Leadership and Systemic Innovation
Socio-Technical Systems, Ecological Systems, and Evolutionary Systems Design

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Abstract

Innovation comprises an area of human activity that bridges disciplinary boundaries in epistemological domains as well as action frameworks in ontological domains. It involves a complex system composed of people, organizations, role structures, skills, and knowledge bases, in addition to the hardware produced in workshops and factories. This paper argues that Systemic Innovation, as an emerging field of praxis in its own right, provides an integral and actionable framework for the curation of human initiatives that span human, technological, environmental, and generational concerns with lifelong learning and creative design initiatives. To do this, the field draws on socio-technical systems theory (STS), the study of living systems and ecological system dynamics (including such areas of embodied action as permaculture), and evolutionary systems design (itself comprised of general evolution theory (GST), social systems design methodology (SSM), and lifelong and transformative learning praxes). How these frameworks are used to guide systemic innovation in service of life, increasingly robust and supportive living environments, and future-creating scenarios of systemic viability and thrivability is at the heart of the field of Systemic Innovation. This paper explores the principle outlines of this approach.

Keywords: Systemic innovation, thrivability, socio-technical systems, VUCA challenges, protopia, solutionatique, Ubuntu, ADD-NDD-SDD spectrum, Evolutionary Systems Design, Human Ecology.

Understanding Technology and Innovation

To understand innovation as a process, it is important to first clarify what we mean by technology. The term *technology* is often portrayed as something apart from culture, acting upon individuals and societies in dehumanizing ways. It has been demonized as the machines, tools, and material objects of human production that bend us to their mechanistic will in a relentless drive for increased efficiency, effectiveness, efficacy, and subjugation of nature. The casualties left by the wayside are feared to be ethics, aesthetics, spirituality, and humankindness. Jacques Ellul (1964) warned of this malevolent aspect of technology over half a century ago, writing reprovingly of how “the machine tends not only to create a new human environment, but also to modify man’s very essence.”

There is a problem with such views, generally identified with technological determinism. The problem is that they separate technology from culture when in fact, technology is best conceived as a kind of *crystallized culture.* People produce technology — more precisely, individuals and groups in particular cultures produce specific technologies. What they produce, as well as how they produce it, reflects and embodies the values of their culture.

In past decades the term technology had a very specific, limited, and unproblematic meaning. Persons who employed the term spoke of a "practical art," "the study of the practical arts," or "the practical arts collectively." In the literature of the eighteenth and nineteenth centuries, such meanings were clear; not occasion for deliberation or analysis. In fact, technology was not considered important in descriptions of that part of the world most would now call technological. Most people spoke directly of machines, tools, factories, industry, crafts, and engineering and did not worry about "technology" as a distinctive phenomenon.
Changes in the perception of technology are marked by changes in the meaning of the word itself. Webster's Second International Dictionary of 1909 defines technology as "industrial science, the science or systematic knowledge of the industrial arts, especially of the more important manufactures." More recently, Webster's Third New International Dictionary (1961) includes the following definition: "the totality of means employed by a people to provide itself with the objects of material culture." And according to the current edition of the Merriam-Webster Online Dictionary (https://www.merriam-webster.com/dictionary), it has come to denote "the practical application of knowledge especially in a particular area; a manner of accomplishing a task especially using technical processes, methods, or knowledge."

It is also worth considering a few pertinent definitions developed by federal agencies in the United States. Clyde J. Behney, former Program Manager for Health at the Office of Technology Assessment (OTA — established in 1972 in order to conduct evaluations of technological change in American society, and dissolved by Congress in 1995 in a blatant demonstration of sociocultural stupidity), defines technology very broadly as "organized knowledge applied to

practical purpose," qualifying that it "need not be in the form of a machine or physical implement." (Behney 1986, 20-21).

We can best understand technology as both a product and process of society. Its manifestation varies in accordance with the dominance of cultural conceptions in given segments of society at any given time. For example, in areas of North America, the nationalist conception of science and technology, labeled "techno-nationalism" (Reich 1987 & 1998), illustrates one perspective that is not universally shared. In Denmark, as in France, Japan, the Netherlands, Norway, Switzerland, and the United Kingdom, carefully structured participatory processes that engage everyday citizens in decision making about science and technology have been underway for several decades (Sclove 1998). While such processes are not 'technology' in the same way as is airplane design, they nonetheless have equal claim to the term. However, without further precision or specificity, such broad usage would only lead to confusion and ambiguity. As Langdon Winner pointed out, "there is a tendency among those who write or talk about technology in our time to conclude that technology is everything and everything is technology... the word has come to mean everything and anything; it therefore threatens to mean nothing" (Winner 1978).

Traditionally, then, technology refers to a machine, tool, or artifact of human production. But as linguistic conventions have gradually changed, the concept of technology has expanded in both its denotative and connotative meanings. It is now widely used in both ordinary and academic parlance to discuss a broad range of phenomena — tools, instruments, machines, organizations, methods, techniques, systems, and the totality of all these and similar things in our experience — without necessarily becoming specious.

Tornatzky concludes that technology refers to "any tool or technique, any physical equipment or method of doing or making, by which human capability is extended" (Tornatzky 1983). With this definition in mind, the term technology should be understood to pertain to a complex

system composed of people, organizations, role structures, skills, and knowledge bases, in addition to the hardware produced in workshops and factories.

As such, technology can be considered and method or means by which human capability is augmented. New ways of living, of creating value, and of raising not only standards of living but — what is far more important — quality of life call for such augmentation and extension of human capabilities. This leads to a much needed reconceptualization of innovation in the context of societal evolution. Unfortunately, contemporary approaches to the development and implementation of advances in the application of technology tend, at best, to emphasize the synergetic relationship between human-beings, technology, society, and the environment. We can do better than this. Indeed, if we wish to curate conditions for the emergence of a world of human dignity and thrivability for all, we will have to.

According to standard usage, an *innovation* is the concretization of a practical idea that augments human capability for action with societal impact, existing as an intermediate phase between the conceptual *invention* of an idea and its marketable *diffusion* in society. Clearly, advances in science and technology have created unprecedented opportunities for human development and well-being. And yet, as Jacques Ellul warned reprovingly over fifty years ago, "the machine tends not only to create a new human environment, but also to modify man's very essence" (*Op. Cit.* Ellul). As such, technological progress over the last 150 years has brought with it certain "side-effects" (*cf.* Meadows 1972) that, although generally ignored for some time, have now become global issues that threaten the stability of societies and ecosystems the world over. The familiar litany of modern-day ills include population growth, social inequities, hunger, armed conflicts, water shortages, pollution, climate change – and these are but a few of the issues, each of which is related to every other, and which together form a complex challenge for societal development (Merry 1995, 78). In ever more urgent and pressing ways, the finitude of resources on our planet calls for new forms of production, distribution, and consumption … and for new ways of researching, developing, and innovating social and technological change in order to answer that call.

The Need for Systemic Innovation in a VUCA World

A critical concern lies in the fact that in the face of increasingly VUCA (volatile, uncertain, complex, ambiguous) futures, many leaders, institutions, and structural societal conventions appear to be preparing for the world of yesterday instead of that of tomorrow. If we are to respond appropriately to the demands of increasing complexity and to move across the "complexity barrier", new approaches will be needed. The potential to foster a positive VUCA world — one based on Vision, Understanding, Clarity and Agility rather than on the negative reactive frame of the acronym — can best be advanced through systemic innovation that seeks to curate conditions of life and living that favor the dynamics thrivability. As Janine Benyus noted, *life creates conditions conducive to life* (Benyus 2002). Systemic innovation provides a path to connect life with life and to re-imbue our relations at four levels of thrivability: with ourselves, with each other, with our more-than-human world, and with past and future generations of all beings in service of thrivable futures.

Contemporary approaches to the future tend to fall in one of four categories: they are based on and informed by visions of a utopia, a dystopia, a myopia or a protopia (*cf.* Kelly 2011). Utopian frames are idealistic (and at times overly optimistic) future scenarios: solutions that knowingly cannot be implemented. Even though this scenario can inspire, the inability to realize it often brings frustration rather than action. Dystopian frames are reactive (and often fatalistic) scenarios of the future based on the description of possible hazardous and undesirable events that should be avoided or bypassed. This framework doesn't aid in the determination of which elements of the future vision are plausible. Myopic frames are simply prolongations of the present: scenarios that are devoid of imagination and seek to preserve and advance the status quo through insignificant improvements of existing ways of life and action. Protopian frames are realistically-optimistic scenarios based on the creation of desirable, feasible and realizable images of the future and implementable solutions that change the

current situation. This framework offers actionable pathways for systemic innovations that can be realized now or in the nearest future.

Neither hoping for utopian idealistic societal responses to our challenges or fighting against dystopian fears, practices, or regimes can provide the necessary conditions for the generation of the needed solution sets based on thrivable systemic innovation. The comfortable but false alternative of myopic approaches can only lead to bigger, faster, stronger caterpillars but will never provide the conditions necessary for the emergence of butterflies. The needed approach relies on the creation of Protopian futures. Protopian vision fosters individual and collective initiatives to creating the future we want to see in the here and now. What is needed now are actionable and navigable pathways toward a thrivable wisdom-based society. For humanity to chart clear paths toward thrivable futures will require that we learn and lead together through the conscious evolution of our increasingly interconnected lives in an ever more interdependent world. Protopian scenarios serve as systemic nurturance frameworks for the design and curation of socio-technical systems that are evolutionarily viable, actionable and attainable. (Luksha 2018)

The praxis of Evolutionary Systems Design

A framework for leadership of socio-technical systems innovation in VUCA contexts would need to combine all four aspects of thrivability simultaneously. As a relatively recent contribution to the field of the social systems sciences, Evolutionary Systems Design (ESD) responds to a need for a future-creating design praxis that embraces not only human interests and life-spans but those on ecosystemic and evolutionary planes as well (*cf.* Laszlo 2003, 29-46). The split between macro- and micro-scale conceptual frameworks in contemplation of human developmental concerns continues to provide a difference of perspective within the systems sciences that tends to inspire either homo-centric change efforts or evolutionary interpretive frameworks for them, but little by way of evolutionary strategies for the design of healthy and

sustainable modes of being and becoming on a day-to-day basis in partnership with the life support systems of planet Earth.

As a species, our actions and interventions on this planet have been largely driven by chance and, at best, '20/20 hindsight.' However, as Margaret Mead noted, we are at a point where for the first time in human history, we are able to explain what is happening while it is happening (in Montuori 1989, 27). ESD builds on this relatively new meta-reflective competence by serving as an instrument for the evolution of consciousness and for conscious evolution. It suggests that with the new understanding of evolutionary dynamics and effective approaches to the participatory design of socio-technical systems, our species can stop drifting upon the currents of change and begin to adjust its sails in view of sustainable and even thrivable evolutionary futures. "As evolution becomes history, it can become conscious. As Jonas Salk put it: conscious evolution can emerge from the evolution of consciousness — and from the consciousness of evolution" (E. Laszlo 1996, 139). This is the understanding upon which ESD has been conceived.

The ESD orientation to future creation is essentially possibilistic. It assumes that human beings have the choice consciously to participate in the co-creation of the future. And yet it seeks neither to predict nor to 'socially engineer' the future. Rather, it seeks to create the conditions for the emergence of sustainable and evolutionary futures.

> "In systems such as contemporary society, evolution is always a promise and devolution always a threat. No system comes with a guarantee of ongoing evolution. The challenge is real. To ignore it is to play dice with all we have. To accept it is not to play God — it is to become an instrument of whatever divine purpose infuses the universe" (E. Laszlo 1996, 139).

The aphorism that captures the spirit of ESD is one of flow: we cannot direct the wind, but we can adjust the sails. Learning to sail the currents of evolution — not just to 'go with the flow' but to become active participants in the journey — this is at the heart of the ESD.

From Problematique to Solutionatique

In the early 1970s, the Club of Rome coined the term "global problematique" to describe the complex entanglement of the collective challenges humanity faces at any given point in time. Today, the leader of systemic innovation for the world of tomorrow must seek to create "solutionatiques" – systems of shared solutions that arise from the connected intelligence of leaders and designers of innovation. Those who wish to engage in such processes of systemic innovation immerse themselves in, and help to create, ecologies of new ways of researching, developing and innovating socio-technical solutionatiques that embody social values, technological creativity, economic opportunity, and environmental integrity.

Even a cursory glance at the impact humankind is having on the life support systems of Earth makes patent the unsustainability of contemporary cultures of individualism and self-entitlement. Creating a new culture through an ethic adapted to our time is not a quest of foolish arrogance – it is the survival imperative for sustainable co-existence of humankind with planet Earth. Societies all around the world are currently experiencing a period of rapid and extensive transformation. The signs of change are pervasive, and the rate of change is itself changing and accelerating, speeding contemporary societies toward a critical threshold of stability and engulfing the individual in a confusing blur of behavioral choice. On the one hand we are witnessing global flows of information, energy, trade, and technology swept up in massive economic reforms and political reorientations. On the other, and in no small measure due to the magnitude and intensity of these flows, we are experiencing climatological and ecological maelstroms that are altering the physical essence of our planet. Added to these two tangible layers of measurable and quantifiable systemic change, a third and most distressing level of change is emerging at the psycho-emotional and spirituo-sensate aspects of self. The sense of purpose, meaning, direction, worth, and even of life is often in crisis at both individual and collective expressions of being.

Interestingly, these three levels map over to identifiable areas of pathology. The categories of ADD (attention deficit disorder), NDD (nature deficit disorder) and the newest level of SDD (spiritual deficit disorder) are progressively more difficult and at the same time more pervasive psycho-social ills. While none of these categories have validity as true medical conditions, they serve as markers of the different depths of dissociation emerging from our increasingly disconnected and disharmonious lifestyles. Whereas ADD afflicts people at the level of individual lifeworld, NDD is a context specific and relates mainly to individuals deprived of (sufficient) contact with nature on a broad and diversified scale. SDD is the least easy to detect and assess but it is also the broadest and most collective disease, expressing the malaise of what in German is known as Weltschmerz or "world pain" – a generalized sense of anomie and disconnection from sources of enduring wellbeing.

The resulting turbulence of these dynamics creates a disorienting and disrupting vortex of psychological, social, cultural, and ecological change on both local and global levels. And yet our evolution, our developmental history as an emerging planetary species, has prepared us to meet the challenge of surviving, beyond that, of thriving at new levels of consonance, coherence, and connection.

We need not be victims of change, destined for one future or another according to either a predetermined plan or random chaos. Both individually and collectively, *we can learn how to have change happen <u>through</u> us, not <u>to</u> us!* But we must find out how to look, listen, and learn – to *really* see and hear and understand the underlying patterns of change so that we can distinguish between those dynamics that are destabilizing and those that forward the thrivable futures of protopia. The sharp discontinuity between where we – as not the most unobtrusive species on Earth – are going and where we *should be* going is underscored by the need for new ways of thinking, new ways of learning and new ways of conversing. Already almost thirty years ago, Lester W. Milbrath (1989) noted in his book, *Envisioning a Sustainable Society: Learning Our Way Out*, that

> As a society, we have to learn better how to learn – I call it social learning; it is the dynamism for change that could lead us to a new kind of society that will not destroy itself from its own excesses… for we must share a vision for a new society before we can realize it. Designing a better society and maintaining a good life require deep thought and sustained effort by all of us. Reasoning together is the only way we can bring it about. (pp. 6 & 1)

Reasoning together, conversing together, searching together – this is the spirit so well captured by the Xhosa and Zulu tradition of collective being expressed as Ubuntu. This tradition holds a way of being that begins with the collective and returns to the collective: the individual is always "in relationship". As the expression derived from Ubuntu goes, "I am because we are." And of course, the flipside of this expression asserts the response-ability it carries with it: "we are because I am." As a planetary species, our challenge is nothing short of the collective consideration of a radical transformation of the social systems, which embody our attitudes and dispositions. "Our goal," as Milbrath saw it, "will be to design a new society that provides a decent quality of life while coexisting in a long-run sustainable relationship with the natural environment that nourishes it" (*ibid.,* xi). Not only is this goal still entirely relevant to the contemporary challenge of leadership for systemic innovation, it has increased in urgency as the years have passed. Indeed, it must no longer be considered a marginal area of engagement, relegated to conferences and classrooms. This is *The Work* for being and becoming with our world.

When we engage in systemic innovation through evolutionary systems design, we emerge solutionatiques that embody Ubuntu and curate the emergence of protopias. If we do so authentically and inclusively, we produce a series of byproducts that act as antidotes to ADD, NDD and SDD through the integrity of the narratives we emerge. These narratives operate at multiple levels with, between, and beyond us, operating internally – with ourselves, as well as externally – with each other and the more-than-human world of which we are a part. Through multi-faceted reflection on where we stand, where those who surround us stand, and where we would like to be, we are brought inexorably to a consideration of our ethics. We may find that we and our dearest (and not so dear) acquaintances tend to be more of the take-make-

waste worldview than of the Ubunto-protopia worldview. Although this may be neither pleasant nor reassuring, such awareness marks the first step toward transcendence. As members of a species that finds itself at the threshold of conscious evolution and the capacity to creatively contribute to evolutionary consonance, we need to step back, take a look at what is happening in the "big picture," and find ourselves somewhere there. How are we contributing to that big picture? Are we over there with those who are heedlessly stamping down this earth, or over here, with the mindful walkers and insightful listeners?
Carolyn Merchant (in Hinman, 1996, p. 516), author of *Environmental Ethics and Political Conflict,* distinguishes among three approaches to environmental ethics:

> An egocentric ethic is grounded in the self and based on the assumption that what is good for the individual is good for society. A homocentric ethic is grounded in society and based on the assumption that policies should reflect the greatest good for the greatest number of people and that, as stewards of the natural world, humans should conserve and protect nature for human benefit. An ecocentric ethic is grounded in the cosmos, or whole environment, and is based on the assignment of intrinsic value to nonhuman nature. This threefold taxonomy may be useful in identifying underlying ethical assumptions in cases where ethical dilemmas and conflicts of interest develop among entrepreneurs, government agencies, and environmentalists.

Beyond these three, there is a fourth stage that marks an evolutionary level of ethical consideration as an additional frame for the leadership of systemic innovation initiatives. It is what has been called evolutionary ethics. Without a doubt, ecocentric ethics assigns intrinsic value to "the whole environment, including inanimate elements, rocks, and minerals along with animate plants and animals" (Merchant in Hinman, 1996, p. 524). But it is still synchronic, considering "the big picture" only at any one point in time. An evolutionary perspective needs to infuse this ethic to make it sustainable in the long run. Otherwise it is just optimizing *what is,* not working in stewardship of *what should be.*

Years ago, C.H. Waddington anticipated the challenge for systemic innovation based in an evocentric ethic. He pointed out that

> we have found ourselves faced by a series of problems – atomic warfare, the population explosion, the food problem, energy, natural resources, pollution and so on – each complex enough in itself, but then it turns out that each of these is only one aspect of, as it were a Total Problem, in which all aspects of the world's workings are inter-related. (in Merry, 1995, p. 78)

This harkens to the Club of Rome's notion of the *global problematique,* and as Waddington suggests, must be considered as a continually unfolding condition that begs systemic innovation of *glocal* (globally informed and locally relevant) *solutionatiques*. An ecocentric ethic simply will not bear up to the challenge of dealing with it (much less a homocentric ethic, while an egocentric ethic can only make it worse). The time is nigh for leadership of systemic innovation based on evocentric ethics.

And there is still a fifth level that addresses precisely the condition of SDD mentioned earlier. This is the level that draws on the science of evolutionary systems in the cosmos, placing life on Earth in the context of a much larger narrative with patterns and principles that inform our existence in fundamental ways. This level might be considered the pancosmic ethical frame, expressing perennial insights from both scientific and spiritual traditions that assert the essential unity of matter, energy, life and consciousness. To balance out the flow and the dance of thrivable emergence as a celebration of life, we can place these five ethical dimensions in a framework of super-coherence. This helps engage with the processes of emergence in and around us as curators of thrivable dynamics at all five levels simultaneously:

- The intra-personal dimension of coherence; thrivability within oneself
- The inter-personal dimension of coherence; thrivability with one's communities and social systems
- The trans-species dimension of coherence; thrivability with the more than human world
- The trans-generational dimension of coherence; thrivability with past and future generations of all beings
- The pan-cosmic dimension of coherence; thrivability with the deep dimension of immanent consciousness in the cosmos

By consciously, purposefully and intentionally curating each of these dimensions *in dynamic relationship to the other four*, it is possible for us — both personally and in the sense of our larger humanity — to take on the mantel of evolutionary co-creator of a World Narrative in harmony with the rhythms and dynamics of the cosmic dance of being and becoming (*cf.* Laszlo 2018). In this case, super-coherence of the human expression of life is seen to arise from the coherence of all five dimensions of our lived expression of and conscious engagement with our world, both internal and external to us.

Life in an Ubuntuverse

In a non-dualistic universe, there is no matter, no thing, fundamentally. At the tiniest and most fundamental level (measured in terms of the Planck Length, denoted as ℓ_P), there is only vibration. This is difficult to understand from within our current materialist, empiricist, positivist paradigm. From that paradigm, we tend to want to know what it is that is vibrating. But there is no "thing" that is vibrating. What we find at that level of being is pure vibration as the quintessence of the cosmos (*cf.* Laszlo & Laszlo 2016).

When patches of vibration are in consonant relation with each other, we speak of a coherence domain. Such a coherence domain is capable of storing and transmitting information in ways distinct from domains that do not express this form of syntony. Internal (intra-systemic) coherence arises at this level of being. If the vibrations in the coherence domain are of high amplitude and high frequency, the domain expresses as matter — something solid that accords with the laws of thermodynamic and chemical equilibrium. In other words, it manifests as observable, measurable, tangible and of limited lifespan or duration. If, on the other hand, the vibrations in the coherence domain are of low amplitude and low frequency, the domain expresses as mind — something conceptual, memory-related, thought/feeling/emotion/spirit expressed. Such coherence domains are not measurable or otherwise accessible through the classical five senses nor through the science and technology developed to augment them. They

do not accord with the laws of thermodynamics nor do they decay over time in the same way as manifestations of the previously mentioned type of coherence domain do.

When patches of coherence domains come into coherence with each other, the domain expands without losing the holonic aspect of the individual domains. Such complexification expresses super-coherence: the internal (intra-systemic) coherence of vibrational consonance within a particular domain, and simultaneously the external (inter-systemic) coherence of vibrational consonance between domains. Supercoherent systems are the hallmark of evolution.

Now here's where it gets interesting. The ground state of undifferentiated consciousness provides a "zero-point energy field" of infinite potential for evolutionary manifestation. Through fluctuations and nucleations on the surface of this sea of potential, consciousness takes form. From our human vantage point, some of the form appears to express as supercoherent mental/memory type phenomena, and others express as material/solid type phenomena. All forms (no matter which type) are clusters of coherence; of consonant affinity groupings of vibration. Given the full-spectrum, whole-system sentience of the human being, certain types are empirically observable and knowable to us while other types are not directly observable but are nevertheless knowable through other processes of in-formation.

A glimpse of the future

Imagine if we were able to form and then live in communities that learn how to learn in harmony with the dynamics of the larger processes of which we are a part. These would be learning communities, ones where the boundaries between work, play, and learning are blurred in a lifelong engagement with dynamic and harmonic processes. VUCA situations can be turned into protopia opportunities — provided a basic level of evolutionary competence that permits understanding of the principles relating to the patterns of change described by all complex

dynamic systems with a throughput of information and energy. In her book, *A Mythic Life*, Jean Houston quotes Margaret Mead on her death bed:

> Forget everything I've been telling you about working with governments and bureaucracies! I've been lying here being an anthropologist in my own dying — fascinating experience, by the way; there is no hierarchy to it — and I've had an important insight into the future. The world is going to change so fast that people and governments will not be prepared to be stewards of change. What will save them is teaching-learning communities. They come together in churches or businesses or even in families. They could meet weekly and do your kind of exercises, especially ones that develop their capacities. There must be humor, laughter, games and good food as well. That will keep the participants coming back. Then, when they feel ready, they will choose projects to work on to help their *communities*. The *only way to have a possible society*, Jean, is to develop the *possible human* at the same time.

Imagine, then: communities comprised of groups of people with a shared identity and a common purpose, committed to the joint creation of meaning. Learning communities that engage in collective leadership and systemic innovation sensitive to homeostatic principles of ecosystemic sustainability, drawing on an evolutionary understanding of complex dynamic systems to inform decision making, and seeking to create the conditions for the full development of human potential in a process of continuous and never-ending self-design. Would we not then witness the emergence of a new form of humanity? An expression of the type of evolutionary learning society envisioned by Milbrath? And imagine if several evolutionary learning societies began working together, learning from and co-designing with each other, in a dynamic of syntony, synergy, and mutual interdependence. We would then have a community of such societies or an evolutionary learning ecosystem at the civilizational level. This would, in effect, mark the emergence of a fundamentally new type of planetary human activity system. One that serves as custodian, steward and curator of evolution as an authentic expression of its primary self-interest.

The evolutionary challenge for leadership and systemic innovation in the third millennium is one of designing the vehicles for thrivable human coevolutionary development in partnership

with Earth. It will involve the conscious creation of systems of protopian pathways through such soft technologies as evolutionary systems design. Through them, we will be able to create the conditions for the emergence of true evolutionary learning community, and eventually, of evolutionary learning ecosystems. If we continue with patterns of hypercompetition and going (wherever) as fast as we can, we will opt for paths that we take alone. But if we want lead systemic innovation for thrivable protopias, we will need to go together. The urgency is such that there is no time to rush. Ubuntu has become a glocal necessity, and leadership and systemic innovation are the means for bringing about the protopian world we yearn for in our heart of hearts.

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