Chapter 9

Complex Systems and Synthesis

High-level mathematical formulae can capture archetypal relationships, and their generality will depend on how many realms they are consistent within. Einstein's formula $E=mc^2$ was derived from the physical realm, yet can be generalized to apply to all realms in modeling. Generic mathematical models, such as those of general systems, dissipative structures, fractals and chaos can be applied in many contexts, and can be considered high-level archetypes. This means that they have considerable abstraction that spans a large rather than a small portion of space-time, and that incorporates many rather than few dimensions of existence. It follows that a truly unified theory across all realms would incorporate high-level archetypes. This might occur within the realm of physics and then be generalized, or it could come from the search for unities across disciplines.

Science is gradually learning to understand the worlds of the artist and mystic. The scientist discovers regularities and structures of nature that may be converted into the formal logic of mathematics to efficiently summarize them. The artist or mystic seeks to express a direct perception of the innate beauty and truth of things. Each expresses an awareness, ultimately derived from the unitary consciousness of the universe, through their individual capacities. Differing degrees of complexity arise in the physical, biological and psychological realms to challenge both the scientist and artist. The soul model suggests that the structure, process and content of these realms can be properly discerned only by a combination of logical and intuitive perception. Either alone will be insufficient. This chapter looks at further scientific support for the dynamic and archetypal soul model, integrating it with wisdom teaching.

The following compares the stages of human progress to some mathematical archetypes, to assess how the unfoldment of that progress might occur. As Ruelle has pointed out in relation to chaos,[1] our data to test the applicability of these archetypes is at present limited. However, the principles are crucial to understanding the life systems in which we live and move and have our being.

Attractors and Chaos

Any dynamic system (living things, the weather, consciousness) that evolves in time towards a regular sequence of predictable behaviour, is said to evolve towards its "attractor." These attractors may be simple or "strange," and at least 3 classes of them can be defined mathematically, the first two of which are simple attractors:

1. Steady-state is an equilibrium of no change, illustrated in water flow when a tap is turned on slowly and a steady, uniform (laminar) stream emerges,
2. Periodic oscillation is the cycling back and forth in a regular loop, as when the water tap is opened further and periodic pulsations occur in the flow,[2]
3. The third class of attractors is dubbed "strange" because they have qualities significantly different to the others. They are important for the models and paradigms

> we use to describe complex systems. These strange attractors result from the complex interaction of many variables or oscillations that appear to produce random behaviour. However, the behaviour is deterministic not random, and has specific properties. In the case of water flow, opening the tap wide with strong water pressure will produce a turbulent flow of apparently irregular and chaotic appearance.

As the energy in the system increases, we note a progression from simple to periodic to chaotic attractors. The energy increase may be from external flow, internal flow,[3] from increasing feedback (i.e., autocatalytic or cross-catalytic processes), or from resonance. It is the energy that drives evolution and increasing complexity. It applies to the development of general systems, and hence to specific applications within many disciplines. Ruelle describes strange attractors as being:[4]

- Fractal and not simple in structure,
- Strongly sensitive to initial (or prior) conditions in a system,
- Modeled in a limited number of dimensions, but having a continuum of frequencies.

The sensitivity to initial or prior conditions is significant for the notion of the total inter-relatedness of the universe. Ruelle[5] shows how varying the attractive force of a single electron at the limit of the known universe would take only a fraction of a second to influence the collision of one air molecule on earth. This, in turn, would take a minute to influence the fine structure of atmospheric turbulence (at the scale of a millimeter), and then a day for this to influence the macrostructure of atmospheric turbulence (at the scale of kilometers). In its turn, this would take about two weeks to influence the global pattern of atmospheric turbulence, producing storms or calm in various parts of the planet.

This example is an extension of the "butterfly effect" where the fluttering of a butterfly in one part of the planet could produce storms elsewhere in a matter of weeks, and illustrates a theoretical basis for the unity of the influences of very small forces on macro-systems throughout the universe, and fractally. Gravity, electro-magnetism, and the fields of various forces in the universe may all have a complex and chaotic effect on the progressive growth of structure, life and consciousness on earth. Ruelle acknowledges that cosmic events can influence events on earth.[6] He adds that we are currently unable to analyze the deterministic effect so must use statistical probability analysis.[7]

The three classes of attractors are three stages of progression in a dynamic system. The first steady-state class is of relatively low energy, and corresponds to the early stage of the evolutionary cycle. With increasing energy levels, the second class develops, of oscillations of a small number of period components. This is analogous to the vibrating interval modes of a musical string or drum. These modes are expressed as standing waves, such as those of the energy states of the atom, and the patterning of chakra petals. Complexity gradually increases but it is not yet "strange," and can be analyzed by methods such as Fourier analysis to identify the various frequencies involved. This second class corresponds to the middle phase of the evolutionary cycle, of oscillations between the various components of "good and evil" or of spirit and matter. This oscillation and relating of the higher and lower is typical of the 4^{th} Ray, 4^{th} level consciousness at the midway of the cycle.

The jump to a higher energy level and significantly greater complexity is very noticeable in the final phase of evolution, especially at the Ajna and Crown levels. The complexity of their petal patterns increases markedly, and the mathematics of chaos should apply in this phase.

The three classes of attractors are also analogous to the three orders of science. The first order, Newtonian science, is one of simple deterministic laws in a limited, steady-state mechanical system. The second order, of relativity and relationships, corresponds to the oscillations in the second class of attractors. In the words of Morin, quoted by Toffler in Prigogine & Stengers,[8] this changes the scientific forms from simple deterministic laws to multiple determinations of systems. It puts greater emphasis on probabilities. The third order of science, yet to be established but commencing with work on quantum dynamics, superstrings, and on states of high psychological transformation, is reflected in the qualities of strange attractors, which raise questions about any purposefulness implicit in the previous classes when subject to a greater energy flow, and about increasing organization in the universe.

Ruelle (at chapter 13) and Savit (at chapter 14) in Hall[9] have analyzed models of economic and financial systems, and both identify the transition from steady-state to cyclic, and then to chaotic dynamics. Their examples together with Ormerod's (see below) contain lessons for our methods of analysis, our understanding and our policy-making in today's complex world, as follows.

The steady-state economy exists in very simple systems of low technical development, typically subsistence societies. It also exists in textbooks that oversimplify models in order to illustrate a limited proposition, e.g., that a free market creates the common good. It is the simplification of these models that creates the steady-state result of the modeling. When more variables are added and made interactive, then the complexity jumps from steady-state to periodic oscillation. The economic theory must then move from Market Fundamentalism to that of the control of cycles, such as the work of J.M. Keynes and later econometric modelers. However, even with a few variables, the analysis can become complex, and often does not match modern reality. This is because modern economic systems are complex and highly interactive (within and between subsystems), and produce the irregular turbulence of chaos.[10]

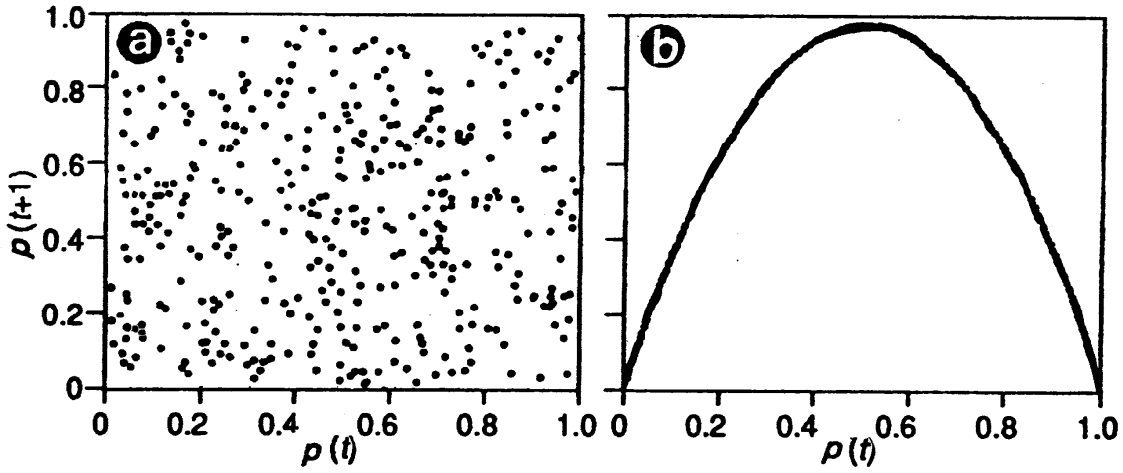
So Market Fundamentalism has little relevance to the modern world[11]. The later, socially-oriented analysts illustrate only a transitory state to a much more complex economic system. The modern economic system can be modeled as a deterministic chaotic system, but we lack appropriate data to use "real world" quantities in this type of model.

Savit[12] uses a model of financial market fluctuations to show how increasing levels of greed (a price rise factor) drive the system from steady-state to simple oscillation, then to complex regular oscillation, and then to turbulent chaos. It is clear that with sufficient numbers this "greed factor" could create the breakthrough from agricultural subsistence to Market Fundamentalism. However, it is the simple prescriptions of the Market Fundamentalist at the Solar Plexus level, the belief that for individuals "greed is good," that can cause the economic cycles and chaotic fluctuations that Keynes and others tried to control. It still plays a role in contributing to economic chaos. The energy of increasing greed

at the Solar Plexus level drives the economy into fluctuations that may require regulation. The effect of other motivations such as the Heart level concern for equity could be expected to moderate economic oscillation and chaos.

A lesson of method from this is that much of the statistical analysis of complex systems, particularly of human behaviour, will be inadequate. The fact that deterministic chaos is mostly indistinguishable from randomness when using conventional statistical tests, means that many of our statistical results will be wrong. They may be able to pick up some significant correlations in data, but will miss strong patterns masked by chaos. A different kind of analysis may be required, such as that illustrated by Savit,[13] which isolates the underlying structure of the chaotic distribution (see Figure 29).

Figure 29. Parabolic Plot of Chaos



This presents an obvious if very tricky opportunity for the modeling of policy options as guidance to behaviour in a complex economy. It could help illustrate a range of interactive influences, such as how a deviation-amplifying process can radically change an economy through, for example, the loss of an industry, or the creation of a network of new ones.

Ormerod's Butterfly Economics model[14] does show how the amplification of deviations creates patterns of economic growth and strong divergence. It closely resembles the actual pattern of growth between 1870 and 1997 of twelve capitalist countries. The model applies not only to firms, but to nations, to "clubs" or close groupings of nations, and so to variations in societies and civilizations. Its data are randomly based, but the rules for growth of an individual firm or nation depend on both its existing size and the manner in which it interacts with all others. There are varying strengths of reciprocal feedback (positive and negative) between firms, including allowance for mergers. What emerges is the apparent inevitability of a growing and large divergence of economic wealth in capitalist economies. We observe this in real life now, and see that the divergence between countries includes of education, health, social welfare, information systems, and policies and manner of governance.

The period 1870 to 1997 is when the Heart and Throat chakra economic paradigms were developed in the West. However, it clearly includes the then existing Solar Plexus chakra

paradigm of economic behaviour. These three levels comprise the middle phase of human behavioural evolution. The disparate growth for some firms and nations in this phase provides the basis for an even more rapid separation of the rich and the poor in phase three. In this last phase, the multiplier for growth would become far more powerful through the principles of self-actualisation, alignment and integration. This could produce some changes in the rules of the model, following the effects of an ecolonomic move towards systems harmony.

However, there is a darker side to this that requires our attention. This is the resulting control of enormous wealth by the relatively few super-rich, and their consequent political and social power. This power could be used for good, but if used for selfish purposes, that restrict the potential for human development or that harm Earth's life support systems, then it would become a potent source of evil. We would then need a combination of global participatory communications and democracy to help overcome any destructive tendencies and to sustain life and fulfillment for all.

As the Butterfly Economics model is successful in replicating actual economic growth patterns for the middle phase of development, it is tempting to see it as supporting the chakra petal order of divergence and increased capability. This is a more positive interpretation of the pattern. Together with Revelation it would indicate the creation of seeds of new levels of civilization, and of new kinds of people. It even contains the jump to new levels of behaviour when critical points of a system are reached. For it to be archetypal it would need to operate at all chakra levels, with interdependence with all contacts possible at those levels, and in many areas of life. For phase three this would certainly provide the basis for an immense acceleration of awareness, capability, creative power and harmonization, leading to a "new heaven and a new earth".

These various methods model apparently random emergence of distinctive patterns from random data according to simple rules. It is the rules that create the pattern, and if these rules are thought of as natural, then complex patterns, including ecologies of living things, and culture, could be said to arise without a guiding hand. Of course it is people who create the rules in the models. However, the unanswered scientific question is whether the rules that we observe in nature are created by a guiding consciousness or not.

When we look at the increasingly complex dynamics of life on our planet, a speck in the universe, we can validly ask what great attractor the various laws of nature and life may be leading us towards. For there to be one, energy must flow through the system to drive it into increasing order in the form of the complexity of a chaotic system (speaking technically). The secret of this energy is likely to be found both within and beyond spacetime, in the integration of consciousness and energy in third order of science.

Bifurcations and Dissipative Structures

When systems move away from near steady-state equilibrium, their organization increases and their entropy decreases. The increased order requires increased energy within the system, and if this continues to increase it will push the system through the 3 classes of

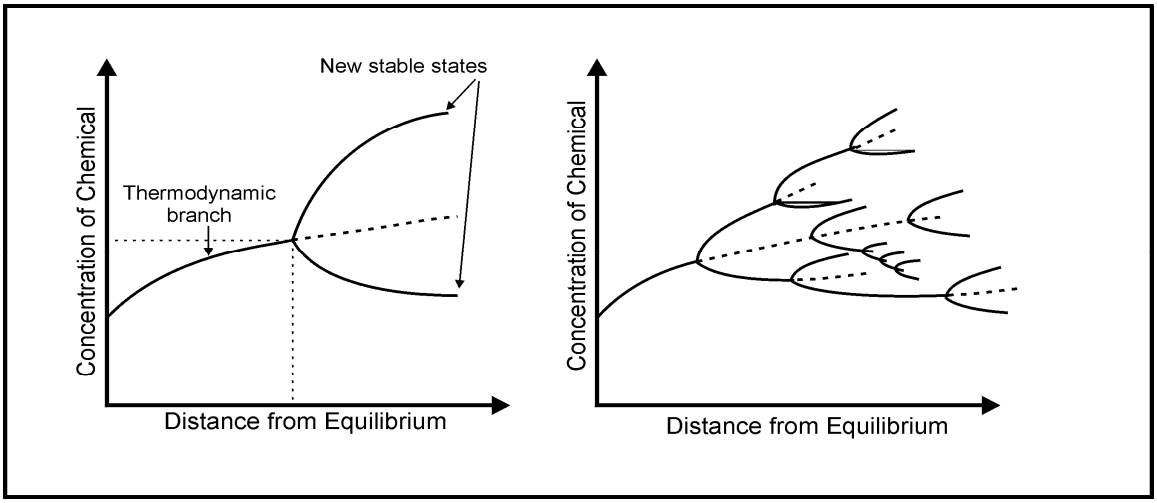
attractors. As it does so, it reaches periodic points of crisis where a "decision" is made. It reaches these points because it reaches the limits of stability of the existing system. It must then change to either a higher or a lower level of organization. These points of crisis for the existing system are called bifurcation points.[15]

In human psychology and culture they are the periods of instability and conflict that, following periods of more steady change, bring the expansion of capability that leads to the next chakra level. For example, the dissonance of the mature stage of Loner behaviour becomes self-defeating for the Loner psychology, leading to the social contract in society, economics and politics. In biology, each step-up in species capability results from environmental pressure to change and the consequent opportunity to expand into a larger and more complex ecological community. Failure to do so can lead to extinction.

In the mathematical analysis of attractors, these bifurcations have been shown to occur in the form of a geometrical progression, i.e., the progressive split into 2, which becomes 4, then 8, etc. The higher the number, the faster the doubling occurs. The ratio of these doublings was also found to be a constant by Feigenbaum (Figure 30).[16] However, in real situations the process is more complicated because of the range of influences bearing on it. For example, Prigogine and Stengers demonstrated an "assisted" bifurcation caused by the effect of gravity on thermal dilation in a fluid. This created a preference for one of the two options at the bifurcation point.[17]

The implication of this for people is that as evolutionary organization increases and entropy decreases, the soul network becomes an increasingly complex dissipative structure

Figure 30. Feigenbaum Bifurcations



that undergoes a series of bifurcations. This is seen in the increasing complexity of civilization, of science and of politics that has required significant changes in culture and practices. The major bifurcation towards the end of an evolutionary cycle (sheep and goats) is the result of these developments. It culminates in the need for enlightened people to create a safe Earth civilization of wisdom and joy. Those without heart or wisdom are, even now, too

immature to handle the great power of our modern civilization, let alone of a more enlightened one.

A "dissipative structure" is a system that increases its order and complexity through discrete steps or bifurcations. Prigogine gave it this name because the higher levels of organization require more energy to sustain them. The fluctuations and net increase of energy throughout a system is an apparently wasteful dissipation under classical thermodynamic laws. However, it triggers the formation of a new system dynamic, and a higher level of organization. He could just as well have called it a "higher energy structure", for this is what each constructive bifurcation creates.

The energy of matter (m), or atomic energy, occurs naturally through innate potential and various radiations. In the human vehicle, the kundalini process may convert some mass to energy, thus increasing "atomic" energy in principle. For cosmic kundalini, this would also apply to the entire universe. Spiritual gravity (E) has also been suggested as a fractal principle, and this can influence assisted bifurcations in the ascent to unity. It works as the hope eternal within us, ever present, radiating from the diamond in the lotus of the soul, connected via the sutratma to the eternal spirit and universal purpose. As we develop, it becomes more "alive" within us, we call for its influence ever more, and seek to unite with it. This influences our consciousness, our choices, and therefore our ability to ascend.

A third kind of energy increase is that of consciousness (the c of the trinity), which accelerates the more materially-based evolutionary processes. It is autocatalytic on development, increasing the energy flow and content of the system. This speeds the dissipative structure bifurcation and the development of organization. Jantsch says, "Mind … is the quality of self-organization of the dynamic process characterizing the system and its relationship with the environment. Mind co-ordinates the space-time structure of matter … the electronic age has provided the prerequisites for the emergence of a faster acting and perhaps to a higher degree self-organizing 'collective brain.' " [18]

I suggest that the Feigenbaum mathematical progression of bifurcations be considered as an archetype illustrating the increasing organization of states and the speeding of the process.[19] When compared to the evolving chakra system, there is a similarity with the bifurcation into higher levels of capacity and with the speeding of the process by level. However, the numerical sequence of chakra petals indicates other influences at work guiding human evolution in a super-exponential manner. Compare the geometric Feigenbaum series with the chakra petals, starting with 1 for the former and 4 for the latter at the Base chakra:

	Base	**Sacral**	**Solar Pl.**	**Heart**	**Throat**	**Ajna**	**Crown**
Feigenbaum	1	2	4	8	16	32	64
Petals	4	6	10	12	16	96	972

These are graphed in Figure 11 in ch 6. It is as if the additional influence of conscious autocatalysis has been built into the chakra sequence to produce a super-geometric progression in the later stages.

Prigogine & Stengers[20] show that, in real chemical or biological systems, a fluctuating environment that produces a combination of determinism and "chance" complicates the bifurcation sequence. Within the 7 stages of evolution, this could manifest as a mainly steady (deterministic) progression within each stage and a greater element of choice (chance) operating at the upper boundary zone of the stage. The fluctuations at this zone would eventually create a bifurcation.

When Landes found that the greatest single factor enabling a change of economic paradigm was culture, he saw that potential changes were squashed by some cultures but not by others. In squashing, a divergence was turned around and the civilization returned to equilibrium, but for some cultures the divergence takes off to transform the civilization. Why then is one culture more prepared to follow economic take-off and not another?

The fluctuations to the cultural system – climate, population, ecology, warfare, commerce – all put stress on it, in all four quadrants, and the responses to the stress can expand capabilities. If the stresses of fluctuation are repeated long enough, and affect sufficient number of people, then their common response can form a cultural acceptance of the need for flexibility. This means seeing and taking the opportunity to survive and to profit from the fluctuations. Once this becomes a cultural norm, the foundation is laid for taking the larger opportunities. This is the basis for Ormerod's sudden jump in levels of various behaviours, including economic.

There has to be sufficient numbers of people in influential positions to create cultural and therefore societal change. Fluctuations are resisted where there is insufficient cultural flexibility, and system equilibrium prevails. Whether rigidity creates survival or destruction depends on the nature of the fluctuations. In the case of Loner imperialism, the destruction of its victim if a Primitive or Kinsperson society is highly likely. Where the victim's response is more creative, imitation of the Loner is likely. The American imperial fleet under Commodore Perry shocked Japan out of its Kinsperson seclusion in 1853 and brought on the Meiji restoration. Through the destruction of Japanese feudalism and the rapid Westernisation that followed, Japan became a modern industrial nation that pursued its own imperialism.

Cohen & Stewart[21] say we need to go beyond reductionism to account for the emergent complexity and interactivity of large systems. Reductionism is essentially the mechanical paradigm of Newtonian science, with all its usefulness and limitations. However, it cannot account for the development of complex dissipative structures as detailed by Prigogine & Stengers. Cohen & Stewart introduce the mechanism of "complicity" to do so, which is the interaction of a holon or subsystem with its context to produce new patterns of features, thus evolving a larger system. This is not just a selection of "genetic" material, but is a pattern of epigenetic learning in which mastery of one level enables access to the next.

Complicity thus becomes a universal archetype in which units of the network soul at its many levels evolve into greater wholeness. The network soul, or oversoul, is the garden of wisdom (see box in chapter 10) in which individualized soul seeds are scattered. These seeds are vortices of varying density and frequency with associated consciousness, each with the

potential to evolve. The seeds germinate and grow when subject to the garden and the sun, i.e. to their context and to the central generator of life.

In a human example, the Loner breaks free of the rigid organic dependency of Kinsperson society that inhibits growth of the sense of self. It is only when the sense of independent self has become powerful, with its initiative, power mastery and entrepreneurial ability, that it can choose to become equally interdependent with others, as a Loyalist, to then create a synergy that enables a better life. In contrast, the synergy of the Kinsperson is based on dependency and therefore is of less energy. The synergy of the Loyalist is of those with both independent and interdependent power and initiative, and therefore is of much higher energy and capacity.

In explaining complicity, the typical sequence of evolution through gradual and then sudden development (biological and human) is likened to biological environments of islands with bridges between them. This is analogous to chakra stages with the energy required to cross the boundaries between them. Upon entering a new island (chakra stage), new "rules of nature" are developed through the new variety of experience. As they are learned, there is a gradual convergence towards "rules learned" because they help master the qualities of the new space. Once the space and its rules are mastered, they allow further expansion that eventually makes necessary the sudden movement in the crossing of the bridge to a new island (or crossing the boundary to a new chakra stage), similar to the process illustrated in Figure 25 in ch 7.

In expressing complicity in terms of human development, control of the physical body allows emotional value to be learned as a consequence of the effects of controlling the body's actions. Without physical control, the helplessness would not allow the learning of positive and negative feelings. This is because the pleasure and pain that results from the body's actions would be out-of-control when physical control is absent, creating emotional helplessness. Once there is physical control, the pleasure can be sought and the pain avoided, producing emotional values. Establishing emotional values and control allows good mental reasoning to develop, subject to the values but relatively free of emotional bias and clouding. This is because the control of the emotions allows a mental structuring of the effects of actions relatively free of emotional influence, so that for instance, long-term pain can be foreseen even if there are short-term pleasures (as in self-indulgent eating, drinking and sexuality). The resulting mental clarity and discrimination then allow the higher intuition to be used effectively, free of illusion, confusion, delusion and glamour. Effective and true intuition then leads one into the presence of the surpassing peace of the divine will. This spreads and externalizes into culture and society, expanding into the entire soul network in which individuals and groups interact.

A dissipative state occurs as the major capacity of each chakra stage is completed yet the learning continues. It produces dissonance not resolvable by the rules of the stage or level. For example, a theory may predict events that do not happen, as is so for most modern economic theories. Dissonance may also be in the form of a new but unaccepted theory that successfully predicts events, as in the early days of the Copernican revolution and also quantum mechanics. This dissonance brings on the crisis of choice. We can ignore the new and continue to insist, say, that the earth is flat. Alternately, the energy of consciousness can be further increased to establish the basis and parameters of the next level of organization. If

we choose to ignore the new, we cut ourselves off from psychological and social progress and start a retrogression in understanding and in action. It is this choice that creates the bifurcation.[22]

The culmination of the dissipative process of human evolution is the Great Bifurcation, the fractal separation of the sheep from the goats. It is necessary to separate out those who have achieved the required quantum of light. At the end of the cycle, they form the basis for a new evolutionary cycle, while those on the lower arm of the bifurcation will try again in a separate cycle of space-time.

Dissipative structures and sequences of bifurcations provide a powerful mechanism for evolution, guided by inbuilt influences towards ascent. Without such influences, the tendency towards descent, regression and increasing disorder would have an equal chance of influencing the direction of change. As it is, the regressive tendencies that are a part of human evolution can serve a positive function by highlighting that which is regressive and no longer contributing to positive development. They clarify which direction is to be preferred by the consciousness at the crossroads. In addition, they truly dissipate the energy of the regressive position, leading to its decay and dissolution.[23] As a consequence, the negative arm of the bifurcation can support the positive arm, giving additional impetus to the dynamic that created the progress in the first place.

Panarchy Cycles

Ecological cycles and the structure of scientific revolutions suggest that we go through a particular process when we go from one phase of existence to another. Recent work on complex adaptive systems can help us here. Under the ecological heading of “Panarchy” this type of analysis helps explain the dynamics of moving from one worldview and its civilization to another.[24] It suggests that we are now passing a “climax” in the practice of fundamental capitalism in the world. It indicates that we need to reorganise globally – to expand into a new level of awareness and action that incorporates yet guides capitalism. This new awareness is integrative and cooperative, including all life on Earth. It is not led by a limited discipline or ideology but is focused on principles of sustainability of life, and development of harmony between people, nature and our highest aspirations.

In panarchy ecosystems go through cycles of growth, collapse, regeneration and growth again, at various geographic and time scales. There is a similar process in economies and civilizations, including human psychologies and cultures. The growth phase is one of rapid expansion of participants (e.g. species, people, ideas, resources), energy use, exchange, and connectivity. Within the constraints of the system it increasingly organises into efficiency patterns that exclude non-efficient players. Consequently diversity and resilience decrease as the dominant efficiencies and specialisations increase, making the system brittle and vulnerable to collapse from unexpected shock. In an ecosystem this shock can be external, from drought, fire, flood, people etc, and in a human economy or civilization it can be either external, and/or internal from the cumulative effects of inadequate information, limited ideology, rampant greed and poor management. The more the system is interconnected, the faster its potential collapses. In today’s global economy and ecology the rate of this interconnection has increased rapidly.

However, a collapse will normally lead to regeneration, though not exact replication. The previous mature or "climax" system has produced varieties of participants or products, and the non-efficient of that system may have become marginal but not extinct. All of these now become available to commence a new system's growth during the period of chaos of the collapse of the old. This is the period of crisis and choice. System parameters have changed, enabling development to a new pattern of greater or lesser complexity. Resilience now increases because the rigidities of the old efficient interconnectedness have vastly decreased. New options become possible and new patterns of growth commence. The system reorganises, and learns by adapting to the new constraints upon it, which are material, ecological, and psychological and cultural in the case of people.

To rise to the challenge and make useful changes, we should now assess whether a period of chaos and reorganisation is essential for transformation to a better way of life. We need to face the consequences of continuing as usual compared to radical change. All kinds of interests will compete, but a belief in harmony with all peoples and nature is essential for the guidance of a new civilization. It would require global agreement about guiding principles to maintain all life and human development. This would be an enlightened form of Hobbes's sovereign authority to maintain the social contract. Some aspects of our current way of life will not vanish, but we must adapt to broader and more inclusive values such as ecological integrity to preserve global life, and human development for everyone.

Free Will Archetypes

The above issues raise questions about how free will is included in archetypes. The techniques of chaos and bifurcation model dissipative structures with crisis points sensitive to small-scale influences due to choice. Free will influences this choice, and develops with system capability in 7 major steps. Evolution increases intelligent understanding, relevant values, and the power of the will to act. At each of the 7 major stages, our capability develops further, meaning that the freedom of the will increases and the influence of the environment and "negative" karma on decisions decreases.[25]

Dr Joel Whitton raises the role of purposiveness between earthly incarnations. His studies of past-life regressions revealed that the period between lives on Earth (the Tibetan *bardo*) was one of timelessness but typically with soul purpose. On entering it, his subjects "are invariably confused, once they have adjusted to the welcoming waves of ecstasy and un-earthly beneficent luminescence, by the utter lack of temporal sequence and three dimensions in the *bardo*. From the earthbound perspective, there is no logic, there is no order, there is no progression - everything is happening at once."[26]

In all cases, after death on earth, the human being entered this state and experienced co-planning with wiser beings for future lives on earth. There was a loving "judgment" and review of the life just passed, and then a planning of the next life or sequence of lives, which sometimes involved conscious learning in *bardo*. For the next life, the wise beings assist in assessing karma and lessons needing to be learned, gender, parents, relevant others, timing and location, etc. The degree to which one is actively involved depends on one's level of

development, and one is free to ignore the wise counsel received. However, in all cases, what happens in the next life is of our own making and choice. On entering their next Earth life, many of Dr Whitton's subjects observed their new mother and her pregnancy before entering - often at the time of birth. This sequence illustrates an aspect of our free will working here beyond space-time between lives.

In the archetypal stage in hyperspace, we can infer that the growth of free will was built into the human soul structure and dynamics. In fact, it must be built in if the human family is to evolve in this cycle to become responsible co-creators with the divine. At the end of the cycle, the enlightened and uplifted ones will possess the qualities of the next kingdom of nature (the Brotherhood of Light, Hierarchy, saints). Christ confirmed this when he told his disciples (these are any who follow love-wisdom within and without) that, "He that believeth on me, the works that I do shall he do also, and greater works than these shall he do; because I go unto my Father. And whatsoever ye shall ask in my name, that will I do" (John 14:12,13). This not only clearly states that those who achieve the Christ Consciousness (in His name)[27] will have the creative power of Christ, but that they will co-create greater things. This is possible because the Christ "evolves" further into unification with the immense power of Spirit. This divine power will be linked through the Christ Consciousness (love-wisdom, which is the growing possession of all people) to all those thereby able to co-create the divine plan.

Evolution of consciousness and free will creates the auto- and cross-catalysis to speed evolution, and reduce the time between decision points. Free will is a product of human evolution, which it in turn stimulates. Archetypes are similar to the genetic code, in that they initially create a structural outline (as in morphogenetic fields and other attractors). The influences of environment and consciousness can then create considerable variation and coloring to the essential structure. Our desires become our talents, our thoughts become our direction, and the power of our purposeful will become our destiny. The spiritual ideal is always there, becoming clearer to us in the later stages of development.

Consequently, in the process of human evolution, consciousness and free will become increasingly influential, directing choice at the bifurcation points to create more purposefulness in the system. This increases energy and accelerates the ascent, leading to an even greater accelerator—self-actualization. Self-transcendence then leads to an awareness of higher kingdoms and their consciousness. Cooperation is established through invocation and evocation, bringing an even greater influx of energy into the evolutionary system through alignment. This serves to harmonize and unify the chaotic stages of evolution. The mathematics of this needs more development but may be similar to the cycle from steady-state to oscillation to chaos and then to oscillation observed in the Belousov-Zhabotinski chemical reaction,[28] but with a final steady-state.

All things expand and then contract – it is the rhythm of life, including the universe, your breath, heart, and lifetime. So then does the human cycle, and others. The expansion creates energy and energy structures, and the contraction converts the energy and form "back" to a higher form of energy and higher, essential structure. Soul and spirit do this, on the basis of the first half of the process performed by the "lower self" obeying lower level laws "of nature". In the process human love is enhanced and spirit shines through. Spiritual unity

with all is the "final" steady state. It is the relation of soul to spirit that produces the duality of oscillation in the higher phase, and the relation of soul to personality or matter in the early phase. So in terms of the trinity of attractors, human evolution starts with a steady state, proceeds to oscillation and then to chaos, and then back to a higher-level oscillation and on to a high steady state. Chakra stages 1 and 7 are the steady state, 2 and 6 the oscillation, and 3, 4 and 5 are varieties of chaos. This modeling is not inconsistent with the three phases of capability reflected by chakra petals where the last phase is considered chaotic. This is because the latter models cumulative capability, whereas the above models cyclic transformation of structure and energy.

The laws of nature, of soul and of spirit therefore ensure the development of free will. Paradoxically, it is the uncontrollable urges of the first phase of development that lay the basis of experience and self-will, to be moderated by karma and reincarnation. The self-conscious urge to understand develops awareness and choice, and leads one to choose an attunement to spirit. The goal of humanity in this cycle is co-creativity with the divine will. This goal is Archetypal Man on earth, and the process towards it is guided in its inevitability by archetypal laws of development that are based on the parameters for the cycle. They ensure that the will is born, grows, is expressed, and improves through discernment and strengthening. Although the rules ensure success, they allow individual freedom in the timing and manner of learning. The freedom of will of the Archetypal Man—a goal of the cycle—is extraordinarily beneficial, as it takes a step closer to the infinitely wise will of its Father.

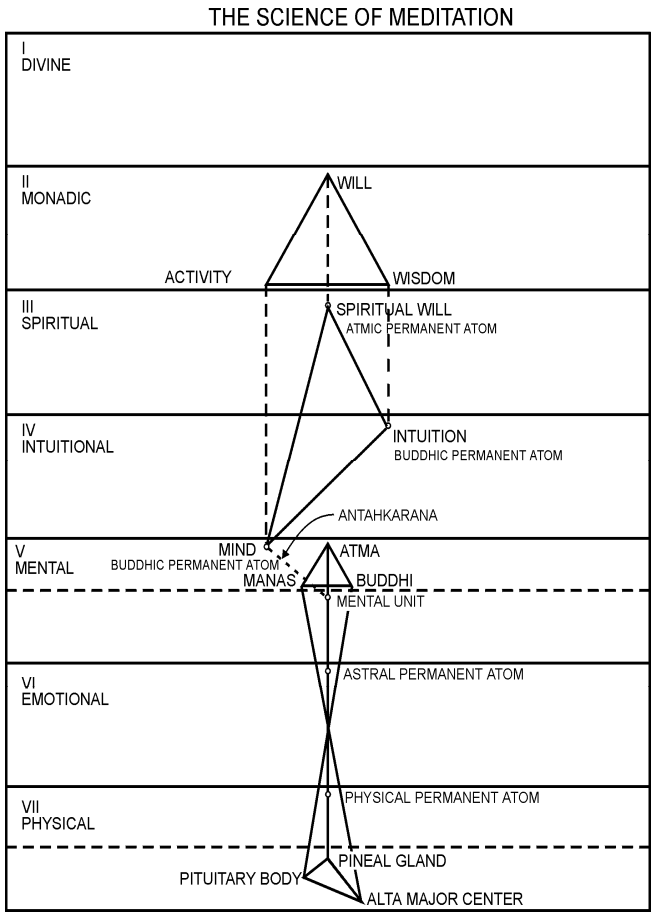
Quantum Mind Model

As Saul said about Descartes,[29] "… gave credibility to the idea that the mind exists separately from the body, which suggests that he didn't look down when writing."

The concept of the quantum mind clearly needs further work. Goswami[30] assumes that a mechanism connecting Akasha and space-time must be there. A model proposed by Bailey does, in fact, link the highest two planes with the five planes in space-time, integrating brain, mind, soul, spirit and whole (Figures 4 in ch 1 and 31 below). In this model, the archetypal monad is linked in space-time to the trinity of atma, buddhi and higher mind. These connect to the soul on the higher three subplanes of the mental plane. The soul interacts with the lower mind, the emotions, and the physical body through the chakras and their glands, and by field radiance. This model could be generalized fractally.

We can combine Bailey, Goswami and Sheldon and assume that archetypal morphogenetic fields (or attractors) exist harmonically in at least six planes and kingdoms, five of which are in space-time. In the language of physics, quantum probability waves exist in these same planes and kingdoms. According to quantum mind theory, the consciousness outside of space-time, on the monadic plane, collapses the probability waves in space-time. Human consciousness can connect to the monadic plane, but the scope of consciousness varies over seven major levels as some people are more able than others to connect.

Figure 31. Meditation Linkages



However, there are other, higher kingdoms and capacities of consciousness. These may collapse the monadic archetypes into planes contactable by the intelligent human mind, or by the lower psychic Solar Plexus. They would do this as a service, bearing in mind the role of humanity as the middle kingdom. For this to be effective, people would need to be able to contact the higher planes within space-time. The archetypes in these planes are compressed symbols containing much information, analogous to genes. Consequently, evolving human capacities will grasp symbolic ideas with a range of clarity and completeness and, as evolution progresses, the probability structures will therefore be filled-in progressively by repetition.

This is human influence changing morphogenetic thought fields. Macro-evolution cooperates with and is interdependent with micro-evolution. New learning will be based on the capacity to “bring down” archetypes into lower mental structure, and on the content of the mind. This capacity limit and the energy needed to shift to a higher level accounts for distribution gaps between stages (Figure 10 in ch 5).

The evidence for alignment across planes is circumstantial and limited largely to research on brainwave patterns and corresponding subjective and medical states. Sharry Edwards[31] provides striking research that integrates brain waves, sound and medical effects. She details the influences of musical notes, at various lower octaves, on the physical and psychological constitution of people. She finds that different octaves influence different bodily systems, and the lower the octave, the more fundamental the influence. For example, the notes in the octave corresponding to delta-state brain waves affect the bio-electrical system, whilst those an octave lower affect the bio-magnetic system, and higher octaves influence the emotional physiology and the neuro-physiology.

The four usual categories of brain waves have their musical equivalence in the Western scale of tempered diatonic ratios. Much of the research on biofeedback and meditation has found that the lower the octave, the more profound the information or state of mind attained. Doubling or halving a range of frequencies defines these four octaves. Edwards[32] suggests the

following approximations, and she has divided the usual delta range into two octaves called delta and chi:

	Hertz (cycles per second)
Beta	16 - 31
Alpha	8 - 16
Theta	4 - 8
Delta	2 - 4
Chi	1 - 2

Within each of these five octaves of brain waves is a wide range of quality of consciousness. For example, the beta state contains the bell-curved distribution of awake, rational intelligence. Gopi Krishna[33] tells how both superficial and disordered states of consciousness, and deep, ordered and powerfully spiritual states can exist in both the alpha and theta states. He suggests that the range within each category can be explained by the degree of transformation of the brain and mind by the kundalini, and hence their capacity. The existence of a brain wave level is insufficient to indicate a resonant and deep connection to spiritual awareness. However, for some people, it *may* indicate a deep connection if they are sufficiently developed.

Goswami shows[34] that the beta level predominates in the adult, alpha in the adolescent, and theta in the child to 5 years old. The process from birth to adulthood corresponds to the evolution of consciousness of the human race. I expect that humanity at the early stages of development would have had a similar pattern of predominance of brain waves. The Australian aborigines say that creation began with the "dreaming." According to modern research, dreams occur in the theta and delta ranges. Are these lower levels most powerful for acts of creation? Edwards found the lower ranges to be most powerful in healing human structures, and in creating parts of the human body.

I suggest that there is some correspondence between the states chi to beta and the levels of density of substance. With the arc of involution, the progression is from spiritual unity to immersion in materiality, then upwards again to unity. This provides a basis for understanding the significance of deep meditators having significant spiritual experiences as they move from beta through alpha to the lower octaves. They are probably resonating with the higher planes, which contain progressively refined archetypes of the mind, love and purpose of God. The higher planes are more powerful in implementing purpose and in creating forms. This is why Edwards found the lower brain octaves most powerful in reversing "irreversible" ailments such as emphysema, and in the creation of an entire new kneecap.

From the descriptions of the states of consciousness achieved at various brain wave levels, the most capable meditators have the following correspondences:

- Beta: the lower, conscious mind, which manifests ideas in the densest form of reality in highly specific detail;

- Alpha: the higher, symbolic mind, which free-associates at higher levels of abstraction and creates concepts, systems, and relationships based on such "intuitive similarities"; psychic contacts;
- Theta: the buddhic consciousness of oneness, and direct understanding of the nature of things, superseding mind. Intuition, which is pure reason and knowledge illumined by divine love and purpose. Spiritual sensitivity and wisdom;
- Delta: the atmic consciousness of wholeness and expression of divine will in progressing divine purpose; Nirvana;
- Chi: the infinite and eternal awareness of monadic oneness and choice beyond space-time.

These represent the optimum operation at each level, but there are many meditators who do not achieve the optimum. The brain wave categories are therefore structures whose content must evolve.

In addition to these levels, more recent research has found a *Gamma* level of around 40 hertz (range 32-64) that can be associated with all the other levels. It is proposed that its role is to bind a range of perceptual features. The 40hz frequency is present only when we have conscious awareness. Zohar & Marshall believe that it binds our experience and relates it to a wider frame of reference, giving meaningfulness.[35] The frequency is present as waves of coherent oscillation that sweep the cerebral cortex. Ongoing research suggests a quantum connection to these coherent waves, providing a theoretical link between the quantum mind and the electromagnetic field that in turn affects the physical mechanism.

The work of Sharry Edwards and of Valerie Hunt[36] shows that frequencies that are very much higher than these brain wave levels (chi - gamma) are connected to bodily and psychic states. Edwards investigates this in the octaves of music, and Hunt in the Extremely High Frequencies (EHF) and Extremely Low Frequencies (ELF) of consciousness. Edwards shows that the ELF have the most potent and miraculous effects on physical healing. Hunt shows that the EHF are most potent in the revelatory power of pure high consciousness (supra-human, or inspired spiritual, or profound intuitional). The EHF of Hunt's investigations are in the order of hundreds of thousands of Hertz. These high frequencies are measured as the energy of a "mind field", different to the measurement of brain waves.

One of the remarkable findings of Hunt, which is supported by older traditions, is that the harmonic coherence of all of these frequency levels produces the practically effective extra-ordinary person. This person will have a mystical knowing, psychic awareness, healing power, and a powerful uplifting influence on others. The ability to be simultaneously conscious at such a huge range of levels is the result of self-directed evolution. It is where all our efforts are taking us.

It is possible for a meditator to experience and express different levels of consciousness at the same time. For example, a meditator in alpha can simultaneously visualize an existing illness in a body and talk in beta to a colleague. This ability is defined as alignment across planes, and is presumably a pattern of entrained harmonics. With practice, deeper levels can be achieved in meditation, which indicates induction by a stronger field. Ultimately the

meditator can enter the "void" that is a profound awareness beyond the frequencies of space-time. Development achieves alignment across all levels at will in waking consciousness.

Alignment is harmonic resonance, a kind of fractal replication wherein a particular frequency, e.g. 2 Hertz, is subdivided proportionately in infinite progression (until the smallest space-time unit is reached). This allows many frequency levels, of energy and consciousness, to exist in the same space-time, all related. We can therefore see that when EHF are coherently related to ELF in awareness, that the power for "healing" on many levels is present. EHF represents extremely high and comprehensive awareness, covering vast amounts of space-time, kingdoms of nature, and awareness beyond space-time. Frequencies in-between EHF and the beta level reflect intermediate states of consciousness. Therefore this shows how we are connected to all that is, and how we gradually become aware of it. We grow into the extended range of frequencies with development, and this accelerates at the last two chakra stages. This is why the Ajna stage is associated with world healing.

We can see that the beta level of consciousness is but a very narrow level of awareness, though we can experience other levels through dreaming and meditation. Our "raising" of consciousness can be an extension of the range of frequencies to both EHF and ELF. This means that we can progressively move from beta through alpha to theta and delta, while at the same time expanding the frequencies of the mind field to EHF. In doing this we move from the mastery of the concrete mind to the struggle of attunement to the higher mind. The scientist expresses great mastery of the beta level, displayed through the riches of logic, rigorous methodologies, information management, and the readily accepted mental intelligence. We also have social IQ and spiritual IQ (among others). Perhaps intuitional IQ will be the next indicator of scientific creativity. We know that the best scientists make good use of alpha through intuition, pattern recognition, inspiration and hunches (and Hunt indicates that the EHF are also at work). Beyond this, we become as babes in pre-school absorbing in a dream-like fashion. Each level is a new school of learning, and it is as if we regress to childhood as we ascend. We have creative riches at the alpha and beta levels, but there are vaster treasures at both lower brain wave and higher mind field levels. The rich man must surely become as a babe to enter the kingdom of heaven.

To be effective, the quantum mind model needs to include brain wave levels, planes of substance, chakras, and the influence of the kundalini rising and dove descending. Integration of yin and yang can be seen physically in the coordination of the left and right hemispheres of the brain. Gerber reports[37] that the brain hemispheres of meditators have more coordinated electrical wave activities than non-meditators. This is associated with greater creativity, flexibility of thought and control of the autonomic nervous system.

Hartmann quotes studies of ancient cultures, bringing in modern neurological understanding that propose that the brain hemispheres were more integrated for people in those cultures.[38] Being at the Base and Sacral stages culturally, they had more instinctive awareness of the earth, their surroundings and each other, and heard voices of guidance that they believed were of the gods. This proposal fits with the theory of the "menorah" harmonic linking of chakra levels in the descent from and ascent to unity awareness. Similar attunements to the whole can exist at both the early and later stages of human evolution, and involve harmonized brain hemispheres.

Gerber quotes Bentov's findings about the coherent pulsation of the heart-aorta system and the brain during meditation. An acoustical standing wave of about 7 hertz is created in the heart-aorta system during deep meditation; this is close to the major of the Schumann resonant frequencies of Earth, at around 7.8 hertz.[39] The frequency entrains other oscillators in the body, including the brain vault and ventricles, producing coherency. This can create a frequency linkage between meditator and planet, which helps entrain other meditators and anyone in theta. The resulting planetary expansion of coherence could assist in harmonizing all life forms on Earth.

The frequency creates the firing of nerves in the brain, which is felt as experience in the body, typically following a path from feet to head cyclically. The experiences so stimulated include light, sound and psychic contacts. The kundalini energy is involved in this stimulation, repolarizing and transforming the body, including the brain. In this model, "the oscillating electrical circuit within the brain becomes established only after the gray matter along the sensory cortex has been completely polarized in a circular loop."[40] After continual practice of meditation, one can contact higher levels of mind, including wise and loving guidance. There can also be sensations of bliss, brilliant light, and powerful sounds. These are recorded subjectively, and some aspects can be recorded physically through instrumentation. They correspond to the testimony of saints and masters, who have reported the phenomena and consciousness of these states. While the sublime perceptions of the quantum mind have their physical correlations, measuring them does not give the technician insight into the ineffable awareness of those states.

Group meditation resonance or the resonant influence of a powerful guru can entrain the lower octave frequencies. Hypnotherapy also can induce alignment, the depth depending on the skill of the therapist and the willingness of the client. Healers can also have a similar effect, Jantsch reporting[41] measured brain wave resonance between patient and healer. Valerie Hunt also provides evidence that the electromagnetic spectrum of the patient (the energy aura) changes into harmonic resonance with the healer when healing is successful.[42] The principle of entrainment is the same as that of music aligning the movements and emotions of dancers, of the laser aligning light emissions, and of the magnetic field aligning molecules and domains in minerals. In each case, the resonant alignment (coherence) allows greater energy flow that drives the system into greater complexity in the manner of dissipative structures, chaos and bifurcations. When aligned across planes, including from beyond space-time, the higher energies and consciousness flow into all areas of life and all aspects of being. This important objective of meditation is the aim of the later phase of evolution.

But does this have any practical benefit for humanity? I suggest that it indicates that we all have the power to create our own destiny, for some if not strongly now then later. Research into remarkable recoveries from terminal illness, including cancer, points to the potential role of mind over matter. So many people who fully believed they would recover, were determined to do so, and sought their own (and others') inner strength in doing so, went on to recover either completely or for long periods of time. Religious or spiritual faith helped many but not all. This points to an important principle with very practical applications, as follows.

Quantum Mind Healing

The research into remarkable and miraculous healing gives great hope. It shows that we are not just a physical machine, but that we are a field of forces that we can control. It is up to us to claim or relinquish that control, at varying depth of ourselves.

The issues in remarkable recoveries are not always simple[43], but I believe that they come down to personal choice and determination. The choice can be at soul level, and so may not always be apparent to the beta-level mind. There is a correspondence to the findings of Sharry Edwards, that the lower the octave the more fundamental the effect on the body's systems. The deeper the level, the more it corresponds to soul and spirit levels. When we align with these levels, e.g. through prayer, meditation or hypnosis, then if we really intend to live we can bring through the energies of healing. These will boost the immune system, and if deep and powerful can physically transform "incurable" structures in the body into cured structures, that is, so-called miracles can take place. The choice is ours at a deep level, and we may not always choose to live. Even when we choose to live, the power of application of the energies (through imagery, diet, exercise, focus etc.) and how it is sustained will influence the nature of the results.

Hirshberg & Barasch record some very remarkable recoveries. An outstanding case is that of a woman with incurable multiple sclerosis (MS)[44]. The disease degenerated her central nervous system over the years until she spent most of her time in a wheelchair. She had complete paralysis of feet and ankles, and spasticity led to deformities of the legs. Doctors had cut the tendons that kept the kneecap in place, to relieve some of her pain. At best she could walk short distances with full-length leg braces and forearm crutches.

Then she had religious visions and heard a voice suggesting she should ask for healing, so she asked Mary for the faith of Jesus. Immediately she felt a fire flow through her body.[45] The next day the fire raged through her body and she recovered feeling in her legs and feet. Amazingly, her kneecap, which had become displaced after the tendons were cut, was back in place. She took off her leg braces and ran up the stairs of her house. Then she ran out of her house and through the woods shouting her thanks.

Her muscles had been atrophied and her bones deformed by MS. However, only weeks after her miraculous healing her medical reports showed she had regained full strength of her legs, there was no trace of MS, her bladder had returned to its normal size, and her x-rays showed she was back to normal. Sometimes people recover "spontaneously" from MS but retain permanent damage. In this case the terrible damage caused by MS was reversed.

A second case is that of a man whose back was crushed when he was a boy[46]. After an operation he spent 10 years in a steel brace, and had more operations until one of them cut his spinal cord. He spent 20 years in a wheelchair, then his wife and friends took the paraplegic to a church healing service. The priest blessed him and commanded in the name of Jesus Christ that he rise. He stood up. The priest said they would walk down the aisle, and they did.

His doctor inspected him and found that he still had no reflexes, and his muscles were extremely wasted. He had not walked for 20 years and should not have been able to stand. He did not regain feeling in his legs till 3 months after the healing, and in that time "floated" as he walked. He even had to look to check where his legs were.

These and other examples are used because they are extreme, they are documented medically, and they show how radical physical transformations can take place beyond the ken of modern science.

These kinds of remarkable recoveries are probably more common than we would expect. They tend to be overlooked or ignored by conventional western medicine because it cannot explain them. The term "spontaneous remission" hides a wealth of useful information, as does the term "placebo effect". Fortunately, even if remarkable recoveries are a fraction of all serious illness, there are sufficiently large numbers of them for useful research[47].

This research shows very clearly that consciousness directly influences physiology, biochemistry and healing. Experiments with hypnotherapy and observations of people with multiple personalities confirm this. Hypnotic suggestion changes the body's immune response to bacteria and allergens. Most amazingly, when multiple personalities occupy the same body, its entire operation rapidly changes with personality. Hirshberg & Barasch, and Deepak Chopra report cases where the different personalities in one body changed the presence or absence of diabetes, color blindness, blood pressure problems and hypertension, allergies, scars, rashes and warts, thyroid hormone deficiency, and central nervous system problems. The nature of the personality created the nature of the health of the physical body, with changes occurring within minutes of personality change.

The mechanism of this change is similar to that of remarkable recoveries, involving thoughts, emotions and the higher levels of being that we all possess. A number of ancient or esoteric sources confirm this proposal. Chopra refers to the Ayurvedic teachings of India that are based on the whole person and use deep levels of consciousness to bring healing. Its "primordial sound technique" is related to that of Sharry Edwards, though it uses imagined rather than physical sound, and appears more general rather than specific. Interestingly, Chopra relates the basis of Vedic teaching to sutras as the basic sounds of creation (sutras as in sutures or strings, relating to the basic hum of superstrings)[48].

Bailey spelled-out the mechanism we know as "mind over matter". The prime causal influence is from spirit and soul through personality, which comprises mind and emotions, to the etheric body of chakras and nadis, then to nervous system, and then to the endocrine system and the blood[49]. This is a causal cascade with feedback. It shows that there are different levels of healing, from that of the physical mechanism (the focus of modern or allopathic medicine) to the "spiritual" healing of soul-personality alignment. The deeper levels are more causal as they are the realms of greater healing love, power and knowledge.

From this we can define Quantum Mind Healing to be a jump to a higher level of consciousness, love and power, which can be out of space-time to higher dimensions of soul-spirit, and back again to produce greater overall alignment and health.

This power of mind over matter has been experimentally verified with yogis, biofeedback, placebo effects, hypnotherapy and faith healing. We know that it works, but we do not yet know scientifically how, nor why there are variable results for a range of people. We are all in some ways different, and healing is often highly specific to each individual. However, each one of us evolves into the capacity to use the "higher mind", and it is this that "collapses the waveform" to create the high probability of healing. How this happens takes us into the next paradigm of science where "mind" can apparently influence the laws of nature – just as quantum and relativity theories now "influence and change" the basis for the laws of the Newtonian mechanical paradigm, and hence the manner of their use.

I propose three modern healing paradigms that parallel the scientific paradigms of chapter 6. These are:

- Mechanical Healing (Newtonian)
  This is standard modern medicine, plus some "alternatives" such as homeopathy and chiropractics, that work mechanically on the physical structure and energy system.

- Field Force Healing
  This uses the influences of fields and their resonance as in hands-on healing, magnetic and electromagnetic methods, use of sound, music and color, shapes as in pyramid healing, acupuncture, osteopathy and use of shallow meditation.

- Quantum Mind Healing
  This is deep psycho-somatics, mental techniques, visualisations, hypnotherapy, auto-suggestion, some psychic techniques, spiritual attunement, and deep meditation.

These three types of healing represent three aspects of the mind: the deeper more causative spirit principle, the mediate comprehensive soul field, and the immediate physical mechanism that allows the energy flow of the others and is a product of their energies. Why two superior forms to the mechanical? Because these come more into play as our development unfolds, until, at a future time and place of consciousness, we can do without the physical machine altogether. Then the soul form will take the place of the physical body. It is a progressive shedding of forms that have served their task. There is nothing esoteric or strange about this. It is simple evolution, but writ larger than often thought on earth. It is the progressive unfoldment of God in human form.

These healing paradigms show the potential that we all grow into, eventually, and that are available to us now if we wish to use them. It is important not to over-simplify the healing process, and claim that only one method, or only one paradigm, is appropriate. All methods and paradigms have their place, given the great variety of people and ailments. They can be used effectively in combination according to the skill of the practitioner.

The quantum mind beyond space-time can therefore, if we practice enough, be directly, consciously and causally linked to the lower planes of space-time. It may also be linked through connections between the lower mind and stepped-down archetypes on the higher planes of space-time. When the different kingdoms and their levels of consciousness are

included in the model, the quantum mind can be seen to pervade the entire soul network in evolutionary cooperation. It is the basis of the healing self-actualisation of planet earth.

It is the major life task of the Involver at Ajna level to bring about alignment of spirit-soul-personality, transforming the last karmas and making whole. This brings into being Archetypal man/woman on earth. As within, so without, and so we play our part in co-creating the archetypal planetary life for Gaia.

Self-Organizing Soul Network

The true self is the soul, which connects with other types and levels of consciousness. Fractally, the network soul exists in a multilevel and multi-structural form. This self is self-organizing, and is the soul of the whole of life on earth. It is, in part, humanity as a kingdom, and it is any relatively whole "living" form; it is the consciousness of you and I. Jantsch (1980) explains just how it is self-organising. He analyses the processes creating the dissipative structures in the mineral, vegetable, animal, and human kingdoms as an integrated process of emergent self-organization. His analysis of structure is effectively complemented by Bloom's detailed description of the evolutionary organization of nature and consciousness as a whole super-organism with myriad interdependent parts.[50]

Jantsch's excellent survey brings together the understood processes that create evolution, from the big bang to human consciousness. He differentiates the scientific processes (with their corresponding mathematical models) that are applicable to various levels of evolution. He finds that with increasing levels of order, complexity and consciousness, the soul systems modeled become increasingly "unstable." This is another way of saying increasingly free of the "stability" of material inertia, and increasingly subject to the choice of consciousness as shown by figure 18 in ch 7. In modeling these complex systems, "We come to problems where methodology cannot be separated from the question of the nature of the object investigated"[51]. An example is the paradigm shift of methodology from the mechanical assumption to that of uncertainty and probability when dealing with social systems.

The term "instability" used here is meant purely as the increasing speed and number of bifurcations of a system as a consequence of increased energy flow and capability. At the higher energy levels there is such a large increase in interactions that, without a form of overall entrained influence, the many "butterfly effects" could cause constant change, unwelcome chaos, and significant deviations. This means that "an individual, an idea, or a new behaviour can upset the global state"[52]. When we see the precarious positions of Lenin in Russia and Mao in China before they single-mindedly brought revolution to their countries, we can understand how their culture and times provided the fluctuations, but how their powerful personal influence created the spark for significant change. However, instability surprisingly creates a dynamic system resilience that can foster constructive change, whereas stability in a systems sense means an inertia that could prevent a life-saving adaptation.

1. Human Civilisation

If we consider the stability of the world, in the political, economic and ecological senses, then we can track the process of bifurcation and increasing influence of fluctuations. Before the nineteenth century it had, on a global scale, the stability of inertia. Virtually all the action took place within continents. Globally (but not nationally) it was in the Primitive state. After the industrial revolution and the international power it gave to imperialists, and with increasing transport and communications, the world as a whole unit entered the Kinsperson phase of the duality of the global power elite and the rest. Globally there was still a relative stability if disturbed occasionally by squabbling among the elite. In the twentieth century this conflict reached serious proportions with world-wide wars that changed the psychology of the elite and masses, enabling early forms of power-based global democracy. This manifested in the creation of the United Nations, and a formal caring by many for all nations and peoples of Earth. However, the previous elite dominance shifted to the economic sphere, with some continuing political influence.

During this period different countries were seen to develop at different rates. The rich got far richer, a "middle class" of countries emerged, and the poor stayed poor. They became worse-off (relatively, if not always absolutely) compared to the power of the rich. In the latter part of the twentieth century the world entered the Loner stage as global capitalism started its quest for global market dominance. Market Fundamentalism was promoted as the ideal, because it serves the powerful, and because it is simplistic in its power to persuade. Attempts were (and are) made to subvert national sovereignty where local laws hinder global capital penetration. These local laws have the mandate of national electorates, with the usual aim of caring for and protecting people, the environment and the national economy. They include workers' rights, the ecology, public health, privacy, education, information flows, finance, research and development, and the management of public utilities such as power, clean water, garbage and sewerage. Global capitalism is raising the issue of whether people would be better-off without local laws, and without competent global governance. The world today can be compared to the early stage of Market Fundamentalism in the West, giving real cause for concern.

The first tremor of global instability came with Kinsperson fights among global elites, which then had little influence on the global nature of economics and ecology. The Loner impact towards the end of the 20th century increased instability as countries, international organizations, companies, voluntary organizations, academics, journalists and people everywhere began to argue about and act upon the new forms of global imperialism. Their concerns included the need for global democracy, implications for global ecology, impact on people's health, apparent divergence of rich and poor, and the need for effective global regulation and governance.

Today there is a variety of viewpoints of countries and organizations that express the range of Kinsperson, Loner, Loyalist and Achiever concerns about the world. This range is greater on a global scale than that which Loner interests faced internationally 100 years ago. Consequently, the Market Fundamentalist dogmatism and power plays now face the combined interests of Kinsperson and Loner protectionists, Loyalist concern for equity, human rights and ecological protection, and Achiever need for openness, opportunity and flexibility in global arrangements.

Loner arguments are usually designed to gain power dominance, and it is illuminating that their argument for competition and free trade does not include the competition of paradigms or ideas. The proposal for new "free trade" global regulations to override national laws would, if successful, be a power victory for Market Fundamentalism and Loner power interests. The higher-level concerns contained in national laws would not be expressed "in competition" through reasoned argument or democratic vote, but would be simply squashed by a powerful group. The latter would need to operate stealthily as with the Multilateral Agreement on Investment (MAI), quasi-democratically as with the World Trade Organisation, or brutally as with the invasion of Iraq in 2003. A favoured strategy is to operate with speed to take opponents by surprise. This brings further instability when opposed by a wide range of groups of people fighting for democracy and openness. This is what the "Battle for Seattle", at the WTO in December 1999 was about, the deadly resistance in Iraq, and clashes around the world about aspects of globalisation.

The possible negative outcomes of this instability have the potential to increase the divide between rich and poor and so create civil breakdown. It would further weaken global ecology to the point of serious destruction of human health and life, and restrict the higher-order economic development needed for evolution. However, people with Heart and Throat qualities are expressing positive values and outcomes, and are now pressing for better ways of managing the world.

The fight is on globally between a capital power elite and a broader democracy. It has all the dishonesty, oversimplification, spin and power plays to be expected of the Loner, and all the caring for the disadvantaged, searching for truth, and honest creativity of the Loyalist and Achiever. In terms of impact on global politics, economics and ecology, there is a fast-growing "instability" of information, decision-making and action in the world now, and this is only the global Loner stage. However, this conflict and the fluctuations in the various social systems that it creates is laying the basis for the more humane, equitable, progressive and safe world of the global Loyalist phase.

Human global self-organisation has its correspondence in the physical and biological realms. In looking at this, we find that there is a structural similarity that is both surprising and edifying, as follows.

2. Ecological Modeling

Mathematical and biological modeling of the evolutionary process has produced valuable insights about the developmental process. Jantsch bases the process on interactions between symmetrical and asymmetrical cycles of activity. Symmetry inclines to a "circular" stability, and asymmetry to "spiral" growth and evolution. The difference between these biological cycles is that of stasis or growth. From the earliest life forms to our present day struggle for better global management, there is a progressive structuring of increased capacity and speed of ecological interaction, involving all life-forms on Earth. This evolving structure follows a pattern of bifurcations that parallels the chakra stages of development.

Jantsch traced the development of the earliest cellular life, the prokaryotes, from molecular symbiosis. These asexual single cells without a nucleus convert chemicals using

solar energy to produce oxygen through photosynthesis. They completely transformed the early Earth ecology by creating an oxygen-rich environment that enabled significant changes in biological evolution. The oxygen allowed a more rapid use of energy that could be used by a new form of cellular life. These were the eukaryotes, which developed from the prokaryotes, having a cell nucleus and sexual reproduction. They were now able to live off other organisms or their products, a process called heterotrophy, contrasting with the autotrophy of prokaryotes. These combined features led to far greater genetic variety and so to complex organisms and ecosystems. The era of the prokaryotes corresponds to the Base chakra stage, as uniform cells in mass formation without organization of populations. The eukaryotes correspond to the Sacral chakra stage because they adopt duality in cellular organization (nucleus and rest), sexual reproduction, and heterotrophy. The ecological model of life on Earth consequently stepped up a level in complexity.

The next stage was that of epigenetic development, which is the selective use of genetic material and its capabilities in response to the environment. It maximizes heterotrophy. This created a new complexity of "horizontal" ecological process, within which "vertical" genetic development takes place. It made epigenesis the lead function in evolution through both complex ordering and increased speed of development. This corresponds to the Solar Plexus chakra stage of "take-off" in maximizing self development. It represents the full complexity of biological life that existed prior to major neural formation in animals, but including the reptilian brain[53].

Then came the stages of neural and mental development. They are huge jumps in accelerating the speed of development, creating complex re-organizations of kingdoms of nature. A nervous system with paleomamalian brain creates better organization of the reception and processing of information based on feelings and emotions, with consequent actions. It allows a more aware organization of groups within the same species, and selective co-evolution with other species. This reflects the symbiosis of the Heart chakra stage. Animals with complex neural systems are higher in the food chain and their inter-dependent co-evolution with other species means that they are linked to many ecological domains. This adds further complexity to the ecological models.

Where the nervous system evolves a neomamalian brain, as in the higher mammals, then self-awareness in relation to the environment leads to self-organisation, conscious inter-dependence, and conscious maximization of self-benefit. Self-reflection and symbolic expression lead to the integration of self, the environment and time into actions, adding another level of complexity to the ecosystem. In human societies it enables planning for the future that drastically changes the environment by food cropping, animal husbandry and industrialization. It corresponds to the mental activity of the Throat chakra.

This stage is followed by integrating the conceptualization of all relevant systems, which is the powerful influence of the Ajna level of collective consciousness. We are still working at this in intellectual modeling, and in our role of mediating higher levels of consciousness than our own. As cultures we are beginning to understand not just the vast levels of interdependence among peoples and with the environment, but the need for harmonious alignments between the various domains. This is what much of the turmoil involving global economics, politics and ecology is about now. It is the lead process of self-actualisation of

the individual, that applies in all quadrants, and so to the whole world and all its kingdoms of nature and soul. While human global organization remains at the Solar Plexus level, the conflict between those groups promoting global self-actualisation and those promoting global selfishness will increase global system fluctuations and instability.

There is a final stage, of Crown unity, involving the conscious cooperation of the whole soul network, which creates alignment and mutual ascension. This last stage is taken up in the next chapter.

3. Self-organising Cycles

According to Jantsch, the mathematical and conceptual modeling of these stages is based on self-organization through fluctuations leading to cycles of dissipative structure development. Self-organisation is the tendency towards increasing order and structure brought about by autocatalytic reinforcement (and fractal resonance), which contrasts to random selection. This applies to the growth of molecular combinations including complex proteins, and to biological and social systems. Dynamic interrelated systems are in a state of flux and respond to fluctuations in their environment that can change the system structure by various levels of autocatalysis. Because the basic laws of nature encourage autocatalysis, they incline to evolution[54].

Many of the processes of systems change are cyclic, as in the circular phases of some chemical interactions, the predator-prey population variations, and economic and business cycles. There are cycles within cycles, and there is an overall hierarchy of levels of increase in the nesting and interaction of cycles as they relate to real world systems. Each of the following levels of complexity represents a higher level of organization of forms and consciousness,[55] equivalent to the 7 levels of capacity of the generic soul model. Some of the following examples have been suggested by Jantsch (1980, ch 10).

The basic cycle is of chemical or nuclear transformations, which underpins a jump in the level of organization. An example of transformations in biological cell process is the role of the nucleotide organic molecules, which are components of DNA and RNA. Their sequence in DNA and RNA determines how proteins are synthesized in the cell, and one particular nucleotide, adenosine triphosphate (ATP), catalyses the release of large amounts of energy to drive cell metabolism. An example in human development is that the Primitive culture manipulates the ecosystems it is dependent upon but does not create major changes that self-transform its culture. The culture can transform part of the ecology but without a major form of sustained control, as in agriculture, that changes the nature of societal self-reproduction.

At the 2nd level, a cycle of transformatory reactions becomes a catalyst, which is self-reproduction without system growth, and is seen where societies increase the productivity of the ecosystem and are in equilibrium. In cell metabolism an enzyme is catalysed by nucleic acids and in turn catalyses other substances, which provide “feedback” to the enzyme to regulate its activity, often creating oscillations in the process. A mature Kinsperson agrarian society is an example of a human ecosystem in equilibrium, but which creates an improved food base for society, if limited by ecological feedback constraints, and often in oscillation.

At the 3rd level, a cycle involving catalysts in turn becomes an autocatalyst. It is self-reproduction with exponential system growth, and can be represented by any part of an ecosystem that has evolved a new advantage that displaces part of the existing system. The expansion of a new species is an example, as is that of new technology or market products in society. Economic "takeoff" and many examples of Loner expansionary behaviour can be modeled by the exponential autocatalytic cycle.

At the 4th level, when a cycle of autocatalysts itself becomes further catalytic, it is a hypercycle, which is self-reproducing system growth with an added efficiency factor that overcomes the degenerative elements present in autocatalytic cycles. This can involve self-adjustment of the system, and it speeds the rate of growth from exponential to hyperbolic[56]. The Heart chakra culture self-consciously overcomes the destructive elements of Loner society, through Hobbes' social contract. It enables far more efficient use of all resources and speedier growth of Loyalist subsystems of economy, education, science, politics and ecological management. Jantsch also points out that human population growth over the last 300 years has been almost hyperbolic because of human capacity to maximize food and health producing efficiencies. We now appear to be overcoming the basis for this rate of population growth as it slows due to the interaction with other hypercycles such as those that develop education, science, technology, and longevity.

At the 5th level, the co-evolution of participants in a hypercycle creates an ultracycle. Each autocatalytic unit in a hypercycle can be an ecological subsystem (or niche), the members of which often take part in other subsystems in other hypercycles. This means that ecological subsystems and hypercycles, at various levels, are linked and exchange members, energy and information. Any progressive developments in one system (mutations, population changes, more information) will therefore influence development in connected systems. Where this involves increased complexity and feedback between systems, co-evolution of hypercycles takes place, resulting in evolution of the overall system[57].

The Achiever level society depends on the co-evolution of the economic sub-system and the sub-systems of education, information technology, democracy and human welfare. Together they provide the infrastructure of Democratic Enterprise and the various other Throat level activities in Table 1. Wherever these subsystems have evolved sufficiently, the Achiever forms of activity emerge. Globally they are in limited regions and are created by a limited but growing number of people. Substantial geographic co-evolution is needed before Democratic Enterprise, for example, will emerge as the dominant global paradigm.

Although for simplicity I have outlined the hierarchy of complexity of cycles, they also exist fractally in the sense that cycles within cycles can exist at any of the various levels of evolutionary development. The maximum production of entropy (disorder) in the transition phase between stages of evolution of these cycles[58] also suggests a higher order investment of energy in the creation of a new structure. This can be explained by the need to extend system domains of limited information. The type of cycle determines the limit of information that may be transferred, ranging from say 10 to 10 billion units as one ascends in levels[59]. When these facts are taken into account along with co-evolution, we see again the tangled hierarchy of the flow of energy and information in evolution.

There are even higher-level ultracycles, at the 6th, Ajna level, that repeat the efficiency factor of the Heart level. It overcomes the degenerative factor of unwieldy complexity by emphasizing integrative mechanisms. The various domains such as the political, economic, social etc. are brought consciously into alignment, for the highest common good.

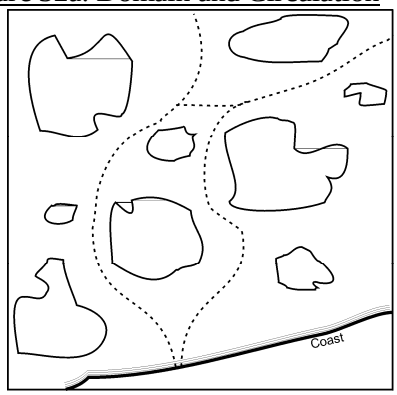
The 7th, Crown unity level could be called an omnicycle because of the fractal alignment of the whole soul network on Earth. Alignment is the coherent attunement between systems and levels that allows a harmonized flow of energy, information and consciousness throughout the whole system.

Within its paradigms, science develops through ultracycles, as does the psychic or spiritual method of understanding. These two ways of understanding can and do combine in a higher ultracycle of greater benefit to humanity and to all kingdoms than either way alone can deliver. We are exploring this now, recognizing that "Evolution at all levels includes freedom of action as well as the recognition of a ubiquitous systemic interdependence" which is "dynamic connectedness."[60] This is explored further below.

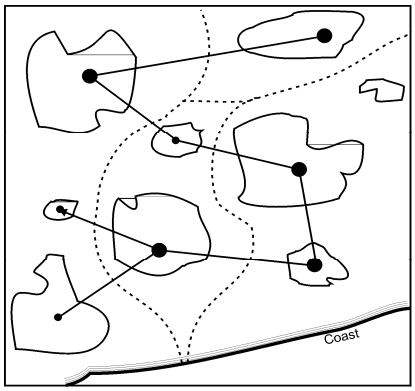
Generic Levels of Capability

Figure 32 is a symbolic depiction of the general structural evolution of 6 levels of development based on the soul network. It uses geographical patterns to illustrate the manifestation of archetypes. The diagrams can be considered both topologically, i.e. as connections and relations in "conceptual space" such as hyperspace, protospace or mathematical space, and geo-temporally, e.g. as the growth of human settlement patterns.

Figure 32a. Domain and Circulation



32b



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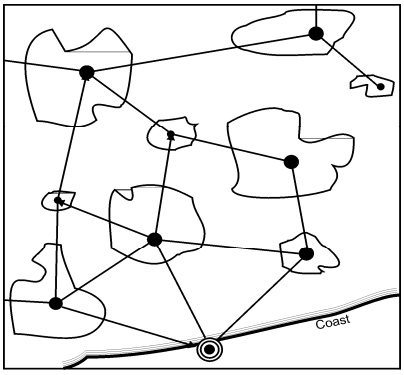
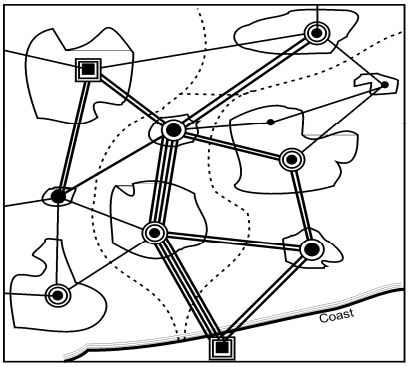
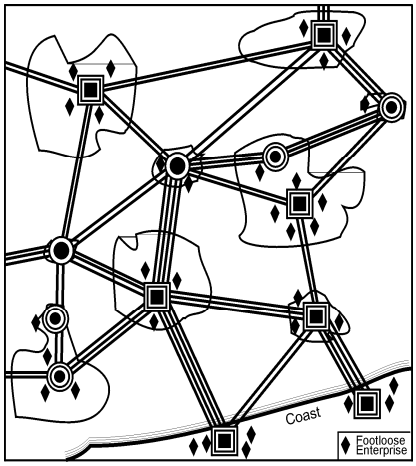


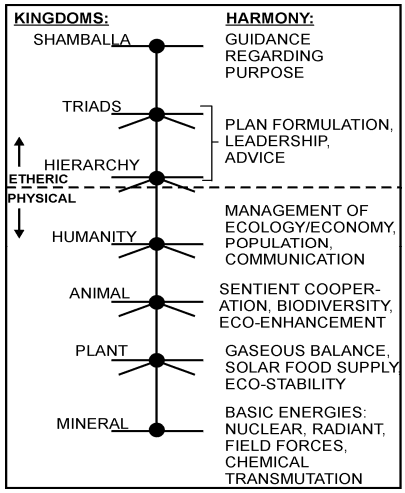
32d



32e



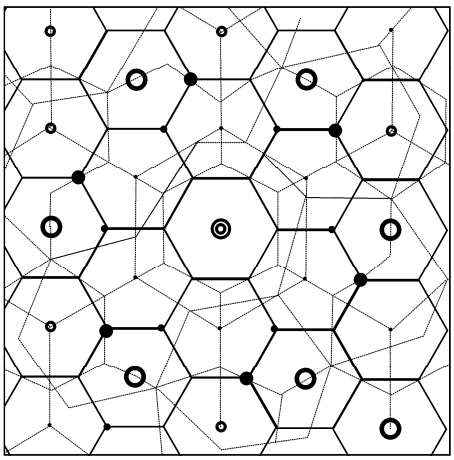
32f



The former, topological, is a generic pattern of unfoldment. The latter, geo-temporal, is a geographical mapping of this pattern, as observed in the development of human civilization. They are both an attempt to depict generic principles that apply in all four quadrants of life.

The *geographical patterns* are similar to those of locational analysis by human geographers, for example the urban growth model presented in Prigogine & Stengers, and in Jantsch.[61] These models, and those of central place theory in geography, provide spatial hierarchies of urban places according to the number of economic functions they contain (Figure 33). The models usually leave out the patterns of transport and communication essential to the growth of the urban domains as their inclusion complicates the illustration. Figure 32 shows the development of transport and communication patterns, and should be interpreted as the larger the center, the larger the geographical domain. Six stages of evolutionary development are depicted, and the 7th stage is discussed later. In space-time, they represent the increased ordering of geographical dissipative structures.

Figure 33. Hexagonal Central Places



In *conceptual space*, or hyperspace, the same principle of unfoldment applies to the organization of awareness, as levels of consciousness. Each level of the diagram represents a generic paradigm that reflects the structure of psychological and cultural capacity at level. This similarity of capacity is the basis of the similarity of paradigms across each level of Table 1 in ch 2. For example, in Table 1 at the Solar Plexus level the Advantage Enhancement paradigm (the 3rd ecological level, generalised below) creates the Imaginal Scanning capability, Law & Order morality, Market Fundamentalism, the Historic religions (as human organization, not content), power politics, and Newtonian science. The psychological capacity and dynamics create an archetypal paradigm at level that applies in all areas of life

Each generic level exists in fractal form, but it is not possible to easily refer to a wide array of fractal applications in a summary of stages. Reference in what follows has been limited to the 7 levels of Table 1, to the evolutionary data in Jantsch, and to a network connectivity index. This index is obtained by dividing the total number of links by the total number of nodes.[62]

Jantsch suggests that general dissipative systems principles, which apply to chemical, biological and social evolution, are derived from common universal origins[63]. He raises the question of whether the rules of nature that existed at the common origin are themselves subject to their own rules, i.e. to autocatalysis leading to evolution of the rules. The rules facilitate the evolution of consciousness that can self-reflect on the nature of the rules, and perhaps change them. This self-aware consciousness has already changed the process of evolution through genetic and environmental manipulation. Considering that the original rules create consciousness that can manipulate the rules and perhaps even change some of

them, then evolution is surely a dissipative structure with potential "fluctuations" far beyond our present imagination.

It is possible to approximate an archetype of evolutionary development mathematically and through other types of modeling. I have used the chakra and soul system principles to generalize an archetype for all kingdoms. What follows covers human and biological systems. It is a generalized model of the proposed archetypal levels of evolution, and incorporates the preceding dynamics and levels of self-organisation. The abstract qualities and characteristics of these 7 universal stages are as follows:

Level 1. Isolated Unity

- Primitive, hunter-gatherer, prokaryote, limited genetic development,
- Transformation cycle,
- Minimum domain per unit, autarkic within domain,
- Universal scatter of similar units with minimal communication between them,
- Very low connectivity index, because no true nodes,
- Steady-state, autotrophy, dynamic self renewal (or autopoiesis[64]) is very strongly subject to environmental conditions,
- Lack of specialized leadership.

Level 2. Nucleated Duality

- Kinsperson, agrarian society, eukaryote, rapid genetic development,
- Catalyst cycle,
- Clumping of clan units based on genetic information, organized dually into centralized elite and surrounding masses,
- Large domains interspersed with lower order (level 1) units,
- Low connectivity index, mainly between nuclei (nodes),
- Steady-state, heterotrophy, autopoiesis strongly subject to environmental conditions,
- Limited specialized leadership.

Level 3. Advantage Enhancement

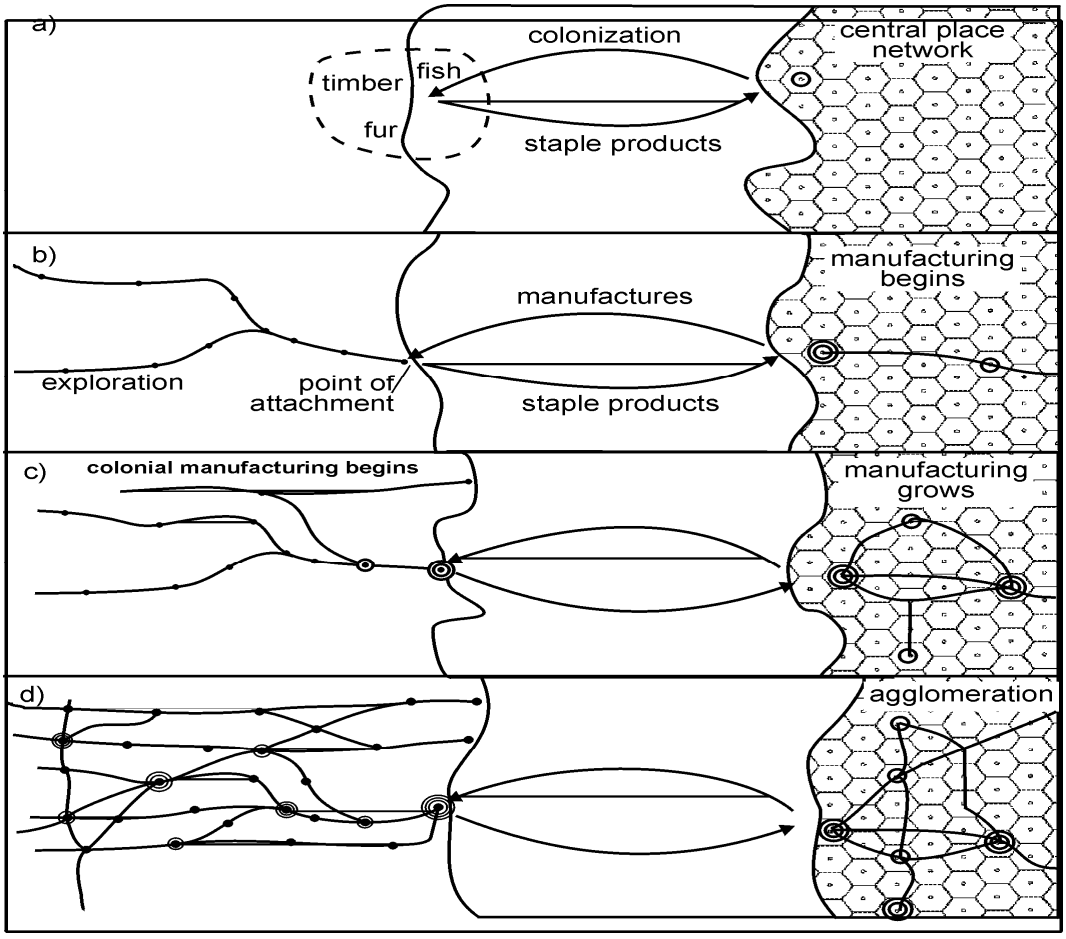
- Loner, industrialization, epigenesis, maximum heterotrophy,
- Auto-catalyst cycle,
- Multiple differentiation of domains by functions (e.g., qualities of knowledge, environment, technologies, markets, objectives),
- Overlapping hierarchies of domains with growing vertical and horizontal connection in the three classes of elite nucleus, new specialists (e.g. industry), and masses,
- Moderate connectivity index linking the three classes and the growing horizontal differentiation,

- The complex horizontal ecology develops rapidly, with some vertical linking, epigenetic development overtaking genetic in evolutionary potential, cycles developing prominence,
- A multiple function leadership, asymmetric growth of influence by epigenetic units.

Level 4. Symbiosis

- Loyalist, socio-biology, co-evolution, conurbation,
- Hypercycle,
- Mutual reinforcement of aspects of functional hierarchies, cross-catalysis in patterns of growth,
- Growth as simple hierarchy overtaken by growth of linkages of domain networks, and including entirely new domains (Figure 34 is a geographical example),
- High connectivity index with a hierarchy of linkages evolving in strong patterns,
- Hypercycles develop within the multi-level system pattern, as combinations of multiple asymmetries and symbiotic symmetries,
- Leadership by interdependent groupings conforming for mutual benefit.

Figure 34. Development Colonisation



Level 5. Interdependent Creativity

- Achiever, self-organization in relation to environment, footloose location,[65]
- Ultracycle,
- New hierarchy of functions relatively independent of existing hierarchy of domains because of greater freedom from the weight of genetic or epigenetic factors, i.e., based on higher level information relatively free in space-time, and relatively free of historical dependency,
- New scatter of functions superimposed on the old hierarchical pattern in apparently random but typically chaotic distribution, correlating with the old pattern as a lag effect and in relation to relevant information supply,
- Connectivity index multilevel and high, but very high for self-conscious communication development,
- Self-awareness and directed activities add ultracycles and chaos patterning to evolution and whole ecology,
- Multiple-level participatory leadership with horizontal and vertical interdependencies.

Beyond this stage, it is easier to change the mode of illustration to show the complex integration and the dimensionality beyond the perceived physical forms. The next level is one of integration and harmonizing both horizontally and vertically. The ultracycles have brought an increased number of diverse domains into a vast interconnected system.[66] The process of integration may proceed in a manner similar to the integration of different levels of development as in Knapp (Figure 34), in which case, levels 1 – 5 may be potentially repeated in the interlinking of domains. Additionally, as the next level equates to the Ajna, very large domains may be integrated, producing a more comprehensive organization of a higher order of awareness and effectiveness.

This would create a widening gap between rapidly developing higher order purpose and lagging, slower development. The reason for this is that the information contained in the higher cyclic levels and their speed of development more closely follows the hyperbolic rate of increase.[67] This significant increase in speed and complexity creates a rapid divergence from the population average – be it of people, ecosystems or cultures of consciousness. It is enhanced by vertical co-evolution with the "systems" of higher kingdoms that have evolved wiser and more creative experience.

The vertical links are shown symbolically in Figure 32f, which is related to Figure 4. The central vertical line is of both life energy and consciousness between kingdoms, and the horizontal lines are of links within kingdoms. The other lines symbolize interconnections between units. Manifestation in the lower physical plane is necessary for the lower four kingdoms but not the higher three, and human consciousness has the potential to span all seven as a source of information. Consequently, the final two levels are:

Level 6. Multilevel Harmonizing

- Involver, conscious integration of models and cycles, multilevel consciousness coordination,

- Integrative higher ultracycle,
- The domain is the whole below the highest level, but linking with it,
- Multilevel integration of many functions is harmonized according to capabilities, but with broad-based duality of capacity within a population,
- Very high connectivity index, increasing at higher levels (kingdoms and planes), multilevel and multi-functional,
- Ultracycles and chaos integrated, with high levels of freedom *within* strict parameters of evolutionary ecological law, allowing creative oscillation between these two requirements,
- Multi-level leadership with higher-level guidance.

Level 7. Aligned Unity

- Choice Seeker, conscious wholist cooperation, mutual ascension,
- Aligned omnicycle,
- Whole is harmonized and experienced as one,
- Hierarchy is of maximum capability per level and unit, the quantum of achievement,
- Connectivity is integral, at-one-ment,
- Oscillation becomes steady-state unison,
- Leadership by willing at-one-ment.

The steady progression through the archetypal stages requires an increasing energy flow, so how does this happen? It is the steady conversion of structure – physical, psychological and spiritual infrastructure – that enables the greater inflow and throughput of energy. The process is auto-catalytic and cross-catalytic as described above. As we develop, we open the door for greater energy inflow, which enables further transformation and consequent energy influx.

A major step-up in need, or paradigm change, comes when a particular form of structure reaches its limits of expression, and is put under stress for further change. It will not happen till the major lessons of the cycle (or sub-cycle) have been learned, and then only if the need arises from internal or external stress.

To illustrate with Maslow's five-level hierarchy of needs, his Basic level includes Base and Sacral chakra levels, i.e. physical survival and reproduction (transformation and catalytic cycles). Once these are largely mastered and satisfied, these basic needs according to Maslow need to be protected. His next level is Safety, which is one aspect of the Solar Plexus level in which dominance and aggression for the self has its counterpart in security, threat avoidance and protective rules. This level creates advantage for the self (auto-catalytic cycle), often at the expense of others, which creates strife. The conflict and its stresses can be overcome only by forming good relations with others. Initially this is a limited form of mutual self-interest, unstable and unenduring. Eventually it becomes true concern for others, mutual appreciation and acceptance (hypercycle), which is the Heart level, or the group Belongingness of Maslow. This group harmony comes with some conformity that can be counter-productive if creative new ideas and behaviours are needed. It can also smother the

sense of self-worth. These needs can stimulate creative divergence from group norms (ultracycle). High-value vocations are pursued that allow the individual to shine. As esteem and personal reputation grow, the self is strengthened at the Ego-Status level of Maslow, which is the Throat chakra level. Maslow's final level, Self-Actualisation, is the Ajna chakra level. After satisfying the creative ego-self, the way is open for more inclusive behaviour that integrates the whole (integrative ultracycle). The sheer diversity of the Throat level needs to be managed efficiently to create harmony and more effective progress. This requires personal resolution of all inharmonious and unintegrated aspects of the self, and its advance into greater wholeness, alignment and unity. Each of these stages is reflected in work, culture and society.[68]

The growing interconnectedness of the general evolutionary process, with its overlapping hierarchies of domains, with their ever-increasing energy and information content, depends on progressively higher levels of communication. The size and hierarchy of domains, as depicted in Figure 32, depend on their circulation and communication.[69] The seven-fold progression of bifurcations is cause and effect of the increasing level of energy and information flow through the whole system. The size and spread of the hierarchy of souls in the evolving network includes those of broader domain than the human kingdom.

This ecological hierarchy of dissipative system structures is the mechanism for evolution in fractal form. These systemic "trees of life" exist throughout the whole of evolution. Their interaction is the "tangled hierarchy" that drives evolution to increasing transcendence. They are defined by significant differences in information content, speed of change, and the structure, type and amount of their communication. If we abstract the properties of the domains of each level, we can then step down these archetypes, making them applicable to all phenomena.

The seven levels of cycles are made up of three stages, defined by three levels of speed of circulation and change. These are near equilibrium (levels 1-2), exponential (levels 3-5), and hyperbolic (levels 6-7) speeds. These three phases operate in correspondence respectively to the Laws of Nature, Soul and Spirit when considered in terms of the energy and information content of their cycles. The laws can be applied fractally because the forms of the cycles apparently exist as sub-cycles in all kingdoms. It is the relative content of energy and information (in fractal formation) that determines the relative level of the three laws. A hypercycle in cell metabolism, such as the reproduction of RNA, manages more information than a transformation cycle such as the activities of nucleotides A hypercycle in human culture, such as the contributions of economic development, education, and civic mindedness to participatory democracy, deals with more information, issues and decisions than a transformation cycle such as deciding on a nomadic journey by hunter-gatherers.

This suggests a common origin for the archetypes, that manifest at all developmental levels and in all planes of substance, including beyond space-time. It raises the issue of why space-time was created, and why evolution in it should develop an aware creativity, self-reflection and love. Given this evidence for a highly emergent structure of evolution that inclines to wisdom and eventual apotheosis, it seems that we may now be awakening from the egocentrism of the child to begin to understand the wider world of its parents.

Fractal Resonance

Resonance is the adding together of like phase frequencies, which amplifies their energy. Dampening adds together opposite frequencies that cancel each other out with a deadening of energy. Evolution in all domains is about the amplifying of patterns of relevant (progressive) deviations of frequencies, be they of chemical structure, biology or of human thought. The entire soul network is made up of frequencies that exist in fractal harmonic form. Consequently, the amplification of resonant deviations is a significant feature in evolving the entire network structure, as growth and evolution.

Fractal resonance creates multiple effects in diverse fields. For example it:

- Guides unfoldment and evolution from beyond space-time, through archetypes and prototypes (akashic and atmic levels) to the physical, via resonant fractal frequency fields;
- Is the basis for "emergence" or "random self-organising" structural development through pattern alignment across levels or dimensions;
- Explains why archetypes, symbols and allegories can have multiple interpretations, as in the interpretation of Biblical parables ranging from the immediate cultural context to a high spiritual gnosis;
- Provides a basis for evolutionary feedback to alter the parameters for a new expansionary phase or level.

Structure of Fractal Resonance

The transference of resonant frequency from beyond space-time to space-time structure is proposed in the mathematics of superstrings (and M-theory), white holes, quantum gravity and quantum resonance. The issue is the relatively simple conceptual one of the transference of information between a number of dimensions, including those of "hyperspace" beyond space-time. Frequency is a most basic form of information, as acknowledged by both the physical sciences and Genesis in the Bible (the Word). From the very basic frequencies of substance, we can create the periodic table of chemical elements. From this table we can derive combinations of electromagnetic patterns, corresponding to musical patterns, and hence to signature sounds, which are dominant frequencies for holons.

All of creation is a frequency garden in which seed holons grow – physical, biological or human thought. We should keep in mind the periodic tables of both chemical elements and of behaviour (Fig. 2a in ch 1), and link these to Sharry Edwards' table of octaves of frequencies of music and chemical elements. Then we can more easily see that there will be key frequencies for resonance, dampening or dissonance for each and every aspect of being. Everything is related through frequency. For people, growth is learning to distinguish the frequency resonances and their effects at different levels of the chakra ladder, within the periodic table of behaviour, and then learning to harmonise them. The three phases of development will see firstly the predominance of lower chakra frequencies, then increasing dissonance between lower and higher within the psyche (and with physical effects) in the second phase. This is followed by the move to coherent and harmonic resonance in the third phase, in which all chakra petals and octaves of the human system align with the archetype.

This harmonic alignment eventually occurs for all things, between and within all kingdoms on Earth.

The ecological modeling of evolutionary biology shows a structure of increasingly inclusive and integrated holons, following the same process of discrimination of frequency resonance or dissonance. This can lead to ecological harmony at the scale of Gaia, including all kingdoms of nature, if we consciously participate. This is where the fractal nature of the soul network becomes illuminating. Each sub-holon of a whole is both seed and environment in the fractal system, energized by life-spirit. As the seed aligns and harmonises with its environment, it provides a changed environment (or garden) for its own sub-units (i.e. sub-holons or sub-seeds) and for its greater unit. The changed environment provides the stress for further learning that stimulates the holon's further evolution. In this process both seed and garden raise their vibration. This is the case for evolutionary cycles and sub-cycles, and is the case for global culture and sub-cultures. It brings about human psychological integration, and the resulting need to change each aspect of behaviour. It changes thought and awareness throughout the entire soul network.

We are all part of a larger holon that sets the parameters for our growth, and that we can influence in return. Any change in frequency produces a change in resonance that energises all units at sympathetic frequencies. These can be at higher or lower fractal levels. The power of resonant energy will determine the scope of the effect. The greater the number of energised resonant units, and the greater the combined power of energy, the greater will be the effect.

Emergence

Emergence is the natural process of unfoldment of complexity from apparently simple beginnings. But does the tree emerge from the seed or the seed emerge from the tree? Which is top down and which is bottom up in process? Fractal resonance suggests an underlying principle applicable to all scales of phenomena, which produces some structural inevitability. It has genetic feedback to influence the underlying principle and so to evolve. This feedback can even be in the form of a rule to change the rules, which can create a bifurcation in the laws of nature, including changing itself.

Fractal resonance can create multiple changes in diverse fields if the energy of the resonance is strong enough. We know from models of random emergence that some holons will grow far faster than others, as shown by Ormerod's butterfly economics. We also know from the examples of guided dissipative structures that the bifurcation choice can be influenced. The soul energy model also predicts an increase in the energies of Soul and of Spirit with development. Consequently, we can reasonably assume that progressive complexity leading to increased harmony is built into fractal systems development.

Emergence requires at least two things, firstly energy to move the system, and secondly rules of accretion or association. Universal life provides the energy in nature (including all from the cyclic beginning), but we do not know why, or even how it started. The laws of physics provide some elementary rules, but we do not know why they are as they are, nor how they came into being. Therefore to call emergence in nature as "randomly self-organising" is a

misnomer, because it relies upon energy and laws that we do not know why or how were created[70]. However, we are quite justified in asking, in the light of the dissipative organization of life forms on earth, and of deep consciousness and spirituality, whether the energy and laws that create this emergence are purposive.

Recursive Evolution

How can the recursive (iterative or repetitive) changing of rules that creates successive stages of development occur? We have an analogous situation in science when our understood "laws" are changed as our knowledge expands and our paradigm changes. However, the underlying reality may not change, unless it depends on our consciousness. For example, the Copenhagen interpretation of uncertainty in determining both the position and velocity of a sub-atomic particle suggests that it depends on our observation. To look at the question we need to go beyond linear evolution in space-time to include timelessness. We may then get a better appreciation of the role of emergent intelligence, love and purposiveness as forces that are both a product of evolution and that are operating upon it.

When we include infinity, or timelessness beyond space-time, we need to face the possibility that consciousness has evolved well beyond the current human level. This is because all of our anthropocentric theories of human development in this universe depend upon linear evolution in space-time. However, if our universe is truly connected to akasha beyond space-time, as our foremost theories of physics suggest, then we must accept the possibility of other universes with other levels of development. To do otherwise would be to repeat the earth-centric mistake of 500 years ago, this time at a universal level. We simply do not know how many reductions of dimensions to space-time apart from our own that there may be, though some of our theorists are investigating the possibilities. Neither do we know how many multi-dimensional universes there may be, though the possibilities are infinite.

Suppose that there are many universes, all at recursive stages of development and linked in infinite akasha. Then we can accept the possibility of the evolution of infinite purposefulness, infinite love, and infinite knowledge that could influence the rules of evolution and being. We could then ask whether there is a mechanism that determines the parameters of successive stages or universes of evolution. It becomes a Mind of God issue, for if we accept the preceding possibilities within the context of infinite timelessness, then such a vast and powerful being is possible. And so the control of evolution by self-reflective and recursive consciousness is possible. The creation and re-creation of the rules of the game would also become possible.

This flight of imagination provides background to the three scientific paradigms and three levels of quantum healing, through firstly the quantum mind theory, secondly the field energies (e.g. electromagnetism, morphogenesis), and thirdly the mechanical structure of nature. Each of these levels is linked by the transformations of fractal resonance, from beyond space-time to the mechanics of physical action on earth. Each is linked to the possible rules-creating consciousness in akasha, and through it to other possible universes.

Timeless Evolution

In the context of an infinite, timeless consciousness that can influence evolution in space-time, we need to think whether archetypes, ideals, memes and thoughts are living substance. Are thoughts alive? That depends on a definition of life, which we living beings are now thinking about. Thoughts have energy, form, are capable of sustaining themselves, of growing, and of reproducing themselves to populate cultures. I will assume that there are many varieties and levels of alive consciousness that correspond to soul, and hence to c in Einstein's trinity formula.

The old teachings, an older science, are that consciousness in akasha and in space-time underlies all, and evolution is the building of complex systems of consciousness, of which the term "network soul" provides only a skeletal image. These vast systems of units of consciousness extend to akasha and there link with all other possibilities in many dimensions or universes. Akasha is the place of infinite probabilities, and for our universe and Earth system this means the probabilities of every possible permutation of relationships between every unit. This means that any individual unit that is aware at the akashic level can tune into the infinite "alternative lifetimes" there. Because akasha is beyond our space-time, this includes past and future probabilities in our space-time system.

This is where the need for relevance comes in. The systems of conscious units, which include the human soul, emerge from this apparent randomness according to a bias towards quality. This "bias" results from the links between space-time consciousness, space-time aetheric structure, and the consciousness in akasha. The latter creates these and the guiding archetypes that then influence random emergence. Without these links and influence, life patterns in space-time would be truly chaotic and without any evolutionary development. Because of the links, purposive order is built into the emerging pattern of life on earth.

However, this raises the question of why a limited space-time universe should be created, with the evolution of consciousness in it. After all, where there is timelessness there is no linear evolution in time. There could still be alternative "evolution" in akasha as an expansion of consciousness in other dimensions. One can only speculate that the children of God are being schooled to develop individual awareness and ego-soul consciousness, and that this would be more difficult in multiple simultaneous dimensions. For this reason the strength of ego-soul consciousness must be developed in the limitations of space-time before it becomes capable of independently operating in the multiple dimensions of akasha and beyond. That is, an experience of consciousness is being created that is both independent and in unity with others at the same time.

Relevance is the phylene consciousness in akasha, for it creates the parameters of our lives. Considerable leeway of unpredictability exists in space-time in order that we learn freedom of choice, yet the bias of relevance leads us to the goal of our great archetype. Our wisdom tithes feed back to the phylene to co-create the archetypes and so to change them. This applies to fractal cycles of development and to our evolving awareness of greater possibilities of life. This cyclic process must be so where akashic relevance has access to all time and non-time phenomena, yet experience is needed for the growth of individual souls.

It is for this reason that the structure of *Revelation* and of the Tarot can be given as three phases of seven progressions plus the final state in akasha (i.e. the 22nd chapter and arcanum). Seen from the point of view of timelessness, each of the seven "levels" of chakra activity are laid down simultaneously according to a major phase archetype. These three phase archetypes are the divine natures of Lucifer, Christ and Melchizedek. Let us go beyond human connotations to see the structure of wisdom development in the three stages of involution, transition, and evolution (see chapter 8). In the first stage, all chakras are subject to material energy (m). In the second stage the struggle between the material and spiritual (E) energises the chakras, and in the third stage they are enlightened by spiritual energy.

The phylene consciousness in akasha oversights the evolutionary pattern of a specific soul in space-time, in three major phases. Then the phylene formation of the new heaven and the new earth in akasha, i.e. the parameters of the new soul structure in the next cycle, is created from transmutation of the divine archetype in akasha. This process is given in chapter 22 of *Revelation* and in the 22nd arcanum of the Tarot.

There are implications here for the anthropological cosmological principle[71], which are open to verification if the consciousness can be raised to akasha. The Weak Anthropological Cosmological principle states that

> *The observed values of all physical and cosmological quantities are not equally probable but they take on values restricted by the requirement that there exist sites where carbon-based life can evolve and by the requirement that the Universe be old enough for it to have already done so.*

This is true for the level of consciousness that is the norm for modern science. However, when there is akashic awareness, varieties of the Strong Anthropological Cosmological principle become possible. These varieties given by Barrow & Tipler[72] are

1. *There exists one possible Universe 'designed' with the goal of generating and sustaining 'observers';*
2. *Observers are necessary to bring the Universe into being;*
3. *An ensemble of other different universes is necessary for the existence of our Universe;*
4. *Intelligent information-processing must come into existence in the Universe, and, once it comes into existence, it will never die out.*

If we accept even the possibility that a powerful, loving and creative consciousness exists beyond and within space-time, that influences space-time, then we must also accept the possibility that all of the Strong Anthropological Cosmological principles are correct. I propose that this is not a religious suggestion, but a scientific one amenable to observation and testing. However, it does require the appropriate level of consciousness, i.e. the instrument capable of measuring.

Interpretation of Evolution Models

The anthropic cosmological principle is that whatever we think to be features of the universe can be observed only by those units of the universe that have evolved the capacity to perceive the features. Humankind, which is a known portion of the universe that has evolved the perception of self-awareness, is therefore a self-measuring instrument for certain features of the universe. However, it is a measuring instrument limited by the nature and extent of its evolution, which means that we cannot yet perceive what are, to us, significantly different parts of the universe.

The instrument of perception, the observer, determines the "nature of reality." This principle at a macro scale is related to the assumption of quantum mechanics at the micro scale that the act of observing "collapses" an infinite probability wave to a specific particle location. In other words, our perception of reality is determined by the nature of the act of perception, which in turn is determined by our evolution as one limited part of total reality.

To put this more simply, an instrument of observation is limited by what it resonates to. If humanity as an instrument has seven major levels of capacity, then its initial perception (regardless of subsequent understanding) of the nature of evolution will have seven levels of resonance. The same principle will apply beyond the human kingdom in a more generic "communication" with our portion of the environment, for example, to those kingdoms above or below the human.

For the human kingdom and those below, Jantsch[73] deduced four types of communication:

- Physical-chemical - the 4 physical forces plus biochemical,
- Genetic - genes, and a generalization to static structures,
- Metabolic - from dissipative structures to ecosystems,
- Neural - central nervous system and generally language and electronic communication. Memes can be included here.

These four types encompass the four lower kingdoms of nature and the three lower planes, but do not include the higher consciousness of mankind. The neural level at best represents the concrete human mind, but not the abstract intuitive mind. From Figure 32, we could add three more types of conscious communication relevant to humanity:

- Abstract mental – corresponding to the higher human thought,
- Intuitional (buddhic) - the Hierarchy, and higher human intuition,
- Spiritual will (atmic) - Triads and Shamballa, and human at-one-ment.

The significance of these higher types for humanity is that, firstly, they are accessible to the trained and uplifted human mind as harmonic resonance. Secondly, they are the habitual modes of communication of advanced souls. The wisdom they represent can therefore be accessed and incorporated into the thoughts and activities of people, if in a stepped-down form. They indicate the extent of the soul network and the place of humanity in it.

The Yoga Sutras of Patanjali include, “erroneous perception” as one of the “obstacles to soul cognition.” About this Bailey[74] says, “As long as the thinker identifies himself with form, as long as the lesser lives of the lower vestures of consciousness can hold him in thrall, and as long as he refuses to separate himself from the material aspect, just so long will his perceptions remain erroneous.”

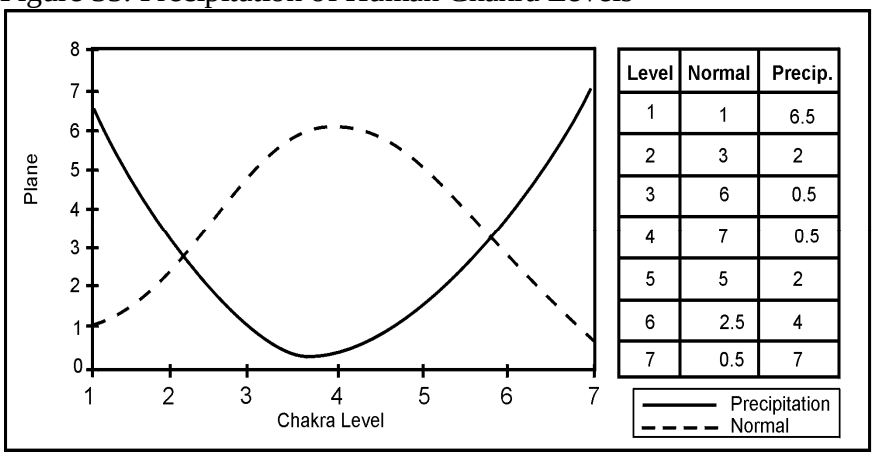
Bailey identifies 7 types of vision that are 7 types of communication on the 5 manifest planes.[75] These seven types are:

1. Physical vision (lower physical plane). Using the eyes and perceiving tangible form; camera as instrumentation;
2. Etheric vision (higher physical plane). A faculty of the eye, perceiving the health aura of forms; Kirlian photography and bioenergy field mapping as instrumentation;
3. Clairvoyance (astral plane). Lower psychic perception working through the tactility of the emotional body; similar in principle to the analog computer as instrumentation,
4. Symbolic vision (lower mental plane). The mental ability to produce symbols, colors, dreams, etc., but subject to error and illusion; analogous to the digital computer as instrumentation;
5. Pure vision (higher mental plane). Pure knowledge (gnosis) of the soul using the higher mind as its instrument of vision; tapping the resources of pure wisdom, analogous to the quantum computer as instrumentation;
6. Spiritual vision (buddhic plane). Higher intuitional realization of spirit and of the purposes underlying all manifestation, analogous to the instrument maker;
7. Cosmic sight (atmic plane, and beyond). The pure spiritual realization of the very high beings manifesting through the bodies of planets and solar systems.

Perception, or vision, comes before conception and understanding. In terms of the anthropic cosmological principle, the interpretation of the nature of evolution is constrained by the level of perception. The higher forms of vision correspond to higher soul and mind capacity. There is some evidence that lower forms such as etheric and clairvoyant vision were prominent among ancient tribal groups (e.g., the African bushmen and Australian aborigines) and are residual faculties in many people today. However, for humanity in the middle of the cycle, the precipitation of the older forms (as a primary form of perception and communication) is now lifting out of materiality, while the most advanced forms are still precipitating. Figure 35 is a rough estimate of current levels of density by planes (vertical axis) of the 7 stages of human development.

The older human and biological forms of Figure 32 and the subsequent description of universal stages (especially levels 1 and 2) have mostly completed their task. They are in the process of “lift-off” where they are subsumed into higher order units. This means they contribute their quantum of light through incorporation into higher human ecologies through soul transformation and alignment. From the vision of Now, their independent physical presence is rapidly declining. However, in human psychology there is still some emotional and mental connection and even attachment to the older forms of perception and thinking.

Figure 35. Precipitation of Human Chakra Levels



Level	Normal	Precip.
1	1	6.5
2	3	2
3	6	0.5
4	7	0.5
5	5	2
6	2.5	4
7	0.5	7

The newer forms (especially levels 6 and 7) exist mainly as archetypes, ideas and intuitions that are precipitating gradually into mental paradigms, emotional values, and forerunners of physical activities. The middle level forms are mostly precipitated into widespread concrete usage (with global variation) and are regarded as "normal." The line of precipitation in Figure 35 represents an estimated average for humanity, and bears some resemblance to an inverted Normal curve of distribution. The greater power of the higher end of the curve (see Figure 8 in ch 4) suggests that the rate of precipitation of the higher levels will be accelerated.

The evolution of dense forms has accelerated,[76] so how does this relate to the seven kingdoms on earth? The earlier forms of physical and biological existence have become largely incorporated into higher order forms. The very first asexual cells without nucleus, the prokaryotes, became fused (in various forms now called organelles) into a more complex cell, the eukaryote. In turn, the eukaryote became the basis for the cells of most species alive today, from algae to mammals. Each level of organization is relatively independent, yet integrated into the life of the higher organism. This is a model for all life and consciousness.

The prokaryote that created oxygen for all of Earth is now, for example, part of a modern plant cell and still creates the oxygen that supports most life by photosynthesis. Animals create carbon dioxide and breath oxygen and plants do the opposite, with some oxygen burning also. This is a system not just of symbiosis but of endosymbiosis, which is the fused inclusion of species with some independence.[77] In a real sense, human society has now incorporated the evolution of many animal and plant species into its domain, consciously organizing their further development for human survival, commerce and pleasure. Either consciously or unconsciously we have influenced their evolution through drastic changes to their environment and competitiveness. We are, in turn, part of and subject to a larger organization of life and consciousness.

An increased population of forms of higher order communication, complexity and consciousness has superseded the more simple forms, changing their relative dominance and universality. We could say that the earlier kingdoms, while remaining as the substrata to the development of Gaia, have, in a comparative sense, largely completed their task.[78] They have served to boost the development of higher kingdoms, and are now subject to reciprocal assistance in their further incorporation into the wider multi-level soul web. From humans this assistance comes through both conscious and unconscious transmutation of their forms,

through husbandry, ecological transformation, domestication and the creation of aesthetic forms of natural beauty.

What then of the higher kingdoms? The universal wisdom teachings and the similarities of the religions of the world testify to their presence. The personal experiences of mystics and sages are perceptions of that world of higher reality and contact. People will contact and cooperate with the higher kingdoms in a large measure when they have clear and discriminating minds, and a true scientific approach to the experience. This means a willingness to experience new states of awareness, and a freedom from the ego and its attachments to limited ways. Discrimination is still needed, because delusion is the ever-present testing of the vision and understanding, as it is in all science. However, for cooperation with the higher realms to be effective, techniques of self-actualization and ego-transcendence need to be applied. The application of these methods has been accelerating (Figure 9), and this indicates that our contact with those who have mastered love-wisdom and divine purpose will increase. Their influence on the whole soul web will then become more profound through human minds and hands, for we are the middle kingdom.

In modeling evolution, it is the ultracycles that have the power to integrate the whole, including all kingdoms on earth, which is the relevant field of consciousness for humanity. Through the resonant and fractal ultracycles of the whole, a transformation of all can take place. It will result in the downflow of the Holy Spirit throughout the whole system, and an uprising of the kundalini throughout the entire system. Macro and microevolution will then have co-evolved through the maximum interpenetration of space-time.

For example, when we look at the process of human globalisation, focusing on the issues of investment capital and world trade, we see that all the recognized kingdoms of nature are involved, all the countries of Earth, all the major issues of economics, politics, social welfare, cultural identity, ethics, communication and openness, etc., and all the chakra-level paradigms or world-views. The sheer diversity of the views and potential priorities can lead to a paralysis of action, as happened at the WTO meeting in Seattle in 1999. When we see that all of these "ecologically related" systems, of all kingdoms, information, values etc., can be integrated by the Involver paradigm, we see hope for resolution. We also know that resolving inspiration is available from higher levels if we attune to it. We know that with goodwill and wisdom there is a way of working with the Kinsperson, Loner, Loyalist and Achiever world-views through a combination of their relative concern for global survival and firm regulation where necessary. We see the need for equal opportunity for all countries and peoples, and discipline of the powerful and greedy.[79] We see that economics, ecology, society, science, politics and ethics are directly related to each other, interdependent, and so need to be freely aligned for benefit for all.

If we see Earth as living, aware Gaia, and acknowledge levels of consciousness so far above ours as to be God-like, then we may consider the omnicycle in which humanity is the physical brain of Gaia. The mind and soul is in substance far more refined than the physical brain, and for Gaia comprises the kingdoms above the human. When there is soul-mind-brain alignment, then the whole becomes harmonious. Every unit in every kingdom on Earth will play its part in the enlightenment of Gaia. And this is just one planet in the universe, which is just one thought of the larger whole.

Jantsch (1980, p.75) says that evolution is the simultaneous and interdependent unfolding of macro and micro systems. Microevolution generates macroscopic conditions and vice versa, creating self-evolving wholes. We can think about scale, or paradigms, and decide which is appropriate to our task, for the scale is infinite. It includes sub-atomic realms and the realms of timelessness and many universes, however…

This returns us to the role of human consciousness as a measuring instrument, and how the 7 levels may resonate fractally to the unfoldment of the whole soul network. Bailey[80] refers to wisdom teachings in saying, "It is … the mind that reflects the light and knowledge of the omniscient soul, and the brain that, in its turn, is illuminated. This is only possible when the interplay between the three factors of soul, mind and brain is complete."

Some of the Yoga Sutras of Patanjali are arranged in illustration as follows:

- "The Lord of the mind, the perceiver, is ever aware of the constantly active mind stuff.
- "Because it can be seen or cognized, it is apparent that the mind is not the source of illumination.
- "When the spiritual intelligence which stands alone and freed from objects, reflects itself in the mind stuff, then comes awareness of the Self.
- "Then the mind stuff, reflecting both the knower and the knowable, becomes omniscient.
- "The mind then tends towards discrimination and increasing illumination.
- "When the means to union have been steadily practiced, and when impurity has been overcome, enlightenment takes place, leading up to full illumination.
- "The knowledge (or illumination) achieved is seven-fold and is attained progressively.

Bailey explains these sutras and related ones further (*YSP*). The soul is the Lord of the mind, and the mind is seen as one of the senses (the "common sense" or 6th sense), acting in perception. When the mind is stilled in meditation, it reflects the soul omniscience as well as the information from the other senses. It transmits this knowledge to the brain, which is the link of human consciousness to the physical plane. It is through the aligned soul-mind-brain that the incarnate human can become omniscient. As an instrument of the soul, the mind is used in cooperation with the higher kingdoms for the good of the whole of evolution. Within its 3 tiers of 9 petals and its inner triple bud or diamond, the soul contains the links to all levels (Figures 4 in ch 1, and 26 in ch 8). The highest (7th level) is primally inclusive of all levels.

In its evolution through the 7 levels of capacity, the human mind attains illumination and spiritual perception via the soul. The human measuring instrument then encompasses a far greater whole than presently envisaged by concrete-mind science. This is because it is active on all planes of substance, including the "fifth dimension", and beyond space-time, whereas concrete science currently encompasses only the lowest three planes, which includes a conception of hyperspace beyond space-time. Theoretical science is now investigating the other dimensions. However, the potential spiritual omniscience of the mind is still limited to

an anthropic cosmological principle specific to humanity. We have only fractal resonance to octaves of being higher than the kingdoms on Earth, or to other universes, which limits the ultimate nature of our awareness as human beings. This awareness is, nevertheless, quite wonderful when advanced in its beauty, peace, love and wisdom.

An account of the collapse of the Einstein trinity archetype into the unity is given in the section on Dynamic Space-time in chapter 7. Its link with systems principles and chaos is in the central and transmutable role of energy, which is Life. The whole of evolution is about the increase of energy-rich systems, and consciousness underlies all energy. The dissipative structures that apply to the physical, vegetable, animal and human kingdoms, and the increased complexity that leads to "chaos", are created by an increased energy flow through their systems. This means an increased flow of Life and consciousness within the global brain, mind and soul.

The entropic disorder of the state of being (in any kingdom, and as an ecological whole) at the beginning of a cycle represents the m of matter, or personality. It is the "ground" from which all holons evolve, and from which more complex structures and consciousness are derived. The dissipative structures are the trees of life that transform the "ground" to fill out the role of the soul at various levels. The conversion transmutes the innate energy contained in the m through c to higher E, a value more powerful and effective. The energy flow (as physical energy, consciousness, and spirit) in the evolved system structures (biological forms, human awareness, whole Earth) increases exceptionally as a consequence, as summarized in figure 18 in ch 7. This energy/consciousness then increases its links with the Life, consciousness and energy beyond space-time.

When this happens the simultaneous adjustment of archetypal attractors for the full period of the cycle and for all relevant units within it takes place (simultaneous because beyond time). It links the restricted and linear evolution and consciousness of space-time to the infinite dimensions and consciousness of akasha. It is this connection to relevance and purpose that enables and drives the growth of independent co-creativity, love and beauty in people.

When we consider the whollist and fractal nature of this reality, and if we accept as a working hypothesis Bailey's assertion that our highest "spiritual" realms are only the "physical" realm of a cosmic system, then we may catch a glimpse of the vastness of Life and consciousness in our universe, and how our own spirit in all its deep peace and wonder, can evolve yet further.

And so, as this chapter opened, it closes with the idea of archetypes within grand archetypes, which only the unified mind can grasp in all their glory and joyfulness. And so the heart of love unfolds.

How fresh is this rose? Its perfume is eternal.

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1 Ruelle (1991, ch.13, 14).

2 This class includes quasi-periodic oscillation, which is the nesting of loops within loops, producing torus orbits.

[3] For systems involving human decisions, an "internal flow" may be assumed based on human motivations such as desire, aggression, learning, love, etc. However, there is often a strong environmental influence on this flow.

[4] Ruelle (1991, p.64).

[5] Ibid, p.76.

[6] Ibid, p.23. This is an element of a scientific basis for astrology.

[7] This has its problems, as chaotic behaviour can be indistinguishable from random behaviour when using tests of statistical inference based on randomness.

[8] Prigogine & Stengers (1984, p. xxii).

[9] Hall (1991).

[10] Zadeh, the pioneer of fuzzy sets, says, "As the complexity of a system increases, our ability to make precise and significant statements about its behaviour diminishes until a threshold is reached beyond which precision and significance (or relevance) become almost mutually exclusive characteristics … a corollary principle may be stated succinctly as 'the closer one looks at a real-world problem, the fuzzier becomes its solution,' " quoted in Kosko (1994, p.148).

[11] However, its over-simplification provides a powerful illusion of scientific elegance for some academics. Loner interests may also promote it as part of a market dominance campaign. Nevertheless, it could be a part of a more comprehensive economic theory.

[12] In Hall (1991, ch.14).

[13] Ibid, p.182. Plot (a) shows an apparently random distribution of behaviour (data values) when plotted against a time lag (t against t+1). However, plot (b) shows it to be a highly regular parabolic distribution.

[14] Ormerod (1998, ch 12)

[15] Because the option or path splits into two. See Prigogine & Stengers (1984, ch.5), and Coveney in Hall (1991, ch.17). See also the note on Panarchy below.

[16] Hall (1991, ch.3 by Vivaldi), and Ruelle (1991, ch.11).

[17] Prigogine & Stengers (1984, p.164)

[18] Jantsch (1980, p.14).

[19] The mathematics of this speeding of evolutionary development is the basis of the Mayan calendar, which is based on evolutionary time, not mechanical time. Its periods are structured exponentially, so that "time speeds up", in contrast to the equally spaced periods of rotation of earth and solar system that make up our Gregorian calendar. See www.mayanmajix.com/art024p.html. Much of the mathematical, periodic and physical analysis comes from Dr. Sergey V. Smelyakov at www.astrotheos.com where exponents of cycles as they relate to solar activity and the Mayan calendar are discussed. His analysis is based on what he calls the Auric Time Scale, which is based on the golden section and Fibonacci series as they apply to celestial, solar and terrestrial events. The golden section is widespread in the natural world, and is simply the division of a line (or other object) so that the two sections of the line are in a ratio that is identical to the ratio of the largest section to the whole line. This gives the golden section number of 1.618…for all such ratios. There is a close correlation between golden section series and Fibonacci series as the latter are created by adding the last two numbers to obtain the next number i.e. 1,1,2,3,5,8,13,21…

[20] Prigogine & Stengers (1984, ch.5).

[21] Cohen & Stewart (1994, ch.10).

[22] In ecosystems a retrogression can be a collapse, which may yet be the basis of a new cycle of growth of a new ecosystem, and the same could happen in human culture.

[23] This is inevitable in the space-time cycle given the regulatory mechanisms of karma, reincarnation and spiritual gravity. The mind and emotions are free to learn the laws of the cycle, and most do so. Those unwilling to change in this cycle must go through the process again in another one.

[24] Panarchy is derived from ecological modeling and is a multi-scale cyclic process that includes whole of Earth variables. See Gunderson and Holling (eds), *Panarchy: Understanding Transformations in Human and Natural Systems* Island Press, Washington 2002. Further good treatment is in Thomas Homer-Dixon, *The Upside of Down*, Island Press, Washington, 2006, ch 9. A website where you can read the first chapter of Gunderson and Holling is www.resalliance.org/593.php

[25] In the $E=mc^2$ energy model, this means that the "environment" as m decreases, as consciousness as c increases. The influence of spirit as E also increases with consciousness.

[26] Whitton & Fisher (1986, p.53).

[27] Generically this is love-wisdom, as expressed by the Bodhisattva, Buddha, Imam Madhi, etc.

[28] Prigogine & Stengers (1984, p.168, Figure 16).
[29] Saul (1995, p.101).
[30] Goswami (1993, p.172).
[31] Edwards (1992).
[32] Ibid, p.9, 58.
[33] Krishna (1988, ch.4).
[34] Goswami (1993, p.245).
[35] Zohar and Marshall (2000, ch 4). In classical mythology it would represent the Mercury function.
[36] Hunt (1996, chs.6&7 and Exhibit 20).
[37] Gerber (1988, p.401-13), and also Bentov (1977, p.52-56, and 212-26).
[38] Hartmann (1998, p.107-8)
[39] Schumann resonances occur as separate peaks around 7.8, 14.3, 20.8, 27.3 and 33.8 Hz
[40] Gerber (1988, p.407).
[41] Jantsch (1980, p.205).
[42] Hunt (1996, ch.10 and Exhibit 10).
[43] Bailey, *EH* details the essential causes of ill-health and recovery, the core of which is alignment between soul and personality. She also cautions against the simplistic use of "mind over matter" affirmations (as in Christian Science) where the foundation for the success is absent. The latter could be from lack of suitable beliefs, behaviour, personal development, or commonsense.
[44] Hirshberg & Barasch (1995), p.108-115.
[45] This appears to be the kundalini energy in its rapid healing action that Gopi Krishna and others experienced.
[46] Ibid. p.104-107.
[47] Hirshberg & Barasch (1995) and Chopra (1989) provide some good examples.
[48] Chopra (1989 p.235).
[49] Bailey *EH*, p.194-8 and p.548. Hunt (1996, ch.10), Karagulla (1967, ch 4) and Laszlo (2007, chs 3&6) also provide details of links between the mind field and the biological mechanisms of healing.
[50] Bloom (2000).
[51] Prigogine & Stengers (1984, p.204).
[52] Ibid, p.206.
[53] There are three levels of brain evolution, being reptilian, paleomamalian and neomamalian. These generally represent coordination linked to physical, emotional and mental responses respectively (Jantsch 1980, p.165-9).
[54] There is a suggestion that the second law of thermodynamics (that order becomes disorder, or entropy) works by nature creating dissipative structures of high energy that are highly efficient reducers of order in the total system. In a closed system, such temporary high energy structures would reduce the entire system to entropy more quickly than if they did not exist. However, if the system were open, then they would presumably continue to become more complex. If our universe is an open system (and all theories of its origin and hyperspace suggest that it must be so), then increasing complexity appears to be inevitable. See J.R. Minkel, *The Meaning of Life*, in New Scientist, 5 October 2002.
[55] Jantsch (1980, p.187, Figure 33).
[56] Exponential increase is by compound interest rate as in the Feigenbaum logarithmic scale in Fig. 11. Hyperbolic increase is by the square of each successive amount.
[57] Jantsch (1980, p.194).
[58] Ibid, p.102, 104. Complex self-reproduction of bio-molecules are used as an example, but Cohen & Stewart's general model of complicity applies (op.cit.).
[59] Ibid, p.194.
[60] Ibid, p.196.
[61] Ibid, p.71-2. Prigogine & Stengers (1984, p.197-203). My interest in geographical patterns as systems development was first stimulated by Kansky's work on the development of the transport network in Nigeria in 1967. See also David Harvey, *Explanation in Geography* (1969) and Rawat Publications (2003).
[62] See Knapp (1986, p.389).
[63] Jantsch (1980, p.8).
[64] Autopoiesis refers to the characteristic of living systems to continuously renew themselves and to regulate this process in such a way that the integrity of their structure is maintained - Jantsch, 1980, p.7.

[65] A number of harmonics exist between numbers, but the fourth harmonic is noticeable here, as it was to Lynch & Kordis (1988, p.126). A new independent and survival-oriented wave of creative enterprises grow relatively independent of previous structural patterns, if dependent on them developmentally. The structural comparison is with the Primitive level, but the capabilities are far greater.

[66] The fourth harmonic links Sacral and Ajna chakras, with structural similarities but with vastly different levels of capacity.

[67] At least the rate is higher than exponential, as suggested by the Ajna departure from the exponential rate in Fig. 11.

[68] Maslow's hierarchy of needs was based on his study of Eastern philosophy and the chakra system, though he did not publicise this.

[69] Terminology varies, but the term "circulation" used here includes energy, transport and communications, whereas the term "communications" by itself is used more generically to include the entire spectrum of contact.

[70] Though we do of course in the case of simulation models – namely by the creators of the models to test their theories.

[71] Barrow & Tipler (1986) in their Introduction (p.2) say, "certain properties of the Universe are necessary prerequisites for the evolution and existence of any observers at all. The measured values of many cosmological physical quantities that define our Universe are circumscribed by the necessity that we observe from a site where conditions are appropriate for the occurrence of biological evolution and at a cosmic epoch exceeding the astrophysical and biological timescales required for the development of life-supporting environments and biochemistry." This principle would also apply to any beings that may have evolved further than humans, and whose understanding would therefore be greater.

[72] Barrow & Tipler (1986, p.15-23).

[73] Jantsch (1980, ch.11).

[74] Bailey (*YSP*, p.67).

[75] Ibid, p.67-70. Instrumentation examples are added by the author.

[76] Jantsch (1980, p.131, Table 4).

[77] Jantsch (1980, ch. 7) refers to the work of Lynn Margulis in creating the concept of endosymbiosis.

[78] Bloom (2000) makes a good case for the continuing competitive influence of microbes, while acknowledging our symbiosis and endosymbiosis with them. To generalise, I see this competition as an ongoing evolution of his total "global brain" in stimulating self-reflective improvement through increased human wisdom.

[79] Countries or groups at the Sacral level can be dogmatic and fanatical through fear, lack of broader understanding, and underdeveloped Solar Plexus and Heart qualities. When they progress to the Solar Plexus level, they become more evidently competitive and imperialistic. Ways of channeling these energies for the good of the world will need to be developed by all of us, and by world organizations.

[80] Bailey (*FITI*, p.151).