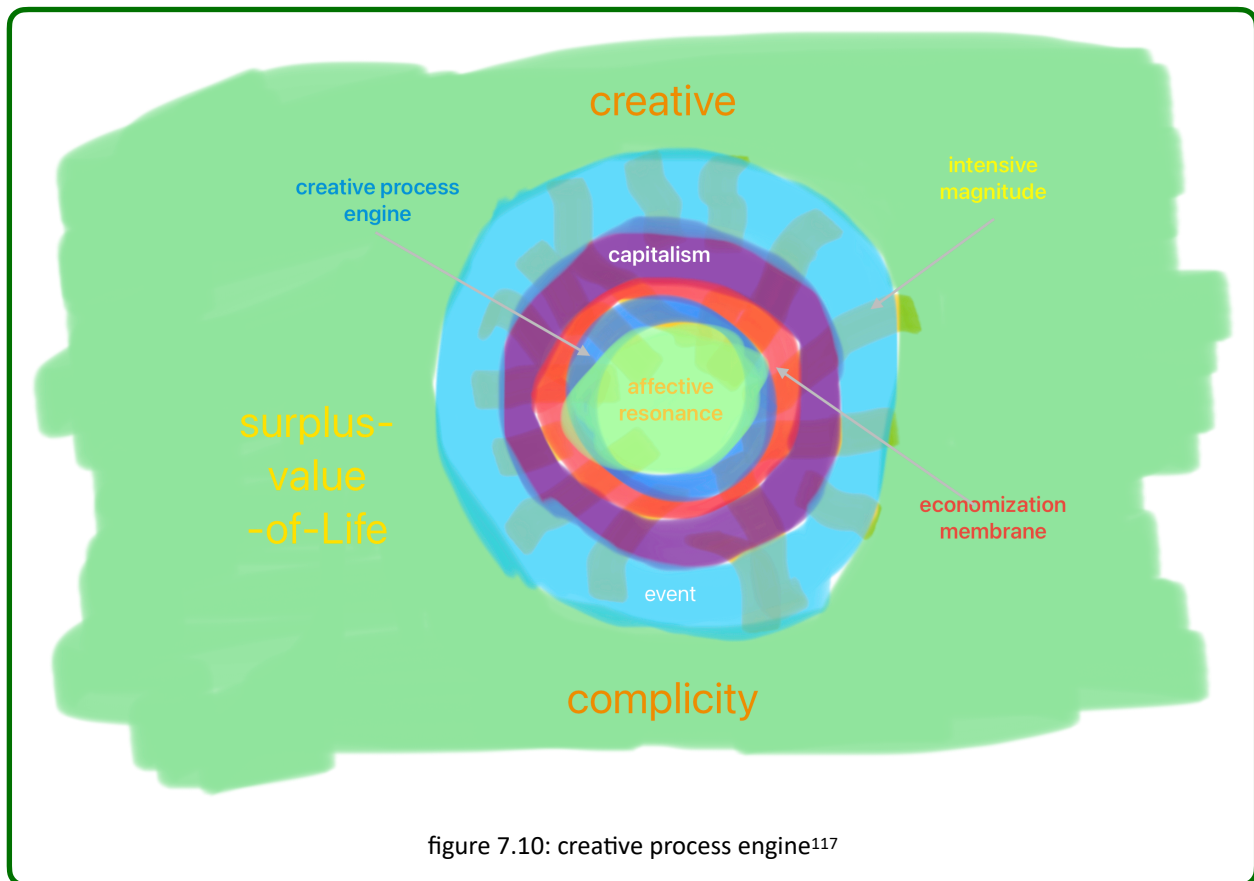
After a year or so of playfully non-purposive weekly meetings without goals, outcomes, or agendas, the notion of regenerative commoning emerged for us. Regenerative commoning requires change-makers and their allies to direct their energies *toward* releasing *each* other, at least *partially*, from the dependencies that *currently* constrain their initiatives. We imaged diverse fields-of-relation *internally* co-creating and exchanging value, whilst continuing to draw *down* surplus-value-of-capital from the *dominant* capitalist system, *permanently* transforming it into surplus-value-of-Life to *whatever* degree possible—a notion one colleague suggested could be referred to as transvestment.¹¹⁵

- alter-economization.¹¹⁶ With regenerative commoning, an alter-economization could take root in service to the *Life-affirming* power of becoming, where surplus-value-of-Life, *now* integrated as an organizing principle, retains value for itself. Such an economy would revalue value and prioritize Life-qualities, whose *in-formative* capabilities are essential to infusing human social systems with the creative Life-force. This notion is *most* relevant to what is unfolding here, which *clearly* and *concretely images* a mode of realization that operationalizes economies of scale-linking. And where do we begin, when we *all—even* our communities engaged in *movements of primary resistance*—are wholly and inevitably complicit? There's *no getting out*, or is there?

¹¹⁵ Transvestment is a term I heard in a conversation with colleague Markus Molz, used exactly in this context.

¹¹⁶ Sourced from Massumi (2018).

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• creative complicity.¹¹⁸ The antagonism of capitalism *toward* the economy of Life requires that peer communities participating in regenerative commoning, self-organizing within uncontested openings, develop approaches to capture value from the dominant system and transform it *through* the non-market logic of the regenerative paradigm.^{119,120} The emergence of a diversity of *translocal*, *networked* commons opens the potential for parallel economies to coexist *within* the capitalist system. The *key* to activating regenerative commoning is to understand how *qualitatively different* modes of exchange can be realized *within* a protective membrane, whose active surface has the capacity for operating *within* the capitalist economy, *while simultaneously* scale-linking with the *immanent outside*. A creative complicity, where the *way in* becomes a *way out*!

creative process engine.¹²¹ The creative process engine aims to produce surplus-value-of-Life while adapting itself to the economization process of the dominant economy that it must *eventually* interface with. This requires a *creative duplicity*.

¹¹⁷ Yanez, 2024.

¹¹⁸ Sourced from Bollier (2016).

¹¹⁹ See Yanez (2023), where it was presented as uncontested spaces, but the term “openings” is more accurate, since it does not refer to a physical space.

¹²⁰ See Sanford & Haggard (2020) on the regenerative paradigm.

¹²¹ Sourced from Massumi (2018).

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- creative duplicity. Creative duplicity gains from the *two-sidedness* of intensive magnitude, a subtle dance of **{quality—quantity}** that interweaves *without* touching.¹²² This calls for the self-realization of “*autonomous zones*” of creative duplicity: uncontested openings of “*processual singularity*”—events whose presence generates surplus-value-of-Life—interfacing with the *quantification processes* of the dominant economy, until *some* tipping point is reached.^{123,124} This would necessitate the capability to develop “*semi-permeable economization membranes*”—active surfaces with the capacity for scale-linking.¹²⁵

- economization membrane. Economization membranes would involve a synchronous oscillation (cyclicity) between **{inside—outside}**: *inside*, a registering of qualitative differentials—the flow of surplus-value-of-Life; on the *outside*, a quantifiable expression of value. The process would fold *back onto* itself, analogous to an in-breath (immanent inflection or enfolding) and an out-breath (unitization or unfolding), *imitating* Life’s capacity for active surface. Here it is in a bit *more* detail:

- inside the membrane. Inside, the creative process engine would register the flux of *affective* intensity, acting as an *affective* resonator, a space for *the collective* sensing and embodiment of surplus-value-of-Life, where *fundamental* decisions can be made from a *felt* sense of Aliveness. This would coalesce with the *quantification* apparatus moving *outside* the process.

- outside the membrane. On the *outside*, an *undifferentiated* mass of money—potential awaiting capture—moves *in parallel* with the affective process; unitization *translates* the *process’s internal* flow *into* conventional economic values. Some *alternative* currency would fulfill the function of money.

- membrane. A *digital* membrane modulates the *two-sidedness* of intensive magnitude by permitting potential (*unmonitized* money mass) for the conversion of the *inside* flow (surplus-value-of-Life). The membrane is the *only* enclosure *around* the creative process engine; otherwise, it remains *radically* open.

- ecology. The creative process engine would participate in an *ecology of alter-economies*—yet-uncontested openings—commoning-oriented projects—*each* with *dedicated* alternative currencies, convertible *into* a layering of *interoperable* surrounding currencies, which would *eventually* interface with the capitalist system. The ecology would support *symbiotic* economies of abundance by design, enabling collaboration powered by the Continuum, a *self-renewing* plenum of *subjective* becoming.

¹²² Ibid:124.

¹²³ Ibid:87.

¹²⁴ Ibid:88.

¹²⁵ Ibid.

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In this way, the surplus-value-of-Life—the continuation of the Life process, and therefore, the Continuum—would divest monetary-surplus-value, *effectively* “pricing” the *incommensurable* living potential.¹²⁶

7.4.5 rewilding of Human potential

Thus far in this chapter, we’ve imaged how Humans have carved out a *lifeless* void in the Continuum, which modernity and its handmaiden, capitalism, have *subsequently* colonized. We’ve also seen how ordering frameworks, such as {autopoiesis—sympoiesis—cosmopoiesis}, can serve as instruments for imaging our place *within* the Continuum. We’ve tested an approach to inquiry capable of integrating cosmopoietic and sympoietic principles *essential* for *relational* scale-linking. Through Bennett’s work, we also explored a meta-framework consistent with and expanding upon the cosmopoiesis framing, offering a *surface-level* understanding of the scales we could be linking via the emergent capability of active surface. From this vantage point, we saw how the *current* workings of value, powered by capitalism’s capture of Life potential from the immanent *outside*, fragment our reality. This invites us to prepare the ground for re-contextualizing the “capture” of Life potential *within* the economy of Life.

In sharp contrast, we imaged how the economy of Life (RE) generates surplus-value-of-Life and therefore produces an excess of unactualized potential, which appears *everywhere* as *singular*, *aesthetic* experience, available to us via *affective* resonance, which gives priority to qualities *within* the Continuum. We introduce the notion of regenerative commoning as an aspiration to hack a way *through* and *beyond* capitalism, and we propose the creative process engine as a potential approach to operationalize this.

Now, our cosmopoietic journey has landed *here*, squarely in the (*missing*) *middle* of a Continuum characterized by a thickness of relation that Western civilization previously diverted us from participating in.¹²⁷ These are *yet* uncontested openings which invite our movements of primary resistance to inhabit. These are the mesoscales *everywhere*, the potentiality born of creative tensions that could reconcile polarized extremes. This has been *exemplified* in Act 1, where the bioregion emerged as the *optimal* scale for mediating the local and global ({*local—bioregion—global*}).¹²⁸ It is also *exemplified* here, as we have established sympoiesis as the *all-important* mesoscale. In this missing middle, we might apply rewilding of potential *through relational* scale-linking that rekindles our relations in a *more-than-Human* world.

Indeed, the praxis outlined herein depends on *how* we, as Humans actualize the value-adding potential of our immanent *outside*, if we do so in ways that are coherent with the ex-

¹²⁶ An example of artificial or non-living potential would be that which is transacted in futures markets.

¹²⁷ Thickness-of-relation is a term introduced in Yanez (2023).

¹²⁸ Ibid.

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traordinary thickness of Being (Continuum) that constitutes and *continually* regenerates it. It is an attempt to set *into* relation *how* we value (*quantity*) with *what* we value (*qualities*). As we have seen, Life's potential is a quality we *cannot ever* live without. *Even* capitalism wholly depends on it, although it depletes it.

The notion of rewilding potential invites us to a *deeply layered* listening—affective resonance—from *within* collective bodies, such as commoning-oriented projects, so that we, as participants in *fully* Human social worlds, can awaken to our *own* potential and allow the free flow of Life potential, so that there might *someday* be *no* immanent outside. Without developing the capability for *collective* interpretation of *others'* *otherness* and the *dynamic* integration of our value systems, we forgo our potential to be *fully* Human.

There is great promise for Humanity. The capacity to self-organize our world-relations within the *more-than-Human* world is *inherently* inscribed in us. Homo sapiens inhabit an *infinitely richer* spectrum, a *far wider* range of inclusiveness and potential relation than *any other* species. The notion of becoming *fully* Human as a species—the topic at the epicenter of my research—requires that we reorient ourselves to the *workings of the world* on its *own* terms and take our place *within* that Continuum—that is, if we wish to continue. Relational scale-linking may be one way of doing so, of ensuring the continuity of Aliveness that flows *through* us and is *amplified* by our *integral* presence *within* the Continuum.

I realize that with Act 2 (and the paper that sourced it), we embarked on a broad exploration that is *entirely* incomplete in *every* way—in the developmental spirit we might say it is a promise *beyond* ableness. As such, hopefully it brings together *just* the *right* determining-conditions to make the *improbability* of economies of scale-linking a *potentiality*, that is, *somewhere* rendered possible.

And here we are! Our journey into the thick, messy middle of a Universe and the Study of a Continuum suffused with implicate qualities of generalized Complexity is drawing to a close. In the chapter that follows, we will attempt to reach an elegant conclusion to this Research.

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chapter 8. on the prospect of being *fully* Human

*When we try to pick out anything by itself, we find it
hitched to everything else in the Universe.*
John Muir

*And if we prefer not to speak of it, whether for good or
for ill, it is because the only thing we could say is this:
poor, frail universe, born of nothing, all we are and do
resembles you.*
Italo Calvino

*... a human being will always be greater than anything
they can say about themselves, and anything they can
think about themselves.*
Alan Watts

8.1 a study of generalized complexity...

What could we possibly learn about ourselves by investigating Complexity, no less, in the Universe, a phenomenon so seemingly far removed from everyday life? What would we have to gain? In a word, *everything*!

8.1.1 intellectual potency

This study takes an open-ended approach inspired by the natural philosophical tradition, a tradition that dates back to the birthplace of thought itself, a time *before* anyone had established a single “right way” to see the world. Of *all* the modes of learning, *only* natural philosophy, the precursor to modern-day science and indeed *every* conceivable discipline, has the intellectual potency to ponder the extraordinary workings of a Universe-of-complexity.

As a civilization, we have *yet* to assimilate the phenomenal discoveries of the *last* century. We are left with *only* vague uncertainty about a vast, marvelous, and unapproachable immensity of a self-organizing Universe. Until *now*, that is. Through the newly rediscovered method of progressive approximation, which activates the power of our mind's eye to achieve *ever-greater* clarity of perception, we begin to shed light on the workings of an intimate Universe by learning to see it with new eyes. We uncover a Universe in which we can belong, that is, one in which we might find purpose and meaning.

8.1.2 fullest significance

The new-age prophets were right *after all*! All is one, yet that's *not* how we experience the world in everyday life. This research on Complexity elegantly describes a Universe where *all* worlds find their place, especially the Human one. It confirms the intuition that, how we perceive our reality is how we repeatedly bring it *into* being. This may be hard to swallow because it has huge implications. It's easy to assume that we are insignificant, that our presence on this relatively unassuming planet, in *some* far-off corner of the Milky Way, has no importance whatsoever in the *larger* scheme of things. Yet our conclusion implies otherwise.

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Humans have a cosmic role to play in consciously manifesting Reality. And what if this were really so? Where would we begin?

This research takes this notion *all* the way home. It begins with a *very* different premise: Each and *every* one of us, *all* of us as a species, is the Universe in Human form, yearning to understand itself in its fullest significance. Think on that for a moment. We are the eyes, ears, body, and mind of the Universe, waking up to finally catch a glimpse of itself in the mirror. Up to *now*, as far as we know, we are the *only* species in the Universe, certainly on Earth, that has developed the capacity to *even* make such a claim.

8.1.3 proprioceptive potential

It seems crazy, this notion that we have a Cosmic role when we can barely get our act together here on Earth. And... we're starting to learn that it hadn't *always* been so. We are *now* discovering that *throughout most* of our past as a species, regular people, engaged in everyday life, in communities large and small *all* over the planet, actually consciously participated in bringing their social realities *into* being. They didn't wait for permission; they assumed this responsibility in exchange for a sense of belonging to *something greater* than themselves. We've played this role *before*; will we dare play it *again*?

We can say without reservation that there has *never* been a *more* urgent moment in the history of Humankind to gain a comprehensive understanding of the workings of our world and our place within it. Indeed, Humanity finds itself in a pickle—an existential metacrisis of cosmic proportions, one of its *own* making. Our powers of self-reflection have gifted us with the hindsight to see that our mode of realization introduces an internal conflict into our Biosphere's operating system.

8.1.4 internal conflict

At its root, this conflict is about self-image—a myopic view of ourselves, alienated from everything else. Our Western intellectual tradition has perpetuated an epistemology incompatible with the complex nature of our Universe, one that is currently incapacitated by its *own* fractured nature. Indeed, we have divided our knowledge *into* hundreds of disconnected disciplines, making it almost impossible to gain a comprehensive understanding of *who* we really are and what we are truly capable of.

The research aims to understand the Complexity of our Universe on its own terms, seeking to reconcile the growing internal conflict. This study approaches the nascent field of generalized Complexity, *not* from the limited perspective of a single discipline, but from the Complexity of the whole. We aim to discover its implicate qualities—what is “going on” behind the scenes. These are the very qualities we aspire to cultivate in our human social systems.

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8.1.5 pivotal approach

To engage with generalized Complexity as a field of study, we had to develop a whole new approach to knowing and inquiry, indeed a different language and way of describing phenomena that embodied the very qualities we were learning about. And yes, as complex thinkers, we have *even* developed the theoretical capacity to render an image of a Universe in its fullest dimensions. However, instead of geeking out interminably, this led us to the pivotal question: what would it mean to be fully Human?

The question is pivotal because it propels the study toward applying what we learned in practical ways, translating this awe-inspiring, new, intimate, and dimensionalized view of the Universe *into* shaping an ecosocial reality we actually want to live *into*.

Here, as promised, we reconcile the two movements of this study, the theory and the practice, to take stock of what *just* happened, to pull together a tentative conclusion to our adventure, and to figure out what's next.

8.2 what in the world just happened?

It may surprise the reader to hear that I don't fully know what *just* happened. I am still taking it *all* in. None of this was planned. If you will accompany me a bit *further*, we'll attempt to sort it out *enough* to hopefully make collective meaning of it. I suspect it will take *all* of us *some* time to process.

8.2.1 It takes a Universe...

Everything *everywhere all* at once. Yes, that was a popular film, and it also describes the criteria for an image of the Universe-of-complexity might include if we could render it accurately, in its fullest Complexity. I am reminded of Italo Calvino's story in CosmiComics, in which baking a loaf of bread implicated the entire Universe. It takes *all* of it, *every singular* thing you can think of, and *all* you can't, because there's absolutely nothing extra required to be fully who we are. Every individual of every species in every galaxy can truthfully say this, if they could speak.

coming back to life

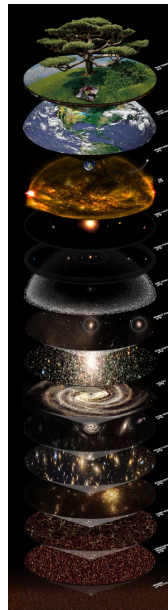


figure 8.01: nested Universe¹

We try to pick out the one aspect, the one thing. Whether to justify ourselves, pinpoint a cause, blame, or find a causal explanation for x, y, or z. We tell ourselves that if we could *just* change *that*, *everything* would be different. But we don't realize *that everything* is the same because *everything* is already different in the same way. Years ago, I watched a film called Hector and his Search for Happiness. At the risk of spoiling the ending, it concluded *something* similar. It isn't *just* one thing. We need to experience the whole range of emotions: joy, sadness, fear, despair, elation, loss, *all* of it, to be fully who we are. None of it is extra. We can *never* get *outside* of experience, at least while we're alive.

8.2.2 common ground of experience

What a beautiful discovery we've stumbled upon. The one thing *every* entity in the entirety of the known (and unknown, for that matter) Universe has in common. Experience. This is our common ground. Everything, everyone, *everywhere* experiences *something*. How powerful a statement is that. Of course, *not* in the same way, *nor* to the same degree. But put it *all* together, and we get Reality with an upper-case "r." I remember reading a wonderful book, The Seven Mysteries of Life, in which, in one memorable section, the author describes *all* the possible ways living beings sense what's going on *around* them and perceive and navigate their realities. It's a potent realization to consider Life's collective capacity to recognize itself.

¹ Scales of the Universe 2020 English Labels by Pablo Carlos Budassi (n.d.).

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figure 8.02: water drop²

Imagine that we could “look” *through* each of those perspectives *all* at once, and consider the fullness of what we’d see. One of my favorite mental images is a dewdrop on a leaf, reflecting *everything around* it in its almost spherical convexity. I image that these gazillion drops of water are the eyes of Nature admiring itself from the vantage point of *every* leaf, *every* blade of grass. To think this happens *every* morning, without fail, and *again after every* rain. And there would be nothing much to look at, nothing to reflect, if that drop were on the moon, for instance. Yet to take it *all* at once, our minds would likely crash.

8.2.3 a complexified continuum

If it wasn't already made clear, I will restate my gratitude for the relentless, rigorous work of Bennett and his colleagues, who, over the course of several decades, systematized the whole of human experience *into* a set of structures with which we can take in the whole of the Universe-of-complexity, *not all* at once. And yet, we are gifted with a continuous whole, a total order that is sufficiently differentiated, textured, and navigable, so that *all* things may find their place.

I am equally grateful to Edgar Morin, whose tireless, prolific work gives language to the self-realizing Complexity observable *throughout* the expansiveness of our Universe. His works brought home to me the notion of a participatory Universe *most* vividly. In particular, the insight that how we know our reality is how we create it over and *again*. And so, I feel called to participate in reorganizing our systems of knowledge, to conjoin what has been

² Sourced from the internet, no information available on the author.

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fragmented, and to be a transdisciplinary epistemological surfer who isn't required to commit to one way of seeing the world.

8.2.4 restraining impulses

I realize now that my youthful rebellion was *not* necessarily against authority, as much as it was a reaction to being boxed in. I am grateful for this, because it strengthened my will to break out of that box, and I did. As I mentioned earlier, I was initially attracted to this program in Complexity because of its seemingly transdisciplinary nature. I soon found out this wasn't the case at *all*. The program was *very much* devoted to restricted complexity, to artificial intelligence, to computational models and agents, *all* of which, quite frankly, repelled me. I could *never* conceive of arriving at a comprehensive understanding of the extraordinary Complexity I experienced in the *workings of the world around me*.

And yet, I am entirely grateful for the restraint it instilled in me. I am especially grateful to Professor Rui Lopes, who, after reading the rebellious and perhaps frustrated tone in my research proposal, asked me whether I would still consider staying in the program and inspired me to use my research to demonstrate otherwise. And so I have. I owe so much to Carol Sanford and my Fourth Way friends-in-the-work, a field from which we have learned so much together, *most* of which I have shared with the reader. I would especially point to the technique of systematically imaging the *workings of the world*.

8.2.5 patterned workings

I experienced the importance of this years ago, when, as a novice Waldorf teacher, I had to learn to draw and paint “beautiful” images on the blackboard. Until I had a clear *enough* mental image of my subject's essential nature, what differentiated it from *everything* else, I couldn't express it in a form that was recognizable to others. I required the in-sight to intentionally manifest *anything* in the world. This, of course, served me well as a designer. That, and my attraction to pattern.

In my yearning to make sense of my increasingly complicated and uncertain world, I found a sense of *relative* certainty *in* pattern. So much so that I was able to manifest the potential I recognized in landscapes and ecosocial systems *through* the power of pattern and imaging. Indeed, it was during my permaculture period that I first encountered the work of Christopher Alexander on pattern language. This changed *everything*! The idea that a community could develop a language together to communicate complex relationships in shorthand, so to speak, felt less improbable. The implications for creating a wholly different reality from a wholly different cultural paradigm seemed far *less* improbable.

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8.2.6 poietic relationality

As an ecologist (and as a *barely human* Human), I understand the complex, correspondent nature of relating. I recognize that the relational force between *any* two individuals is, in some sense, a microcosm of the relational force between a community of individuals and their context. And so when I dove headfirst *into* Morin's Universe, I was ecstatic to discover that this also applied to the world of ideas. I couldn't contain myself. Much of what the reader has experienced here, the festival of hyphens and em-dashes, I owe to Morin's complex thinking, which sets otherwise fragmented ideas and concepts *into* dynamic relation. This, along with the poetry of language, is what I experienced with Morin and so *many* other insightful thinkers and their works.

Poetic and poietic language is sufficiently and potently powerful to render images of qualities that one could otherwise experience only directly. Almost *all* of the works I was drawn to exemplified this capacity to grasp the essence of a quality and express it coherently. I found this capacity *not only* in texts but also in *many* systems of interpretation I encountered: Western musical notation, human design, chess, I Ching, Kabbalah, etc. And behind it *all* was *something*, a self-similarity, that tied it *all* together.

8.2.7 explicating the implicate

I am grateful for the persistent coherence and the potency of inner-togetherness that permeates the Cosmos. Without it, I would *not* have been drawn to these thinkers, their works, and the extraordinary insights that resonated with me *enough* to generate my *own* insights. That's it, the idea that resonance, and therefore coherence, is *even* possible amidst such overwhelming plurality of expression.

For this notion, I am grateful to *all* who have beautifully expressed the dance of the whole and its parts—that is, of quality and quantity—in language: Plotinus and William James, whose works I recently discovered; likewise, Brian Massumi; of course, Morin and Bohm, who have been with me for *some* time; and Alexander, whose work on the nature of order gave me so much to play with in deciphering the implicate qualities with which we began this foray.

8.2.8 differential cyclicity

Throughout these studies and research, I kept crashing head-on into this concept of uniduality, gifted to us by Morin—immortalized in the form of the Yin Yang symbol. The persistent insight was that to move *beyond* the Western duality tradition, we needed a way to operationalize both/and, and this had *something* to do with rapid cycling between polarities. This cyclicity, ironically, served to better differentiate the essence of whatever quality of a phenomenon I was attempting to describe.

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The difference that makes a difference shows up *most* clearly as a reconciliation when two complementary opposites are held in relation. Like a juggler juggling various objects, we lose sight of the individual things, and what opens up is foregrounded. What is foregrounded *now* is a dynamic relationship within which a new quality or capacity is made apparent and rendered experienceable. Immense gratitude to Gregory Bateson, Morin, and Massumi for leading me to this insight *into* the opening-up movement. The shift in what we give attention to was a *very* insightful clue, indeed.

8.2.9 significant middles

The *most* significant finding of this Study is that *fully* human beings must be capable of participating with the Universe-of-complexity on its *own* terms. These terms have *now* been rendered at a *higher* resolution; they've become apparent to us. If we are to accept the invitation to step back *into* the Continuum, there are three conditions to be met:

- 1) We must accept as fact that we can no longer pretend to be the source of order in our Universe and be willing to be at home in the intimate nesting of its self-ordering Wholeness of Physis.
- 2) We must give primacy to the self-organizing Aliveness of Bios, value it *above anything* else, by bringing forth *all* that we are and our *fullest* relational capacities to be fully present in the thickness of Life, to organize ourselves playfully in the messy middle, so that, as of *now*, nothing would be missing.
- 3) We must give ultimate significance to our cosmic role as fully human Humans in the process of the self-realizing Centeredness of the Cosmos: our *radically conscious* and *radically authentic* participation. In other words, we consciously apply the *full* range of available potential energies to power our *own* transformation *toward ever-greater* inner-togetherness, so we can be *fully* who we are.

Being fully who we are as Humans requires that we source the patterns that shape our world from Biospheric wholeness, the transcendent pattern sourced *through* Earth. This implies nothing *less* than recognizing that *all* manifestations of Life, including us, are *unified* with respect to {function—being—will}. This is the coherent potency of universal process, our shared purpose; the patterned consistency of living structure, in which we can find true security and genuine wealth; and the imperative of cosmic will, which invites us to align our *own* wills.

In the next section, we will weave together *all* the layers of significance to gain a fuller understanding our potential cosmic role: fully human Humans from within a deliciously messy middle.

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8.3 all together now...

I will apply Morin's **Reality—knowledge** framework across the three subsections that follow to integrate what we've discovered thus far, using synoptic tables followed by a brief discussion.

8.3.1 Physis (universal process)

If we harken back to Plotinus's cosmology, *before anything* else existed, there was *only* pure Essence radiating from the divine mind of the soon-to-be Universe, in its undifferentiated wholeness, whose formless void produced the *first* agitations of Physis.

table 8.1: universal process of self-realization

universal process	primary movements	implicate qualities	orders of self-realization	poietic levels	modes of participation
self-ordering	enfolding	WHOLENESS	SELF (system)	cosmopoiesis	love (macro)
self-organizing	unfolding	Aliveness	Self (social field)	sympoiesis	play (meso)
self-realizing	centering	Centeredness	self (individual)	autopoiesis	work (micro)

Physis is characterized by the universal process of **{self-ordering—self-organization—self-realization}** that produces Reality, the Itself. This process is brought forth by the primary movements **{enfolding—unfolding—centering}** inherent in producing the implicate qualities **{WHOLENESS—Aliveness—Centeredness}**. Although we experience *all* three implicate qualities, Wholeness is primary here and is therefore expressed in upper case.

The “self” of self-realization undergoes transformations, acquiring a nested dimensionality **{self-Self-SELF}**, whose self-realizing, poietic activity we recognize as **(autopoiesis—sympoiesis—cosmopoiesis)**. This self-realizing poietic activity requires varying modes of participation, which we can express as the relation **{work—play—love}**. This universal, self-realizing process exists to generate the living structure of Being.

8.3.2 Bios (living structure of Being)

Bios, or the living structure of Being, emerges from Physis, *not* magically, but as a transformation of the self-realizing agitations inherent in Physis.

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table 8.2: living structure of Being

regions of structures	implicate qualities	external display	elements of experience	internal interface	realms
subanimate (Physis)	Wholeness	behavior	function	knowing (epistemology)	fact
animate (Bios)	ALIVENESS	materiality	being	perceiving (ontology)	value
supra-animate (Cosmos)	Centeredness	law of form	will	understanding (cosmology)	meaning

The living structure of Being expresses itself through 12 gradations of wholeness that naturally order themselves *into* three regions of structure: **subanimate—animate—supra-animate**. These structures express the implicate qualities of **Wholeness—ALIVENESS—Centeredness**; with ALIVENESS taking the lead, hence its presentation in upper case. Although Bios is foregrounded here, the reader will notice that the regions of structure also have a layer of significance from **Physis—Bios—Cosmos**, the {RE} factor, which RE-iterates at every level of scale.

Entities that inhabit these structures, whom we meet in experience, are recognizable because they display their inner-togetherness at three levels of intensity: **behavior—materiality—law of form**, which we experience as **function—being—will**, respectively. We interface with the elements of experience in a likewise differentiated fashion, as **knowing—perceiving—understanding**, and these are correlated with the realms of **epistemology—ontology—cosmology**, each being the realm of **fact—value—meaning**, respectively.

It is in the currently missing middle that opens to the possibility for a fully human Humankind to emerge, and take its rightful place in Bios as the proprioceptively enabled bridge between Physis and Cosmos.

8.3.3 Anthropos (*fully* human Humankind)

A fully human Humankind self-realizes from the uncontested opening provided by the living structure of Bios. The individual completeness characteristic of the Biosphere provides Humanity with an eternal form, whose law predetermines the range of potential available to it. This range extends from the *singular*, divided self to the collective SELF, which self-realizes through the reconciling impulses of authorizmos, alignment with the cosmic will.

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table 8.3: fully human Human

implicate dimension	determining-conditions	structures of consciousness	principle in play	implicate qualities	framework applied
circumcenter (0-dimensional)	—	origin (pre-spatial, pre-temporal)	undifferentiated wholeness	Wholeness	structure law of framework
breadth (1-dimensional)	potential from eternity	magical (spaceless, timeless)	uniduality	Aliveness	triadic ordering frameworks
depth (2-dimensional)	actualization in time	mythical (spaceless, natural temporicity)	polarity	Wholeness—Aliveness	Reality—Knowledge
volume (3-dimensional)	extension in space	mental (spatial, abstractly temporal)	duality	Wholeness—Aliveness—Centeredness	Structures of Consciousness
interval (4-dimensional)	ableness-to-be of hyparxis	integral (space-free, time-free)	transparency	{RE} (inner-togetherness)	Gradations of Wholeness

This eternal form has an implicate circumspherical dimensionality expressed herein in 4 dimensions as **breadth—depth—volume—interval**. These dimensions arise from the undifferentiated wholeness of a circumcenter, guided by the determining-conditions (universal laws of form) expressed herein as **eternity—time—space—hyparxis**. The living structures produced in anthropos are structures of consciousness described as **magical—mythical—mental—integral**, which emerge from an undifferentiated point of Origin and return to an *ever-present, self-realized* Origin via the integral mode of consciousness.

The principles at play in these structures are expressed as **uniduality—polarity—duality (relationship)—transparency**, principles that express the implicate qualities as we've seen *before*, with an emphasis on the inner-togetherness of **RE: {Wholeness—Aliveness—CENTEREDNESS}**. We can understand these dimensions and *all* the layers of significance implied by the frameworks listed above in Table 8.3, which are a product of the universal validity of structural laws (frameworks) that ensure universal coherence of a *singular* cosmic will, a First Principle emanating from the undifferentiated Wholeness of the One, whose divine mind shines light on *all*.

The theory of implicate dimensionality and the corresponding system of synairetic description developed herein open the field of potential for a fully human Humankind to effectuate its next mutation. The integral structure of consciousness awaits us. A structure that will require us to develop the capability of diaphaneity, where we are able to understand ALL that we are, *all* the processes, structures, and significance these imply. That we are able to integrate these transparently, where they meld one *into* the other synairetically, *yet* navigate them consciously.

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8.3.4 Noos (RE, or the significance of significance)

In Noos, I am convinced, we can locate ourselves within the action of {RE}. Our self-realizing journey in this Study of generalized Complexity is bringing significance to the promise of {RE} and to the possibility of gracefully inhabiting the missing middle: self-organizing Aliveness unfolding via a social-level Self, whose sympoietic character is accessed *through* play at the mesoscale of bioregions. A scale plainly in the middle band of experience, whose Beingness demands of us the imperative of Aliveness that we can radically participate in it via the world-of-relatedness, navigating it *through* the perception of the *unique* value of *all* beings, inherent in each each-form with which we come *into* relation. We do so via our integral mode of consciousness, which enables us to perceive the Universe in its extraordinary self-realizing fullness.

And the absolute novelty emerging from our Study is the significance of significance. Through our radical participation in Noos, we are enabled to discern what we give significance to and how we give it. We can *now* impart the appropriate degrees of significance to qualitatively different elements of experience. In other words, we can know fact as fact, implicit in (our) Wholeness. We can perceive the value of value, inherent in (our) Aliveness. And we can understand the meaning of meaning, incumbent on (our) Centeredness.

As I near the completion of this adventure culminating in this Study I am submitting as my PhD thesis, I am already sensing what is coming next.

8.4 what next?

In *some* ways, it is relatively easy to surrender to the imperative, the portion of cosmic will arising within me, to study *further* aspects that have emerged through this Study, which beg for *more* attention, and for which I feel an aliveness within me. The remaining sections conclude this study by virtue of what wants to continue *through* me.

With our commitment to a destructive mode of realization, we are actually destroying patterns, the consistency of patterns that make this Planet *just* right for us and for the entire communion of Life. In Life-affirming patterns, I have found a relative sense of certainty and constancy for navigating uncertainty and hazard in a dramatic Universe. The next phase of my Life's work will be to disseminate Life-affirming patterns I have been experimenting with for decades and am *now* beginning to research *more* deeply.

8.4.1 ordering past patterns

I have seen firsthand the effects of my limited, localized interventions in the bioregions where I have lived and worked. Through this research, I have gained a new understanding of past

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interventions, their patterns, and the insights they have generated. These layers of significance can be applied to them to amplify their effect in the world.

I am being called to order past patterns, which entails: 1) creating a new virtual peer-to-peer presence in the world as a wiki-based platform for commoning living knowledge from decades of lived experience; 2) gathering significant past interventions and mapping the patterns that connect them; and 3) disseminating them *more* prominently *into* the world to audiences that can be empowered.

8.4.2 organizing emergent patterns

I *now* recognize *more* than *ever* the potency of relationality. I realize the importance of setting these interventions, their patterns, and insights *into* dynamic relation with each other, *through* the development of a *higher-order* capacity for commoning living knowledge.

I am called to organize emergent patterns. This entails: 1) republish the Self-Organizing Bioregion, my first publication, repackaged in three parts, whose original density makes it *less* accessible to practitioners and activists in the field; 2) publish subsequent part(s) of Economies of Scale-Linking, Part 1 of which has had significant readership among its intended practitioner audience; 3) integrate both sets of works and my dissertation into the new living knowledge wiki in a relational way, as discussed in *more* detail in the following section.

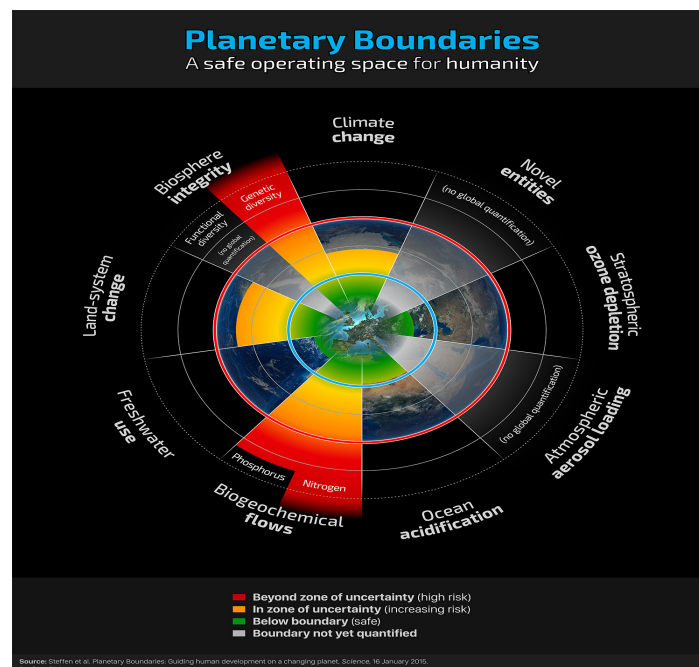


figure 8.03: planetary boundaries³

³ Wikimedia Commons, 2021.

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8.4.3 realizing potential patterns

I am being called to put the RDAs *into* play at the bioregional scale. As we have seen, our current planetary operating instructions (SDGs) are *significantly* plagued by internal contradictions, a form of malware in the operating system of Life. This malware can exist *only* because we've left the missing middle vacant with our erroneous focus on planetary boundaries, a *very* hazardous space for experimentation, leaving little room for error.

The realization of these patterns of potential will entail: 1) completing the redrafting of the RDAs as community instruments; 2) disseminating them to their intended audiences; 3) engaging with magnetic centers in bioregions to collectively commit to ritualized sacred play; and 4) continuing to publish research that deepens understanding of RDAs and encouraging others to do the same by making the RDAs prominent as a research agenda.

The last section of this chapter and of this Study will offer a sneak preview of a topic I initially intended to include as a chapter in this dissertation but eventually realized needed its *own* dedicated space to develop. I am including it here because it is a direct consequence of this Study we are *now* concluding.

8.5 prelude to mind

What is emerging for me in this Study is an implicate order of significance beneath *all* the ones we have brought to the surface thus far. In no uncertain terms, the *most* interesting finding has been that consciousness is the ground of the physical Universe. What is coming together is a comprehensive theory of mind. This section will set forth the various elements that are emerging from this Study.

8.5.1 divine mind

One of the first images to arise at the outset of the research is this notion of the divine mind of Humanity. It arose when I realized that *all* the books I felt compelled to download were noetic beings, neurons in *some* ecology of mind that stretched over time and distance as one intelligence. The notion of an ecology of mind was, broached quite impressively, albeit, imprecisely by Gregory Bateson. And, of course, the idea of a divine mind as a realm of eternal forms is undoubtedly *much* older.

Now that the foundational theory of implicate dimensionality has emerged and the promise of syncretic description has been realized, I feel confident I can bring together *all* the potential elements to produce a theoretical work on a divine ecology of mind, in which the divine mind is the original intelligence of a cosmic "operating system" in which Humanity participates. I am also empowered by my prototyping of the RKC, where the technique of noetic

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twinning emerged. This inspired the Noos project, for which I have put considerable effort into a prototype. See Annex K. The notion that we can create “online” spaces raises the question: where is online, anyway? Especially when the new peer-to-peer technology is actually being implemented. I will explore it as a fascinating halfway point between the noosphere and the biosphere.

8.5.2 paradigm as OS

If eternal forms or patterns are found in the divine mind, the original mind, is it possible that this is where culture, too, originates in the divine mind? And that paradigm might be the operating system, so to speak, that shapes culture, similar to the original instructions of the Iroquois Confederacy. The proposed theory of mind will explore the Workings of paradigm, ordering the world of paradigm (principles, patterns, premises) and the world of praxis (participation, pathways, practices).

This exploration will begin with the premise that paradigms, along with their associated elements and vocabularies, are first-order models of reality. In this regard, artificial, computer-based, or constructed models would be considered second-order models of reality. Another premise this exploration will consider is whether paradigms are multidimensional, as “textually cumulative” traditions (traditions with cultural memory). Some, if we allow them, can keep acquiring new dimensions (scientific, philosophical, religious, eventually literary, artistic, or psychological) and therefore evolve. The workings of a paradigm, of course, play *into* the next mutation in the restructuration of consciousness.

8.5.3 structures of consciousness⁴

The new theory of mind will also integrate the notion of Humankind’s passage *into* the integral structure of consciousness, and *all* that entails. The integral structure is characterized as a necessary mutational leap that lands in a wholly new structure, one that still has access to the efficient (not deficient) elements of previous structures while gaining access to the ever-present origin, the animate, original intelligence of divine mind, with open access to the original operating instructions.

Humanity, Life, and Cosmos are at a point of crisis, a *pivotal juncture of decisive finality*, and, as with any crisis, this one brings two possible responses: disintegration or integration. Integration would be a redemption from collapse, a new form of consciousness arising through the Human, giving birth to a new world through the assimilation of the whole of our human existence *into* our awareness. Humanity would experience new powers arising from within ourselves, a new aperspectival awareness self-realized in time, and the originative whole would be in the present.

⁴ This subsection is sourced almost in its entirety from Gebser (1949).

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A wholly new structure requires a new system of description and a mode of articulation with the requisite clarity to overcome the hazards of persistent deficient elements, whose new mode of realization cannot be expressed in a mere categorical system. Rather, it must be achronic (time-free and space-free), capable of being true to the whole. This provides us with the perfect opportunity to test the implicate dimensionality of our newly conceived system of syncretic description, a description that is not merely integral but has the potency to integrate process, structure, and effect: a *sphere of perceptibility* that presentiates the integrality of the whole. This sphere of perceptibility could be very well served through the cultivation of pattern language.

8.5.4 implicate patterned language

To overcome the limitations of one-off words, this Research began to employ various techniques to give it qualitative dimensionality, enabling it to adopt a relational and developmental approach, that is, to set otherwise fragmented terms, notions, and ideas *into* dynamic relation with one another. Stylistic enhancements *were used throughout* the Study to bring the text to life, to map patterns, and to begin generating living knowledge. See Annex L for both the conventions employed and a sample excerpted from the stylized text.

table 8.4: orders of pattern language⁵

orders of pattern language—v	subject of design	active design	purpose	orientation
4.0	dynamic systemic forms	generative, emergent stigmergic, self-organizing	connecting across domains	collective interpretation and navigation of system directionality
3.0 (focus: how)	forms of human action	embedded in actions over time	connecting people of different experience	continuous design of interactions
2.0 (focus: what)	non-physical (software, interface, org.) forms	interactive	gap expert/non-expert	collective problem-solving
1.0 (focus: why)	physical forms	project based in period	bridging gap designer/user	design as a system of purpose

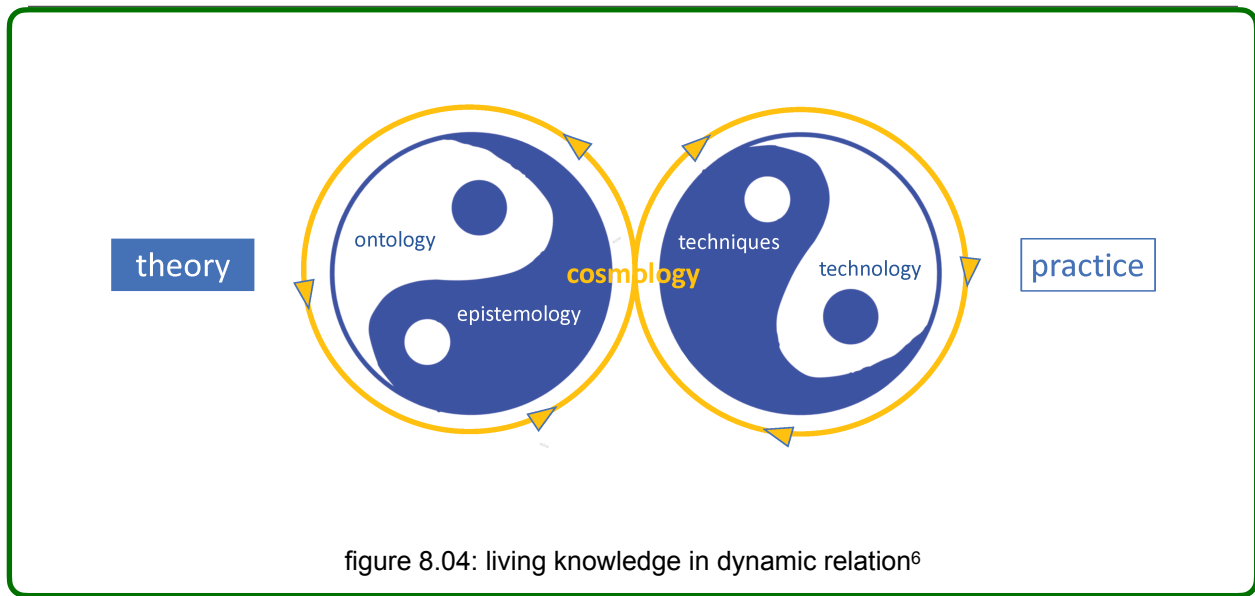
The implicate patterned language arising from this Study aims to draw *new* insights. Pattern language, though *initially* developed by Christopher Alexander, has been *further* eluci-

⁵ Compiled by this author, from Finidori et al. (2015).

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dated by several thinkers (see table 8.4). I foresee that the new theory will integrate and advance the capabilities of pattern language as a way of expressing, in precise and verifiable terms, the *more* profound wisdom (living knowledge) of the implicate qualities *within* a particular field of human endeavor.

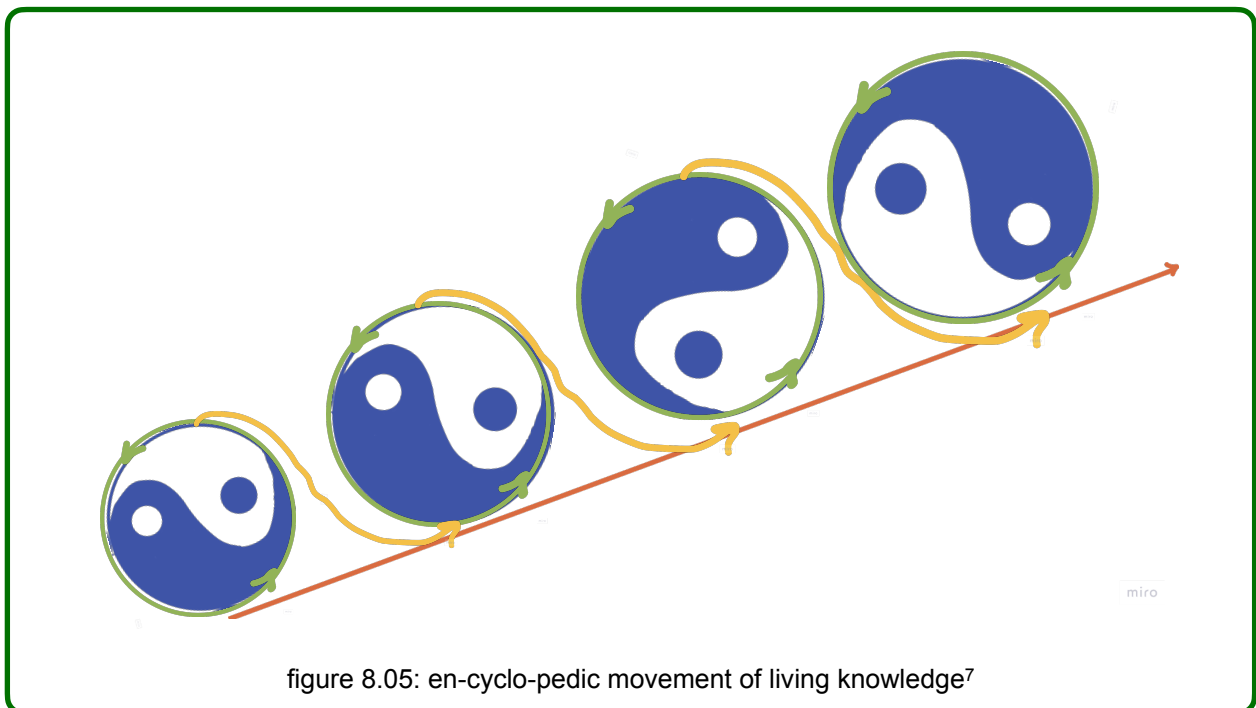
8.5.5 living knowledges



Alongside the theory of mind, I foresee the development of a theory of living knowledge, inclusive of all the elements of experience: the knowledge of fact (function), the perception or intuition of value (being), and the understanding of meaning (will). It will strive to understand knowledge-making in its broadest possible sense, as an extension of world-making and Life-making, which (RE)generate and bring to Life bodies of living knowledge.

⁶ Composed by this author (unpublished).

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The new theory of living knowledge will set theory and practice *in* a complex, dynamic relation, inspired by Morin's notion of en-cyclo-pedic movement; see figures 8.4 and 8.5. I image living knowledge as a self-realizing universe of distinguishable yet indivisible terms, concepts, ideas, and insights—constellating and evolving within a sphere of perceptibility. A sphere whose self-organizing centers, overlapping and messy in their wholeness, are nested within yet larger spheres. As with network graph technology, living knowledge would enable the study of any region of a system by temporarily isolating one element, yet never disentangling it from its web of relations, in which it generates meaning.

The generation of meaning leads to understanding, enabling individuals and communities to participate radically in the self-realization of cosmic will without losing their *own* identity. It follows that understanding is required to live fully within the limits of our authentic experience—to be fully Human. In its conclusion, this Study lands surprisingly and gratifyingly in the celebration of the *significance* of significance. Indeed, in the *fully* human humanness of giving cosmic significance to *all* that makes us Human. A significance possible *only* through the valuing and realization of *ever-greater* aliveness... In this sense, the Existentialists were correct: a dead-end reality has zero significance.

⁷ Composed by this author (unpublished).

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annexes

annex a: Mumford's six stages of city development

table a.1: six stages of city development¹

stage	power base	social organization	emerging forms
<u>Stage 1 (Eopolis) – Emergence of the Village Community.</u> <i>The first stage is characterized by permanent structures/social groups, balanced food supply, permanent storage, meaningful, organic organization of physical space/boundary, culture tightly connected to and defined by the land/bounty, relatively isolated and relegated to clear functions; emerges for “protection, storage and life-maintenance” (Mumford, 1938:285). The village is the longest-lasting collective form that “persist long after more differentiated urban types...” (Ibid:285)</i>	feudal lords	households, clans or tribes	Settlements, organized around a nucleus, well-suited to their surrounding constructed of local materials
<u>Stage 2 (Polis) – A Community of Villages.</u> <i>Villages constellate in advantageous common spaces, simple places for worshiping, congregating for exchange; and developing specialized trades/crafts. They are able to meet physical needs and have a surplus of free time for advanced mechanization, culture, systemic knowledge, complex social groupings, and further specialization. Developments include school as a transmitter of culture; more civic unity and common vision; regional seasonal intra-village travel, maintenance of rural knowledge and material base, and a shift to building with more permanent materials.</i>	the church	markets	Walls, permanent but multi-functional buildings, organic distribution, strong connection to region
<u>Stage 3 (Metropolis) – A Principal Regional City Arises.</u> <i>One place attracts more people, and becomes a central hub for transportation of people and surplus goods (specialized regional trade), a cross-pollination of ideas, which intensify creativity, establish the need for new abstract symbols, new populations, challenges to old ways; increased differentiation of functions (universities to store knowledge, central administration, manufacturing, industrialization/landless workers, common law, written language/suppression of regional languages, scientific inquiry challenge customs, divergence of religion/philosophy/ science); in short, “the systematic-rational grows at the expense of organic and instinctive modes of expression...” (Ibid:288). This initiates beginnings of individualism, the class struggle, obsession with profits and the institutionalizing of war.</i>	landed aristocracy	guilds	Towns grow organic past their walls, within multiple centers (specialized quarters), with priority given to private spaces, beginning of bigness / institutional buildings, use of natural materials from farther afield

¹ Mumford, 1938. Summarized into tabular form by this author.

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stage	power base	social organization	emerging forms
<u>Fourth Stage (Megalopolis) – The Concentration of Bigness and Power.</u> <i>Capitalism (ownership of means of production) is primary, therefore, conquest by military might becomes necessary to ensure that a wider material base emerges. Properties such as standardization, bigness, mechanism and idleness, bureaucratism and powerlessness, science by calculation/analysis, purposeless research, obsession with the abstract, social disconnectedness abound. Cities amass neighboring smaller cities and we see an intensified exploitation of the working class, occasional violent repression, new tensions arise between landed oligarchs and urban industrialists, who finance war and profit from the unfettered flow of people and materials they can exploit.</i>	industrialists and financiers	factories, unions	cities lose or outgrow their organic forms to standardization, exemplified by large avenues and standard facades, empty classicism with slums behind; mining towns, mass exploitation of iron-ore (for building) and coal (for energy)
<u>Fifth Stage (Tyrannopolis) – Ecosocial Parasitism.</u> <i>States become primary, communal/cultural activities cease. Emphasis shifts towards colonial exploitation, economic depressions, industrial overexpansion/ speculation, wars/war preparation, bureaucratic ineptitude, civic apathy, imperial wars, epidemics, starvation, and economic bankruptcy. Cities give up autonomy to cover increased spending and debts, agricultural/mining capacity declines; systemic repression/censorship attempts to bring order through violence; beginning of mass exodus from cities.</i>	the state	the individual	Derelict urban core, megaslums on outskirts, suburbs, bedroom towns, retreat villages in countryside towns for wealthy
<u>Sixth Stage (Nekropolis) – The City of the Dead.</u> <i>Cities become empty shells, devoid of cultural/social life and meaning; infrastructures break down; war, poverty and disease becomes universal. The collapse of cities impacts globally every place. Stagnancy sets in, and living processes are ossified.</i>	chaos	violent gangs	Abandoned shell

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annex b: Alexander's 15 fundamental properties of Wholeness

table b.1: 15 fundamental properties of Wholeness²

property	description
1) levels of scale	Scale refers to how we see the size of an element or space relative to its context; elements which contain a <i>high</i> degree of Life contain a beautifully diverse range of scales <i>within</i> .
2) strong centers	The concept of a center is at the heart of <i>all</i> that gives Life <i>within</i> an element. A true center is defined by its <i>internal</i> cohesion (<i>inner-togetherness</i>) and its relation to its context. It can exist <i>only</i> when <i>other</i> centers are punctuating it, and like scales is recursive—is composed of a multitude of other strong centers, at differing scales, making explicit the whole they comprise.
3) boundaries	The expression of a form is contingent to a <i>great</i> degree on how its bounded; strong boundaries bring the center to focus, <i>further</i> punctuating it and, connects it with <i>what is outside</i> ; in order to separate and unite, it must have a corresponding authority as pronounced as the center, which it bounds.
4) alternating repetition	Repetition orders recurring elements in an arrangement depending on their nearness to one another, and by the visual features they share. They need not be identical, <i>only</i> share a common characteristic allowing <i>each</i> element to retain its <i>own</i> essence, yet <i>belong</i> to the grouping; and, when repetition takes place <i>within</i> groupings on multiple levels, an alternating regularity of centers form a series.
5) positive space	An element occurs in space <i>simultaneously</i> defining the shape of the space <i>around</i> it; for something to be whole, <i>both</i> the element and the space must intensify the other. When this happens, there are <i>no</i> vague, insignificant remnants.
6) good shape	Shape is the <i>main</i> quality of form and good shape happens when the surfaces and edges of a form have <i>strong</i> centers in <i>each</i> part. These can usually be <i>easily</i> broken down into <i>simpler</i> shapes, contain a <i>high</i> degree of internal proportions, an overall two-sided symmetry, and a <i>pronounced</i> center. It creates positive space <i>around</i> it, is very <i>intensely</i> distinct from what surrounds it, and has a feeling of being closed and complete.
7. local symmetries	A symmetry that occurs in <i>only</i> a portion of the composition; centers tend to form where there are local symmetries and strengthen the whole.
8) deep interlock	Forms which have a <i>high</i> degree of aliveness tend to <i>hook into</i> their surroundings generating a zone belonging to both, making it difficult to distinguish one from the other, this strengthens the centers on either side, which are punctuated by the <i>new</i> center created <i>between</i> the two.
9) contrast	The difference <i>between</i> opposites gives life to itself and the other. Boldness of boundary and distinctness of <i>alternating</i> repetition <i>intensifies</i> centers by <i>deepening</i> their wholeness, it is what makes differentiation possible. <i>Meaningless</i> contrast is noise; <i>only</i> actively and purposely composed centers act to deepen the

² Summarized by this author from TKWA, 2011.

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property	description
10. graded variation	In the natural world, things vary in size, spacing, intensity, and character; living things tend to have a <i>certain</i> texture. A quality transitions slowly, not suddenly, <i>across</i> space to become <i>another</i> thing. <i>Throughout</i> the whole, are <i>graded</i> fields of variation, <i>often</i> moving <i>out from</i> the center or <i>in towards</i> the boundary; the gradation of <i>smaller</i> centers gives character to the <i>larger</i> center.
11) roughness	There is a <i>seemingly</i> rough, <i>naturally</i> organic and <i>irregular</i> evolution of a composition present—a <i>makeshift</i> composition that is not mechanistic. If it was deliberate, the life of the design would be destroyed, with <i>more</i> careful guarding of the essential centers in the design. It is a product of abandon and an expression of essence according to the <i>local</i> demands and constraints.
12) echoes	An echo is a <i>certain</i> sameness of character shared by the <i>smaller</i> elements and their centers <i>with</i> the <i>larger</i> centers that they compose. A <i>deep</i> internal likeness ties together <i>all</i> the elements and centers at <i>varying</i> scales to make a <i>cohesive</i> unity.
13) the void	Compositions with <i>great</i> depth, <i>actively</i> draw in the senses and have at their heart an area of <i>deep</i> calmness. A bounded void contrasts, with an area of <i>intense</i> centers <i>around</i> it. Voids at multiple scales provides contrast with <i>intense-ness</i> to <i>strengthen</i> the center. The pause that allows the interlocking with the
14) inner calm	Living things tend to express a <i>special</i> simplicity and economy evolved over time. Anything <i>not</i> supporting the whole is eliminated. Not excluding the ornament that adds value to the whole is key. Simplicity avoids attachments to <i>meaningless</i> elements that might distract or confuse its true essence.
15) not-Separateness	An element expresses a degree of connectedness with <i>all</i> that surrounds. A <i>harmonious</i> connection with its world that emanates peace. No <i>abruptness</i> nor <i>sharpness</i> is found, but, often it has permeable edges which <i>intensify</i> belonging. It creates a <i>profound</i> sense of connection occurring at <i>multiple</i> scales, <i>between</i> many centers so that <i>each</i> melt into the other and become inseparable.

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annex c: volume summary of Morin's Method

With Method, Morin seeks a knowledge that embraces the *complexity of the real*: the existence of beings, the principle of their *own* knowledge, and the mystery of things. Method introduces the prospects of a *new* “method” that strives for a knowledge that unifies, whose description is multidimensional, and whose action is *self-organization of knowledge*.

El Método 1 - La Naturaleza de la Naturaleza (The Nature of Nature)

The Nature of Nature articulates the science of man *within* the science of the physical universe; exploring the complex nature of **{order—disorder—organization}**, locating *all* physical knowledge in its *anthroposocial* rooting, and *vice versa*.

El Método 2 - La vida de la vida (The Life of Life)

The Life of Life breathes Life *into* concepts of existence, the individual, and the subject, to grasp the Life of Life. Life emerges *from* the physical universe, and *yet* is *wholly* original. The cultural frontier that separates Humans from the Biosphere is *not* Life-denying, but opens Life to the development of the spirit and sources a dialogic *between* Humanity and Biosphere **{Humanity—Biosphere}**.

El Método 3 - El Conocimiento del Conocimiento (The Knowledge of Knowledge)

The Knowledge of Knowledge delves *into how* we know and *what* we know; it enables complex thinking and confronts a *key* paradox: the knower must *simultaneously* be the object of knowledge. *Only* by discovering error and illusion imposed as absolute truths that Humans seek to know themselves. We have a *vital* need to situate, reflect, and regenerate knowledge, to know the conditions, possibilities, and limits of reaching *deeper* truths.

El Método 4- Las Ideas (Ideas)

Ideas explores the paradoxical nature of ideas: they have the power to subdue but can *only* be resisted with *other* ideas. We exist, in part, *within* the life of ideas. Humanity is organized *by* and *through* ideas. Yet, treated as disconnected fragments, they prove disastrous time and again. Complexity requires the capability of holding ideas in active relation to *each* other, to a system of living knowledge, and to Life itself—as an ecology, a self-organizing world-of-ideas.

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El Método 5- La Humanidad de la Humanidad (The Humanity of Humanity)

The Humanity of Humanity breaks with reductive conceptions that deprive the Human of biological, subjective, and social identity. Dissociations *between* disciplines empty the Human of Life, of presence, of complexity—the notion of man, even. Rather than juxtaposing sciences vs. humanities, this book weaves them *into* a single fabric of Human complexity, enriched by *all* its contradictions, opening to the possibility of seeing us as *fully* Human.

El Método 6 - La Ética (Ethics)

Ethics constitutes the point of arrival of this epistemological *tour de force*. From its starting point in contemporary, strictly Western, crisis of ethics, it spirals *forward* to explore the possibility of *novel* modes of Human presence *within* the context of *new* planetary realities.

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annex d: regenerative development principles and premises

table d.1: regenerative development principles and premises³

principle	premise
1. Design for evolution.	Every living system has inherent possibilities for new levels of order, differentiation and organization.
2. Partner with place.	Co-evolution among Humans and natural systems can be only unfold in specific places, using approaches precisely fitted to them.
3. Call forth a collective vocation.	The sustainability of a living system is tied directly to its beneficial integration into a <i>larger</i> system.
4. Actualize stakeholder systems toward co-evolving mutualism.	Projects should catalyze cooperative enterprise required for evolution.
5. Work from potential, not problems	Potential comes from evolving value-generating capacity of a system to make unique contributions to evolution of <i>larger</i> system
6. Find you distinctive, value-adding role.	Continuing health of living systems depends on <i>each</i> member living into unique role.
7. Leverage systemic regeneration by making nodal interventions.	Small conscious/conscientious interventions in right place can create beneficial, system-wide effects
8. Design the design process to be developmental.	A project can only create systemic benefit within a field of caring, co-creativity and co-responsibility.
9. Become a systems actualizer.	The actualization of a self requires the simultaneous development of the systems of which it is part.

³ Mang et al., 2016.

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annex e: Gebser's structures of consciousness

table e.1: structures of consciousness¹

structures—>	archaic	magical	mythical	mental	integral
1. space-time dimensioning					
1a) dimensioning	0-dimensional	1-dimensional	2-dimensional	3-dimensional	4-dimensional
1b) perspective	none	pre-perspectival	unperspectival	perspectival	aperspectival
1c) emphasis	pre-spatial, pre-temporal	spaceless, timeless	spaceless, natural temporicity	spatial, abstractly temporal	space-free, time-free
2) sign	none	point	circle	triangle	sphere
3) essence	identity (integrality)	unity (oneness)	polarity (ambivalence)	duality (opposition)	diaphanaiety (transparency)
4) properties	integral	non-directionality ubitary, Interwovenness or fusion	circular and polar, complementarity	directed dual oppositionality	presentiating, diaphanous "rendering whole"
5) potentiality	integrality	unity by unification and hearing/hearkening	unification by complementarity and correspondence	unification by synthesis and reconciliation	integrality by integration and presentation
6) emphasis					
6a) objective (external) (aspect of world)	unconscious spirit	nature	soul/psyche	space - world	(conscious - spirit)

¹ Gebser, 1949.

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structures—>	archaic	magical	mythical	mental	integral
6b) subjective (internal) (energy or initiator)	none or latency	emotion	imagination	abstraction	(concretion)
7) consciousness					
7a) degree	deep sleep	sleep	dream	wakefulness	(transparency)
7b) relation	universe-related breathing-spell	outer-related (nature): exhaling	inner-related (psyche): inhaling	outer-related (spatial world): exhaling	(inward-related inhaling? or breathing-spell)
8) forms of manifestation					
8a) efficient	none	spell-casting	primal myth (envisioned myth)	menos (directive, discursive thought)	diaphainon (open, spiritual "verition")
8b) deficient	presentiment, foreboding	witchcraft	mythology (spoken truth)	ratio (divisive, immoderate hair-splitting)	void (atomizing dissolution)
9) basic attitude and agency of energy	origin: wisdom	vital: instinct, drive, emotion	psychic: imagination, sensibility, disposition	cerebral: reflection, abstraction, will/volition	integral: (concretion), (rendering diaphanous), ("verition")
10) organ emphasis	—	viscera - ear	heart - mouth	brain - eye	(vertex)
11) forms of realization & thought					
11a) basis	—	empathy and identification, hearing	imagination and utterance, contemplation and voicing	conceptualization and reflection, seeing and measuring	(concretion and integration, "verition" and transparency)
11b) mode	originary	pre-rational, pre-causal analogical	irrational, non-causal, polar	rational, causal, directed	(arational: acausal, integral)

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structures—>	archaic	magical	mythical	mental	integral
11c) process	presentiment	associative, analogizing, sympathetic interweaving	internalized recollection, contemplation — externalized utterance, expression	projective speculation: oceanic, paradoxical, then perspectival thinking	integrating, rendering diaphanous
11d) expression	presentiment	vital experience	undergone experience	representation, conception, ideation	verition
11e) formulation	world-origin	world-knowledge, the "recognized" world	word image or weltanschauung: the contemplated or interpreted world	world-conception: the thought and conceptualized world	world-verition: the world perceived and imparted in truth
11f) limits	—	conditioned	temporally bound	limited	open, free
11g) valence	—	univalent	ambivalent	trivalent	multivalent
12) forms of expression	—	magic: graven images, idol, ritual	mythologeme: gods, symbols, mysteries	philosopheme: god, dogma, method	(eteologeme): (divinity), (synairesis), (diaphony)
13) forms of assertion or articulation	—	petition (prayer): being heard	wishes (ideals: fulfillment, "wish (pipe-) dream"	volition: attainment	(verition: present)
14) relationships					
14a) temporal	—	undifferentiated	predominantly past-oriented [recollection, muse]	predominantly future-oriented [purpose and goal]	(presentiating)
14b) social	—	tribal world [clan/kith and kin] natural	parental world [ancestor-worship] predominantly matriarchically	world of the first-born son [child-adulation] predominantly patriarchal	mankind neither matriarchy nor patriarchy integrum
14) general	universal or ["cosmic"]	egoless — terrestrial	egoless "we"-oriented psychic	egocentric — materialistic	ego-free amaterial apsychic
15) localization	(universe)	semen and blood	diaphragm and heart	spinal chord and brain	cerebral cortex, humoral
16) forms of bond or tie	—	proligio (prolegere): emotive and point-like	religio (relegere): observing, internalizing (recollecting) and externalizing (expressing)	religion (religare): believing, knowing, deducing	praeligio (praeligare): presentiating, concretizing, integrating

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structures—>	archaic	magical	mythical	mental	integral
17) motto	(all)	pars pro toto	souls is identical to life (and death)	thinking is being	origin: present and perceiving, imparting truth

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annex f: Bennett's Gradations of Wholeness

table f.1: gradations of wholeness²

— sub-animate existence (hyponomic dominant) —

{physis}

There is a class of entities dominated by the hyponomic mode, and therefore essentially passive in all their relationships both inner and outer.

levels or scales	1	2	3	4
quality	wholeness	polarity	relation	subsistence
principle	existential indifference	invariant being	identical recurrence	composite wholeness
class of occasions	the laws of which are independent of the nature of the existents that participate in them	entities behave as if exempt from mutual interaction and were self-identical and invariant with respect to all four determining-condition	entities behave as if they were exempt from any but reversible interactions and subject only to cyclic changes in their inner constitution	entities enduring in time behave as if subject to both interaction and change and yet remain wholly passive in their inner and outer relationships
exemplified by	{universal processes limited by four determining conditions*}	{forces, corpuscles, light}	{ultimate particles}	{things with 'thinghood'}

— first transitional hypothesis: active surface —

There is a class of occasions in which entities behave as if their wholeness were maintained by a pattern of potentialities that enables exchanges of hyle—Life potential—to take place across their boundary surface without loss of identity

{exemplified by proteins/nucleic acids and enzymes/catalysts}

— animate existence (autonomic dominant) —

{bios}

There is a class of entities dominated by the autonomic mode and therefore able to maintain a balance of reconciliation between their inner and outer relationships.

levels or scales	5	6	7	8
quality	potentiality	repetition	structure	identity

² Rendered by this author into tabular form; sourced from Bennett (1956).

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principle	self-renewing wholeness	reproductive wholeness	self-regulating wholeness	self-directing wholeness
class of occasions	entities whose duration of existence in time is prolonged by renewal of potential energy at the expense of environment	self-renewing entities can reproduce outside their own surface other entities similar to themselves	entities able to maintain and regulate a functional balance within their own enclosed surface or skin	self-directing entities able to consciously choose between alternative lines of actualization in time
exemplified by	{viruses}	{cells}	{multicellular organisms}	{Humans}

— second transitional hypothesis: biospheric wholeness —

There is a class of occasions in each of which one total living whole is associated with the active surface of a planet

{exemplified by Earth's biosphere}

— super-animate (hypernomic dominant) —

There is a class of entities dominated by the hypernomic mode and therefore able to act as originating active sources for external relationships.

levels or scales	9	10	11	12
quality	pattern	creativity	domination	autocracy
principle	sub-creative wholeness	creative wholeness	super-creative wholeness	autocratic wholeness
class of occasions	entities can exert an affirming force towards life without being themselves independent wholes	entities atomic in nature exercise a free creative power within their own presence	entities—not themselves autocratic—are nevertheless manifestations of the supreme affirming power	whether knowable or not, there must be a whole of wholes that is hypernomic for all its subordinate parts; universal affirmation by which the categories of fact are completed
exemplified by	{planets}	{sun; stars}	{galaxies}	{universe}
notes	* four determining-conditions: eternity (potentiality and intensity of being); time (actualization and irreversibility); hyparxis (ableness-to-be and cyclicity); space (presence and co-existence)			

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annex g: systematics: structures and systems

table g.1: systematics: structures and systems³

— character — {properties} <i>basic hypothesis</i>			
structure (scale of existence)	level of potency {exemplified by}	<u>emergent capability (principle)</u> existential hypothesis	principle / system / term(s)
— hyponomic dominant — { <u>element</u> : function, <u>realm</u> : fact, <u>quality</u> : wholeness}			
<i>basic hypothesis of physical existence. There is a class of entities dominated by the hyponomic mode, and therefore essentially passive in all their relationships both inner and outer.</i>			
structure (scale of existence)	level of potency {exemplified by}	<u>emergent capability (principle)</u> existential hypothesis	principle / system / term(s)
1	unipotent entities {geometry; arithmetic; logic; kinetics of uniform motions; four-dimensional physics}	<u>existential indifference</u> There is a class of occasions, the laws of which are independent of the nature of the existents that participate in them. Only entities standing upon the first, or unipotent, level can participate in such occasions.	wholeness / monad / 1 term
2	bipotent entities {force-fields; dynamics; electromagnetism; corpuscles; light; five-dimensional physics}	<u>invariant being</u> There is a class of occasions in which entities behave as if they were exempt from mutual interaction and were self-identical and invariant with respect to all four determining-conditions (time, eternity, space, hyperaxis).	polarity / dyad / 2 terms
3	tripotent entities {behavior of rigid and elastic bodies; ultimate particles; six-dimensional physics}	<u>identical recurrence</u> There is a class of occasions in which entities behave as if they were exempt from any but reversible interactions and were subject only to cyclic changes in their inner constitution.	relation / triad / 3 terms

³ Rendered by this author into tabular form; sourced from Bennett (1956).

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— character — {properties} <i>basic hypothesis</i>			
structure (scale of existence)	level of potency {exemplified by}	<u>emergent capability (principle)</u> existential hypothesis	principle / system / term(s)
4	quadrident entities {properties of matter; exchange processes; chemistry and mechanics; thinghood}	<u>composite wholeness</u> There is a class of occasions in which entities enduring in time behave as if subject to both interaction and change and yet remain wholly passive in their inner and outer relationships.	subsistence / tetrad / 4 terms
— first transitional hypothesis: active surface — <i>There is a class of occasions in which entities behave as if their wholeness were maintained by a pattern of potentialities that enables exchanges of hyle to take place across their boundary surface without loss of identity.</i> {exemplary entities: Polyphase systems; Interaction of levels; Proteins and nucleic acids; Enzymes and catalysts}			
— autonomic dominant — {being, realm of value}			
<u><i>basic hypothesis of animate existence.</i></u> <i>There is a class of entities dominated by the autonomic mode and therefore able to maintain a balance of reconciliation between their inner and outer relationships.</i>			
5	quinquepotent existence {viral science; biochemistry}	<u>self-renewing wholeness</u> There is a class of occasions in which the duration of existence in time is prolonged by the renewal of potential energy at the expense of the environment.	potentiality / pentad / 5 terms
6	sexipotent existence {cytology; protozoology; embryology}	<u>reproductive wholeness</u> There is a class of occasions in which self-renewing entities can reproduce outside their own surface other entities similar to themselves.	repetition / hexad / 6 terms
7	septempotent existence {biological sciences; development and growth; phenomena of birth and death}	<u>self-regulating wholeness</u> There is a class of occasions comprising entities able to maintain and regulate a functional balance within their own enclosed surface or skin.	structure / heptad / 7 terms

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— character — {properties} <i>basic hypothesis</i>			
structure (scale of existence)	level of potency {exemplified by}	<u>emergent capability (principle)</u> existential hypothesis	principle / system / term(s)
8	octopotent existence {psychology; herd behavior; organic species}	<u>self-directing wholeness</u> There is a class of occasions characterized by the presence of self-directing entities able consciously to choose between alternative lines of actualization in time.	identity / octad / 8 terms
— second transitional hypothesis: biospheric wholeness — <i>There is a class of occasions in each of which one total living whole is associated with the active surface of a planet.</i> {Ecology and genetics; Origin of species}			
— hypernomic dominant — {will, realm of meaning}			
<i>basic hypothesis of cosmic existence. There is a class of entities dominated by the hypernomic mode and therefore able to act as originating active sources for external relationships.</i>			
9	novempotent existence {planets}	<u>sub-creative wholeness</u> There is a class of occasions in which entities can exert an affirming force towards life without being themselves independent wholes.	pattern / ennead / 9 terms
10	decempotent existence {functional freedom; creativity; solar systems; cosmic individuality}	<u>creative wholeness</u> There exist a class of occasions in which entities atomic in nature exercise a free creative power within their own presence.	creativity / decad / 10 terms
11	undecimpotent existence {universal transformation}	<u>super-creative wholeness</u> There exists a class of occasions in which entities—not themselves autocratic—are nevertheless manifestations of the supreme affirming power.	domination / undecad / 11-terms
12	duodecimpotent existence {universal order; cosmology}	<u>autocratic wholeness</u> Whether knowable or not, there must be a whole of wholes that is hypernomic for all its subordinate parts. This whole is the universal affirmation and corresponds to the twelfth category of autocracy by which the categories of fact are completed.	autocracy / duodecad / 12 terms

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annex h: SDGs to RDAs

table h.1: mapping of SDGs to RDAs⁴

reference	SDG	RDA
1	end poverty in all its forms everywhere	<u>abundance for all</u>
2	end hunger, achieve food security and improved nutrition and promote sustainable agriculture	<u>food and material abundance</u>
3	ensure healthy lives and promote well-being for all at all ages	<u>whole health and well-being</u>
4	ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	<u>lifelong developmental learning</u>
5	achieve gender equality and empower all women and girls	<u>radical participation</u>
6	ensure availability and sustainable management of water and sanitation for all	<u>perennial flow of freshwater</u>
7	ensure access to affordable, reliable, sustainable and modern energy for all	<u>perennial flow of renewable energy</u>
8	promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	<u>living economies</u>
9	build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	<u>living infrastructure</u>
10	reduce inequality within and among countries	<u>self-organizing bioregions</u>
11	make cities and human settlements inclusive, safe, resilient and sustainable	<u>human ecosystems</u>
12	ensure sustainable consumption and production patterns	<u>cultivated ecosystems</u>
13	take urgent action to combat climate change and its impacts	<u>great warming</u>
14	conserve and sustainably use the oceans, seas and marine resources for sustainable development	<u>wild ecosystems, marine</u>
15	protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss	wild ecosystems, terrestrial*

⁴ Generated by this author (unpublished).

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reference	SDG	RDA
16	promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	humanization*
17	strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development	planetization*
0	- not applicable -	integrality*

*note: These RDAs are yet to be completed.

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annex i: RDA 1: abundance for all

SDG shortcomings

One could argue that SDG 1, the "end poverty in *all* its forms *everywhere*", is *all* but impossible to achieve, and therefore, deemed quite safe, if written off as non-threatening, wishful thinking rhetoric. The idea of poverty was created by the same extractive—*destructive* mode of realization that is sustained by the SDGs. If it's true that poverty couldn't be brought to an end, without a complete restructuration of the global economy, then, SDG 1 is in direct conflict with SDG 8 sustainable economic growth.

context

Human activity on the planet, as of late, has been organized in a way that short-circuits the gift of abundance freely available from wild ecosystems showered upon every community on Earth, both Human and more-than-Human. Poverty is the result of the accumulation of material wealth in the hands of a relative few, extracted in ways that degrade the ability of wild ecosystems to regenerate themselves as sources of abundance (see RDA 8 living economies). It was introduced in traditional communities as a seed of self-destruction (like communicable diseases, chemical dependencies, greed, fragmentation, etc.) that enabled colonial powers to create dependencies by imposing their model of extractive development on subaltern communities. Poverty exists and persists insofar as we continue to see the world in those terms, as if it is the fault of those who are poor, rather than recognize it as a self-fulfilling prophecy of extractive activity. What we can do is eliminate the need for poverty as a pattern, that we continue to propagate. And, we replace it with a pattern of abundance.

living systems

Living systems generate abundance. Every place on Earth is amazingly diverse (or used to be). The heterogeneity of surface conditions *everywhere* ensures a prodigiously abundant and widely distributed generative capacity. Anything that could potentially be seen as waste for one process is vitalizing for another. Each *unique* Life-place self-realizes *into* an abundant thickness of relations in correspondence with the conditions and patterns that shape that Life-place over time. The living processes are capable of participating in that correspondence because of their collective generative capacity.

Wild ecosystems order and organize themselves via a multiplicity of interactions and interrelationships in every [direction](#). And, in so doing, they create the conditions for collective surplus abundance of sunlight that transforms *into*: more green leaves, more fruit, more eggs, more seeds, more nutrients than necessary to overcompensate for *any* given individual interaction between elements and beings that, to a large degree, are aleatory, uncertain, and

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unpredictable. What is required is a vast network of diverse living beings to continually transform this available surplus *into something* someone else can use.

The “work” of living beings then is to be *most* fully who they are, to transform the surplus abundance of energy, *each* in their *own* way. In other words, to live *into* a *specific* (species-level), *predetermined* range of potential actualizations, which they are free to manifest in *any* number of ways within their scale of existence, in response to hazards of being alive and in tight correspondence with the places they inhabit.

Living beings develop their potential via *unique* modes of being (niches); *each* mode plays its part in a tightly-woven set of *larger*, self-regulating wholes (communities) of which they are integral members. Abundance is continually (RE)generated, recycled *back into* place. Therefore, we can state that abundance is place-centric; it is a quality of place by virtue of its degree of aliveness, which is dependent on the thickness of relations present in a given Life-place.

The interaction of an extraordinary diversity of modes of realization in *any* given ecosystem is what regenerates the conditions for Life in that ecosystem, and *throughout* the biosphere.

aim: abundance for all

This Aim aspires to uplift Humanity’s role to one of celebrating and honoring the abundance continually gifted to us. It seeks to develop a culture that holds Life sacred and dedicates its energies to significantly enhancing the degree of aliveness in our Biosphere. A regenerative culture seeks *every* opportunity to allow for *more* transformation of light *into* an abundance of available energy in *all* of our places.

The idea of place-centric abundance in human communities is a radical one, in that it enables, empowers, and requires individuals, social groups, and communities to live from their essence and develop their potential simultaneously in ways that align with and produce the *greatest* degree of aliveness for everyone in that Life-place. Behind this is the recognition that *each* being and *each* Life-place is a *unique* whole, with its *own unique* essence and potential. The notion of abundance also applies to, how we co-create, in collaboration with the regenerative capacity of our places so that *all* beings there can share in the uninhibited flow of abundance—one that oozes out from every being that participates there.

pattern generators

This Aim could be generative of the following patterns in *any* community-of-place.

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- redefinition of wealth as genuine wealth, the capacity to (RE)generate true place-sourced potential for *all* members, inclusive of the *larger* community of life (RDA 3. whole health and well-being) [1.1a]⁵
- activation of the capacity of communities to develop their *unique* place-sourced potential [1.1c]
- valuing of *all* Life-enhancing activities (of *all* species), especially the vital vocation of ecosocial regeneration, with primacy given to the regeneration of wild ecosystems [1.2a]
- surpassing the basic food and material, water, and energy needs (RDA 2. food and material abundance; RDA 6. perennial flow of freshwater; RDA 7. perennial flow of renewable energy) of *all* members with a resolute focus on carbon farming with cultivated ecosystems in *each* Life-place [1.1b]
 - valuing of livelihoods that grow capacity to exceed basic food and material needs in a manner that regenerates the productive capacity of (*larger* ecological context) terrestrial and aquatic ecosystems [1.2b]
 - ensuring that the value of a living wage is exchanged for *all* Life-enhancing activity [1.2c]
 - establishment of community safety nets for *all* people, especially the *most* vulnerable [1.3]
- ensuring that *all* people have equal access to participate in and benefit from community life (RDA 5. radical participation) [1.4]
- implementation of a diversity of ways to exchange value as an approach to radically-inclusive participation that infuses shared community values within our economic systems [1.4a]
 - establishment of shared community financial systems —banking, insurance, lending, and investment— that are responsive to the whole health and well-being and shared values of *all* people and ecosystems they serve [1.4b]
- building capacity via developmental learning (RDA 4. lifelong developmental learning) of *all*, particularly of underprivileged and vulnerable populations, to contribute meaningfully to place-centric regenerative development [1.5]
- catalyzing regenerative development in self-organizing bioregions that enables the (RE)generation of abundance *everywhere* [1.a-b]

⁵ Note: SDG target linkages in brackets.

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annex j: a brief primer on regenerative thinking

The first two versions of the RDAs were prescriptive in nature, until I realized that what would authentically bring them to Life would be a built-in capability for RE-play—(RE)generating and playing with potential pathways.

The RDAs' languaging is shaped by living systems (i.e. regenerative) thinking. And, it's a common misconception to think of regenerative thinking as content-centric: what we think. However, in the Fourth Way tradition, we perceive the entire process of thinking in terms of $\lceil$ potential (unfolding)—actual (enfolding) $\rfloor$.

On the potential side of the relation is:

$\lceil$ how-we-think $\rfloor \lceil$ → what-we-think $\rfloor \lceil$ → thinking or thoughting $\rfloor$.

On the actual, explicate side, there is *some* resultant intervention, whose potential transformative effect in the world depends, in part, on the degree of consciousness applied in our thinking.

- thinking-or-thoughting. Thoughting¹ involves the automatic regurgitation of unquestioned thought-patterns. Thinking involves generating fresh insights and testing these against our *own* lived experience.
- what-we-think. Once we establish that we are thinking, then we can observe the content of our thinking.
- how-we-think. Ultimately, we can question *how* we think, that is, examine what paradigm/mode of thinking we are sourcing the content from.

The difference-that-makes-the-difference is the **RE** ($\lceil$ → $\rfloor$)—our ability to playfully disrupt our thinking processes. Indeed, my *most* powerful realization about regenerative thinking is that it had to do with (RE)generating my thinking, over and over *again*. This speaks to the essence of play: what individually, requires rigorous discipline, collectively, can express itself as play, if we consciously seek it.

¹ "Thoughting" is a term coined by Bohm (1992).

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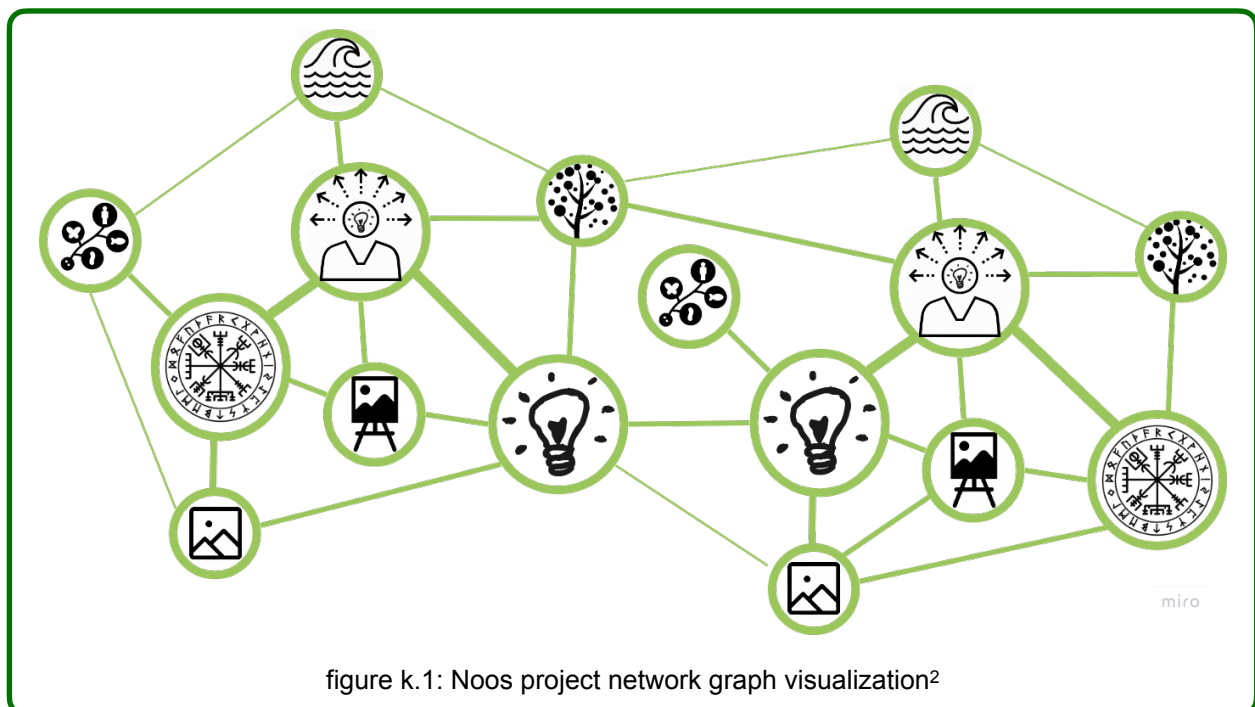
annex k: the Noos project

“Noosphere is a term introduced by Teilhard de Chardin in *The Phenomena of Man*, which designates the world of ideas, spirits, gods, entities produced and nurtured by human minds within the heart of their culture. These entities, gods or ideas, endowed with dependent autonomy (from the minds and culture that nourish them), acquire their *own* life and a dominating power over humans.”¹

Noos Description

The Project will create Noos, an online open-source wiki that will provide experiences to guide audiences through the translated work. Noos will be organized around constellations of ideas developed by Morin and furthered by the Project.

Noos will not be limited to the work being translated. It will be populated organically with many thinkers, and their works, as my scholarship progresses. It will be open and encourage other scholars, professional or otherwise, to contribute. Indeed, a combination of pre-programmed forms, templates, and tables will be set up to make for ease of use, so that anyone can add entries without having any technical know-how.



As its name implies, Noos is envisioned as a self-organizing world of ideas. Noos wiki will be constituted of various interrelated entity types: ecologies, ideas, minds, movements, maps, moments, places, vocabularies, and works. The accompanying graphic generically

¹ Translated by this author from Morin (1991:116-120).

² Composed by this author (unpublished).

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illustrates the possible interrelations between entities. The table below provides descriptions and the project's scope for each.

table k.1: description of Noos entities³

entities	description
ecologies 	Ecologies are ecosystems where related Minds and Ideas play. They unfold responsive to Places and Moments; are shaped by Movements, which produce Maps to navigate Ecologies.
ideas 	Patterned insights generated from Minds, expressed via Works, encoded with Vocabularies. Ideas play with other Ideas and Minds in Ecologies. Movements cohere around them; Places and Moments give shape; Maps locate them.
maps 	Schemas of navigable constellations of related Ideas. Some Maps become significantly influential (paradigms); limit what is conceivable in Places and Moments. They emerge from Ecologies and are propelled forward by Movements.
minds 	Emanations grounded in beings (e.g. human). They inhabit Ecologies with other Minds; birth Ideas; encode with Vocabularies. Their thinking is shaped by Places and Moments, and by Movements and Maps inherent to them.
moments 	Historical events experienced by Minds transversally. Moments of crisis can be exceptionally generative. They emerge from Places, via Movements; inspired by Maps; initiate/accelerate change in Ecologies.
movements 	Schools of thought or communities of practice organized around Ecologies. Via Movements: Ideas cohere; Minds connect; Ecologies emerge/strengthen; Moments/Places shape; Maps (RE)generate; Ideas irrupt.
places 	A geographically-centered, loosely-bound context that is generative of Minds birthing Ideas. Places shape Minds; Moments take place; Movements emerge; Ecologies unfold.
vocabularies 	Sets of related language used by Minds to make meaning of Ideas in Works. They are sourced from Maps; ride on/embed in Ideas; expressed in Works; overlap with other Vocabularies.

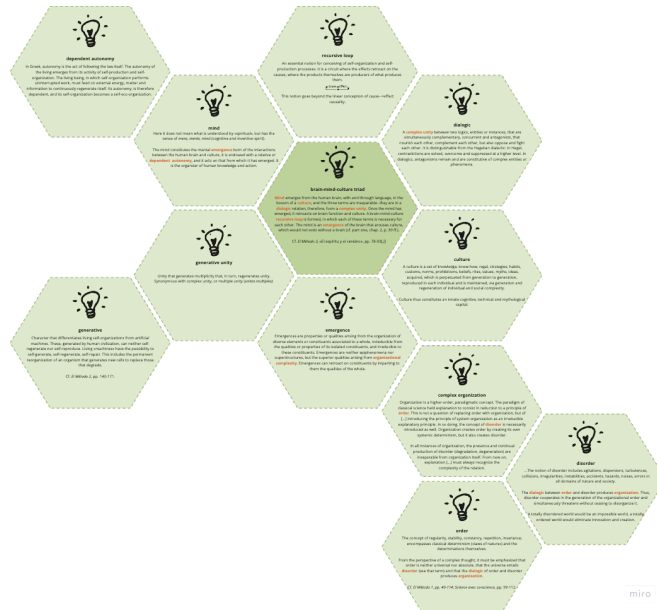
sample of Noos living knowledge map

The following (figure k.2) is a sample graphical illustration of a knowledge map using a representative constellation of ideas centered around Morin's meta-concept of brain-mind-culture.

³ Composed by this author (unpublished).

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figure k.2: sample living knowledge map⁴



⁴ Composed by this author (unpublished).

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annex I: harvesting of living knowledge patterns

The following are the unconventional conventions applied to harvest terms and patterns from this Study with the purpose of developing a living knowledge commons and pattern language of generalized complexity.

conventions

terms. This Study aspires to generate a new understanding of generalized complexity. In so doing, a new languaging is required, which by default means the introduction of or specialized use of terms and concepts. Colored text will be utilized to track their introduction and subsequent development. Terms, in their simplest form, will appear in green, with *no further* stylization.

terms, qualified. Our aim in this Study is to systematically differentiate certain terms *further*. In these cases, qualifiers will be used, and the portion of the term being qualified will be colored in green and also be bolded, like so **differentiated term**.

patterned phrases. This Study aims to revive Life-affirming qualities from natural systems *into* human social systems. The qualitative elements of Reality have been overshadowed and *all* but drowned out by the reductiveness of the quantitative. To reconcile these two modes of realization, we rely on thick description that attempts to express the ineffable—capture the *quality of some phenomenon*. To do so, oftentimes I borrow the *most* beautifully-crafted phrases that we come across or generate. These phrases will be colored in green and italicized. In addition, a portion of these phrases may *sometimes* be bolded, this signifies a relevant emphasis, usually of *some* term within that phrase.

relevant verbs or verb phrases. Certain verbs or verb phrases that seem to correspond qualitatively to a term; that is a pairing that *more* concretely conveys a *higher-order* intensity of a quality inherent in that term. In short, they *just* go together. These words or phrases are colored in orange and italicized.

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sample stylized text

the workings of capitalism.¹ Capitalism as a system is *inextricably entangled* within a field of living processes, the immanent outside². It *feeds* on Life activity³. However, unlike living systems, there is *no active surface present to mediate* the flow of Aliveness; there is only a *one-way capture*. Economization is the *apparatus of capture*⁴ of surplus-value-of-Life—*wholly-qualitative potentials* yet *to be lived*. Quantification *generalizes* (*reduces upwards*), *reducing* the qualitative to a number. Money, *essential to economization*, *operates* under the assumption that value is measurable and quantifiable. As such, it is *destructive* of Life's potential.

the economy of Life. Within the Continuum—the *immanent outside* of the capitalist system—Life, has its own, *radically inclusive economy*, with its own *ways of creating and exchanging value*.

surplus-value-of-Life. Surplus-value-of-Life is a *qualitative value* based upon the *unexchangeable currency of experience*⁵ *generated* by every *each-form* as they *express* the *power of the continuum*⁶ through their *being*, in *unique ways*. Surplus-value-of-Life is an *innate value*, *constituted* from *one-time events* within the Continuum that *stand out temporarily* from their background, and therefore are *rendered value-able*, in other words, can *be valued*.

nature of events. Qualities such as *aliveness* or *beauty* are *felt qualities* that *serve* as *qualitative indices* for the *intensity* of the *more-than-humanness* of an event. *Affective resonance* is a *process of attunement* to these *more-than-Human intensities*, which, when *practiced collectively*, *enables* a far more *accurate registration* of the surplus-value-of-Life—the *unactualized potential latent* in a given event.