

## MICROPARADIGMS FOR THE CIVILIZATION OF HOLOS: THE CHAOS POINT AND THE MUTUAL CATALYTIC CYCLE

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**Abstract.** *The holographic model allows us to conceptualize phenomena that have remained on the fringes of science: synchronicities, psychic experiences, states of higher consciousness. At its deeper level reality is a sort of superhologram in which the past, present, and future all exist simultaneously. The Evolution of UCP and the mutual catalytic cycles confirm this hypothesis. We can observe that a Chaos Point becomes an Edge of Chaos. The conclusion is that the human consciousness is a reflection of the universal consciousness and the consciousness can only exist, because there is an underlying consciousness to the whole fabric of the universe.*

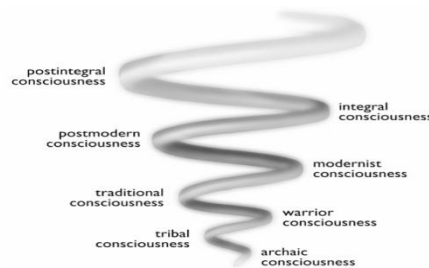
**0.** Albert Einstein said that problems cannot be solved at the same level of awareness that created them. Because the global system creates problems like war, poverty and environmental destruction, it cannot solve them. But they could be solved at a different level-by a new type of planetary civilization with different views, values and social institutions.

**1.** The integral worldview represents the next crucial step in the development of our civilization. Through its enlarged understanding of the evolution of consciousness and culture, the emerging perspective known as *integral consciousness* provides realistic and pragmatic solutions to our growing global problems, both environmental and political. As Steve McIntosh demonstrates, the integral worldview's transformational potential provides a way to literally *become the change* we want to see in the world. Integral philosophy is a new understanding of how the influences of evolution affect the development of consciousness and culture. Although aspects of it have been around for a long time, it's only since the late 1990s that the essential elements of integral philosophy have been coming together into a coherent whole. The power of this new philosophy becomes self-evident to those who use it because it actually raises their consciousness: a new historically significant "level" of consciousness and culture is emerging in our time, and the emergence of this new *integral worldview* is in many ways the evolutionary equivalent of the emergence of the *modernist worldview* during the period known as the Enlightenment of the 17<sup>th</sup> and 18<sup>th</sup> centuries (13, chap.1).

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**1.1.** According to integral philosophy, each stage of consciousness is a *natural epistemology*, an organic way of making meaning with its own distinct view of the world that arises from a specific set of problematic life conditions and their corresponding solutions. These stages function as living dynamic systems that organize both entire human societies as well as the minds of the individuals who participate in those societies (see the Figure below). On the right side of the spiral of development in consciousness and culture tend to be more individualistic, emphasizing the *expression of the self*; whereas the stages on the left tend to be more communitarian, emphasizing the *sacrifice of the self* for the sake of the group (23).



**1.2.** We can see how our current models are by the failure of most economists to predict the current global financial crisis, and by the inaccurate forecasts of the world's top climate change scientists. University students are confused to discover that disciplines such as economics, anthropology and psychology seem to speak different languages. These theoretical problems can be overcome once we realize that cultures and psychological states are not arbitrary creations, but functional or dysfunctional responses to the environment. As a consequence values and behaviors develop and change in predictable patterns. As Matthew Melko says in *The Nature of Civilizations*: "It is no less reasonable to make a chart of a civilization cycle than it is to make a chart of a business cycle. And the comparative historian must chart the unknown, even though he is certain to err, just as the sixteenth century cartographer was justified in making maps, even though they amuse us today." (16, 18, 19).

**1.2.1.** Alastair Taylor was one of the first to use systems theory to study the historical evolution of societal systems and world-views (23). The project BEST Futures is continuing to develop and apply his theories.

**2.** Three key integrative principles help to explain the emergence of new structures and properties. The principle of *invariance* under transformation states that the evolutionary process is one of long periods of continuity (symmetry) interrupted by relatively brief periods of discontinuity (asymmetry). Discontinuity permits *quantization* (systemic transformation) to take place in a process that both builds on and changes existing structures. These evolutionary leaps involve the

emergence of more complex systems with new functional properties. The principle of *integrative levels* states that new evolutionary levels emerge through processes of structural transformation that both integrate and transcend previous levels of organization.

**2.1.** The American philosopher Ken Wilber describes the emerging (Integral) world-view as an all-quadrant, all-level perspective (26).

**3.** Some scientists are developing mathematical models of societal evolution. For example, Jurgen Kluver and Jorn Schmidt believe that “[W]e can characterize each social system by the number of dimensions [of the social space of interactions]; in particular we see from the theory of social differentiation that early tribe societies are one-dimensional systems, class societies form two-dimensional systems because both segmentary and stratificatory differentiation constitute these societies and that modern societies can be described as a three dimensional space of interactions. It is worthwhile to note that the theory of social differentiation, if reformulated in geometrical terms, postulates an unfolding of dimensions as a fundamental feature of social evolution.” (9).

**3.1.** Lance Gunderson and C.S. Holling have developed a panarchy model that helps to explain the dynamics of societal change and evolution (6, 8, 21). Ecosystems and societal systems are panarchies that are composed of hierarchically organized levels.

**3.2.** Donella Meadows pointed out that the quickest way to transform a social system is to change the dominant paradigm (14, 15). Since worldviews and their congruent *Systems thinking*: the key to survival cultures and social structures form the strange attractors that organize societal systems, paradigm change involves the formation of a new societal strange attractor.

**3.3.** Vladimir Dimitrov, Robert Woog and Lesley Kuhn-White have described how we can support the emergence of a new type of societal system: “What we can do is seed positive values (that is, values in harmony with ongoing human understanding of better societal life, such as collaboration, justice, fairness, equity, caring for Nature, love, etc.) into the social space where these processes evolve, and then let them go. The divergence will take place in a space impregnated with values reflecting human visions of a better life; wherever a new trajectory passes, it will “absorb” the seeded values. The exact path does not matter (moreover, in social complexity we are unable to predict the exact path); what matters is the ambience through which social processes flow. (...) What has to happen in practice is to *pass over the barrier*, although it seems to be high, of the basin of the old attractor into some ‘neutral zone’ as a transient state towards the basin of a newly emerging attractor. Being in the neutral zone, social trajectories become ready to be involved in another pattern formation; what sort of pattern depends on the nature of the new strange attractor. The divergence

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syndrome will start to ‘breathe’ in harmony with the social values embedded in its emergence.” (6).

**4.** We live at a crucial juncture in the sociocultural evolution of humanity: the transition from one civilization to the next: the birth of a New Renaissance (E. Laszlo). I *et alii*. call it the *Holo-Renaissance*, as its scientific basis is the holographic theory, or model, of universe. As we now transit from a civilization hallmarked by the culture of Logos to a civilization that must *a fortiori* be characterized by a *planetary culture* denoted by the term *Holos*, the evolution of a more embracing and spiritual consciousness has become the basic requirement and supreme challenge of our times (11, 19, 22, 25).

**4.1.** For a long time now, orthodox physics has maintained that the so-called Law of *Entropy* governs the universe. In his book, *Cosmography*, Fuller provides a proof that *Syntropy* or *negentropy* is twice as powerful as Entropy: “The universe is twice as powerfully integrating (i.e., twice as powerfully syntropic as entropic).”(7).

**4.2.** A *Holos civilization* is one that develops people and community via unifying them through connection, communication, and consciousness generates a healthy, or whole, world (*vedi* table below *The Evolution of UCP and the mutual catalytic cycles*; cf. 6). The overarching goal for envisioning a whole civilization: building a sustainable future (10, 28).

Criterion	From...	... To
Mindset orientation	A <i>logos</i> civilisation	A <i>holos</i> civilisation
	The Earth is infinite	The Earth is finite; restraint
	Self interest	Golden Rule of Humanity
	Bellicosity, greed	Global stewardship
Political ideology	Democracy	Democracy
Economic delivery system	Capitalism	Economic conservationism
	Free market	Free and fair market
	Entrepreneurship	Entrepreneurship; virtuous cycle
<i>Raison d'être</i> of business	Supply goods and services	The Social Contract with Business
Economic timeline	Quarterly results	Intergenerational results
Business vision	Value to shareholders	Value to stakeholders
Business <i>kosoryoku</i> (the end-purpose of the vision)	More value to shareholders	To contribute to a society that finds its greatness in protecting its humanity and economy as a whole
Principle modes of business thought (Plato's Theory of Knowledge)	–	Philosophy
	Business science	Business science
	Business experience	Business experience
Business scope (dominant business logic)	Top end of human pyramid (Tiers 1 and 2: 30% of humankind)	Straddling the entire human pyramid (Including Tiers 3 and 4: 70% of humankind)
	1 <sup>st</sup> wave of globalisation	1 <sup>st</sup> and 2 <sup>nd</sup> waves of globalisation
Canon of knowledge	Western-based	Global-based (Western, Eastern, Southern)

The Evolution of UCP and the mutual catalytic cycles (a *logos* civilization→a *holos* civilization). A *catalytic cycle* is a term for a multistep

reaction mechanism. The structures of all societies are isomorphic. The basic structure is called the Universal Culture Pattern (UCP). In the (BEST Futures) model, Graeme M. Taylor defines the UCP in terms of the essential functions that every societal system must perform: providing meaning, communication, regulation, education, biological and social reproduction, economic production, and environmental control (24).

4.3. *Scientists* return to an ancient idea of unifying and building societies based on a virtue of friendship where people view each other as equals and virtuous (Aristotle). People center themselves and their community on an ethic of integrity, or holism. Autoethnographic narrative, or stories of the self in culture, centers on friendship (25) by drawing the researcher nearer to participants. As people perform this friendship via narrative, societies and persons must respond and can transform and heal.

4.4. The fundamental values of beauty, truth, and goodness have been recognized since antiquity as the intrinsic qualities from which all values are essentially derived. Plato was the first writer to associate the beautiful, the true, and the good together, and to exalt these three as primary. Kant recognized three essential modes of mental function. This triad of values is, after Steve McIntosh, a form of philosophical high technology, and a key to the “physics of the internal universe.” (13, chap. 6, *Integral Spirituality*, chap. 10, *The Directions of Evolution*).

5. Ervin Laszlo's book, *Chaos Point: the World at the Crossroads*, looks at the current world situation from the perspective of systems theory, and in particular of *chaos theory*: “...when a society reaches the limits of its stability and turns chaotic, it becomes supersensitive, responsive even to small fluctuations such as changes in the values, beliefs, worldviews and aspirations of its members.”(11). Most systems move toward equilibrium or *entropy*, but complex organisms, and human society in particular are “supersensitive dynamic systems” and show *negative entropy*. *Attractors-point attractors* or *periodic attractors* govern the systems. The chaos dynamics of society follow a pattern that goes through four phases: (i) *The Trigger Phase*; (ii) *The Accumulation Phase*; (iii) *The Decision-Window*; (iv) *The Chaos Point*, when the system becomes critically unstable and goes either to *Breakdown* (devolution) or *Breakthrough* (evolution). In the former case, the “ethics of a critical mass of people” are too resistant to change and society degenerates into conflict and violence, but in the latter case, the mass mindset shifts to an adaptable mode that would allow a completely different paradigm and thus a sustainable society. The global society is now in a chaos window or *decision window*, during which the system can be affected by the *butterfly effects*. The solution is not more technology, but new thinking, values and priorities in a critical mass of people. The five drivers of chaos are as follows: (a) unsustainable distribution of wealth; (b) unsustainable affluent consumption;

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(c) unsustainable developments in global finance; (d) unsustainability of established social structures; (e) unsustainable human load on nature.

**5.1.** *Logos-Holos* is Laszlo's term for the coming transition, in which we must develop a new mind-set, or worldview and a new structure for society, with four levels of decision-making: global, regional, national and local. He disagrees that we have passed the point of irreversibility, because of the butterfly-effects of the decision window we are in "...not only nature, but also humanity is a dynamic system that is now nearing a Chaos Point—and is therefore ultrasensitive and capable of an ultra rapid transformation".

**6.** Finally, we can observe that a *Chaos Point* is basically an *Edge of Chaos*. The Edge of Chaos is more than just a balance point. It is a point of emergence. When the Edge of Chaos is reached, whole new behaviours can emerge that could not have been previously predicted before. Emergent behaviour occurs in many complex systems, where a system spontaneously develops *new system wide properties and new levels of complexity* that is not at all apparent.

**6.1.** There is a chemical example of the Edge of Chaos system called the Belousov-Zhabotinsky. The Edge of Chaos is found very often in nature, throughout ecosystems or in human dynamics. Per Bak is developing the concept of self-organised criticality. It means that large *complex systems* such as those found in nature tend to move towards the Edge of Chaos. If they are too ordered they self-adjust to become more chaotic and if they are too chaotic they self adjust to become more ordered. When complex systems do move to the Edge of Chaos they tend to self-organise to be scale free and exhibit power law distributions. Self-organised criticality has also been proposed to apply to economics and to the brain. Self organised criticality is also used in the theory of *Punctuated Equilibria*, which proposes that evolution has not occurred as a slow incremental process, but rather by long periods of time with relatively little change taking place, punctuated by times of intense change, triggered by some critical states in the ecosystem (2, 3).

**6.2.** The farthest afield we can go is into what Per Bak and others call the *Adjacent Possible*. We cannot imagine a world entirely different from our own, our brains cannot visualize what could have happened, we can only visualize what did happen and extrapolate a bit. That locks us into our history. The adjacent possible is a kind of shadow future, hovering on the edges of the present state of things, a map of all the ways in which the present can reinvent itself (3). In considering the wedge model, time is at least trying to find a state of balance, even if the flow of time for the universe as a whole cannot find a state of balance because there is an ever increasing quantity of disordered states. Hence Boltzmann's claim that systems move toward disorder always holds true regardless of where the present is located in the model. The mistake however is the assumption that the measure of disordered states is unbounded.

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**6.3.** A fundamental question, which seems deeply difficult to answer for a classical brain, becomes easy to answer in the current framework: *The quantum coherent-decohering-recohering mind does not act on the brain causally at all. Rather, by decohering to classical (FAPP) states, the quantum coherent mind has acausal consequences for the classical "meat" of the brain.* No causality from *res cogitans* to *res extensa* is needed. Mind acausally has consequences for the classical states of the brain. Kauffman also suggest that the operation of the mind might be found within quantum mechanics and that somewhere in the balance between coherence and de-coherence might be a dynamic balance point, somewhat like the edge of chaos as a dynamic balance, that enables the emergence of consciousness that can seek meaning (1, 9).

**6.4.** Contrary to most scientists, Ervin Laszlo makes the further claim that the quantum vacuum, the foundation of all that is in our universe, is in itself conscious (12). Our human consciousness then is a reflection of the universal consciousness and our consciousness can only exist, because there is an underlying consciousness to the whole fabric of the universe. A human being is a complex adaptive system made up of a number of multi-leveled subsystems. As well as the physical levels from the molecular level through to cells, organs and body system, we also have levels of being on the physical, emotional, mental and spiritual levels. Beyond the individual, there are nested social dimensions ranging from the family through to the community, nation and planet and evolved levels of social structures as described, for example, by *Spiral Dynamics* (4). The modern world is at a cross roads. Concepts such as autonomy and connectivity, catastrophe and emergence, and autopoiesis can be all relevant to the development of a new worldview. So, *Chaos Point* or *Edge of Chaos* could be identified as critical points where a complex system was more likely to lapse. Unfortunately, for the moment, the scientist couldn't imagine... a *Non-Catastrophe Theory*.

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