

Article

God's Fingerprints: Using Reflexive Praxis to Identify Underlying Social Neg-entropic Patterns in Our Wriggling Universe

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Abstract

This article seeks to identify the deep patterns we have found in our work individually and jointly over the past decade. We call these 'the God's fingerprints'. To do this, in mid-2012, we applied Reflexive Praxis individually and then jointly to our work over the past three decades, in total 60 years of praxis. Reflexive praxis is a method of social research that has been developed progressively in Scientific God Journal through our series of five articles this year. These articles are listed at the beginning of the References section below.

Key Words: Reflexive Praxis, God's fingerprints, DIY, Prepper, entropy, neg-entropy, glocalisation, wriggling universe, artificer, pattern recognition, kinesthesics, archaic renaissance, hands-on approach, visceral comprehension.

Introduction

In this article we seek to identify the underlying our 'ur-patterns' as common patterns in our day to day behaviour and apparently unrelated practices. We provisionally call them our *cosmic principles* or *Gods fingerprints*. We suggest they represent ways in which the Universe/Cosmos /God seeks to create neg-entropy especially from a social perspective.

Further we see them as an essential underlying pattern¹ on which specific activities, callings and so forth are based. These 'deep patterns that connect' or 'ur-patterns' after the German 'ur' for primal and archetypal, primeval even prime'tive and sauvage. Bloom (2012:227). Pattern recognition is a primary characteristic and survival tool of human consciousness and behaviour.

This then has been our Reflexive Praxis quest for these hidden patterns. This quest would be futile in a purely random Universe comprised of incoherence and non-resonance, as there would be no patterns. So in some regards our quest will be 'our folly house'² and survival tool.

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¹ Emergent from our DUF field as developed in the first article in this series Miller and Wildman (2012a). DUF – Demiurgic Field (of manifesting form).

² Folly house is an English term that refers to each person at least once in their life undertaking some serious and substantial idiosyncratic (we prefer idiosyncretic!) folly such as building a fairy-house or a tree house at the bottom of one's garden. See also http://www.guy-sports.com/funny/funny_folly_houses.htm

In this article we submit that these patterns emerge from what we call ‘muscular or hand knowledge’, i.e. our praxis. Others such as Bloom (2012:373, 378, 408, 554) refer to such prime’itive experiential knowledge as ‘visceral comprehension’. However such a hands on, gut level approach to knowledge is vilified by our present systems of learning. Yet such knowledge was invaluable to Einstein for instance who imagined what it was like ‘running after a ray of light’ and catching up with it.

Possibly these could be patterns inherent in a Universe that creates itself and thus patterns relevant to it as it seeks to generate order and its associated neg-entropy creations. Consequently we believe they point to a process or broad and deep reason, whereby we can become more fully human before our culture plunges headlong into becoming trans- or post- human. We suggest an organic metaphor of Cultural Midwifery as compared to the toxic Cultural Engineering of the past that is leading to post humanism in our future.

These ‘ur patterns’ are not ‘our patterns’; we see them as ‘(y)o(ur) patterns’. Nor are these the only, or even best, ways of expressing them. And some praxisers may rightly argue for 14, or 10, or other patterns. These categories specifically emerge from our grounded work of the past three decades. We suggest they may link or resonate with classifications found by other practitioners, enhancing our mutual praxis, as well as suggesting broader attention and application.

FingerPrints identified in our application of Reflexive Praxis

Deep structures identified by the authors through our application of the Reflexive Praxis methodology in terms of our individual and joint professional works over the past decade are as follows. We believe that in combination these factors can enable what may be called social synergy, even social neg-entropy. We call this an ‘Archaic Renaissance’, realizing that not all lessons of the past will be relevant today.

FP1 Resonance – rhythm, inner, inner ↔ outer harmony and outer harmony e.g. that of the spheres, empathy, resiliency plus, entrainment, mathos ∞ mythos

FP2 Patterns that connect - deep process, forward **and** back in time, vertical **and** horizontal; resonance/interface between components in a system. We then are pattern carriers within the wriggling pattern that is our Universe

FP3 As above so below, as in so out - we are all star stuff - cosmic pulse fractal recursion, interpenetration of the sublime and the mundane, inner outer resonance

FP4 Chiro drives Cogno – hands on approach to growth and development also known as visceral comprehension – the prominence of praxis and the ‘hand crafted life’, becoming more fully human before we become trans human or post human. Hand, Heart & Head *I act reflexively therefore I am.*

FP5 Myth ∞ Math are ISO’s (Isomorphic Symbol Sets) linked by metaphor, mathos ∞ mythos

FP6 Glocality rocks – for ecol/socio/econ development, waste minimisation via. repair and reuse and repair not recycling, global-local problematique, local solutions, applied ingenuity, cottage industry. Bottom Up ↔ Top Down resonance. In all glocalisation is a ‘nutrient gel’ for innovation creativity and evolution

FP7 Re-membering history - wisdom in our futures passed/past so as to learn our lessons and not to repeat the bad bits – social holon – (re-member Auschwitz). This then is an authentic archaic renaissance which starts by seeing the present Global Problematique as an act of re-membering

FP8 Harmonising diversity rather than centralising conformity - biomimesis and biomemesis, systems design, alternative to hierarchy

FP9 Doula³ Stewardship of all, for all, with all, by all - Doula’ing then mutual-aid stewardship of new proposals, praxis and projects for creative evolvability (resonant sustainability), we then are ‘cultural midwives’, the doulas/bearers of archaic patterns, or maybe it is them who sustain us

FP10 Nurturing neg-entropy while respecting entropy⁴

FP11 De novo - new stuff can happen

FP12 Evolution is learning and vice versa: Survival of the weakest, even the outcast – the scruffiest, the group living between the worlds/habitats that are more able to adapt to both, rather than the supremely well adapted group living in the core community. This will entail the fabrication of survival projects through exaptation * exaption (shifts in the function of a trait during evolution), which demonstrate today a better world is possible tomorrow. Visceral

³ The **Doula** is the midwives’ midwife. She holds the space for the midwife to help the mother deliver her baby. Oftentimes this would be the wife’s mother. Here ‘mutual aid’ can be used under its broader ‘social justice’ rubric.

⁴ In 1943 Erwin Schrödinger used the concept of ‘**negative entropy**’ in his popular-science book *What is life?* Later, Léon Brillouin shortened the expression to a single word, **negentropy**. Schrödinger introduced the concept when explaining that a living system exports entropy in order to maintain its own entropy at a low level (see entropy and life). By using the term *negentropy*, he could express this fact in a more ‘positive’ way: a living system imports negentropy and stores it. In a note to *What is Life?* Schrödinger explains his usage of this term. *Let me say first, that if I had been catering for them [physicists] alone I should have let the discussion turn on **free energy** instead. It is the more familiar notion in this context.* But this highly technical term seemed linguistically too near to *energy* for making the average reader alive to the contrast between the two things.

In 1974, Albert Szent-Györgyi proposed replacing the term negentropy with **syntropy**, a term which may have originated in the 1940s with the Italian mathematician Luigi Fantappiè, who attempted to construct a unified theory of the biological and physical worlds. (This attempt has not gained renown or borne great fruit.) Buckminster Fuller attempted to popularise this usage, though **negentropy** still remains common, and is used in this article.

comprehension as a form of 'hands on' kinesthetic learning⁵ has all but been lost from our educational systems.

Next we explore social neg-entropy in the link between these Fingerprints and socio-economics, as it is commonly understood to do with financial markets and globalisation of production, and the second law of thermodynamics.

Applying the Fingerprints - towards an Archaic Renaissance⁶

In this section we explore key aspects of the links between the fingerprints, the present social systems and the entropy law. A critique can be adduced that this is all anthropocentric waffle, so be it. For us, however, it is THE crucial issue in our survival -- that is, sustainable social organization, etc. This seems to be forgotten and sustainability is more about ecology as in external nature than us (anthropo) as part of nature. Thus our social organisation is a crucial aspect of our overall eco sustainability. For us 'Archaic Renaissance' means *the retrieval and application of core behaviours and dexterity that evolved and helped sustain humanity for millennia – innovative manual and technical facility.*

⁵ **Kinaesthetic** communication/learning involves physical experience; they retain better by doing things that are hands-on. This also has **two sub-channels: tactile (touch) and kinesthetic (movement).**

⁶ **Archaic** has more of the flavour beginning or early stages or direct as in **Sauvage**, Prim'e'itive, Feral or rambunctious, impulsive even reckless and intuitive and possibly wriggling and rippling, who draw their strength more directly from their emotions, not as mediated by 'civilisation'. Thus the sauvage person can be impulsive, wild, undomesticated, unrestrained, wriggling within constraints, and thus lacking technique if not techné, thus deeply needing an apprenticeship/mentorship. So we have the line → Sauvage → chiro → techné → Civilisation → cogno → technique → Modernity where → *cogno drives out chiro* → eliminates the Sauvage → decay of the civilisation → (hopefully) re-membering of the Sauvage → Archaic Renaissance → sauvage reprised → Socioeconomics for our wriggling Universe. See Georgescu-Roegen (1971).

Our Sauvage Archaic ancestors did live in 'entropic balance' as part of Nature. The term has the advantage of direct, grounded, say and do it as it is, practical, mutual (within tribe), multi-skilled, multi-tasked, intuitive, creative, emotional and these all contributed to our Archaic ancestors ingenuity, resilience, loyalty, courage and bravery all the while living in entropic balance for hundreds of thousands of years. This latter strength was drawn from the focus on chiro-hands on-visceral comprehension that for us is the Holy Grail of intentional social design, largely has been lost in the past three millennia and in particular the past 300 years.

So in re-membering the west we can go back to the beginning and look forward toward the Modern Archaic ↔ Renaissance Revival. Whereas **Ancient** refers mainly as the reverse i.e. something very old i.e. the meaning starts from now and looks back, often pejoratively, whereas Archaic starts from back then and looks to now. The term *Archaic Renaissance* was originated, in this sense by Richard King around 2000 in Melbourne. Further **ancient** may be considered to go back to the (commonly recognised) dawn of 'civilisation' say 5000BCE and **archaic** to the dawn of 'humanity' lost in the mists of time – a period of 1.5m years minimum.

Fingerprints of our present Western socio-economic system

Critically, we submit that the present socio-socio-economic process largely ignores these footprints and is also systematically destroying our habitat and indeed our planet. Further we see a link between these two observations.

We contend that the principal fingerprints of our present entropic socio-economic system include: (1) growth is good, (2) wants are unlimited, (3) human satisfaction comes from consumption, (4) and its aspects of corporate capitalism and socio-socio-economic globalisation, (5) waste is waffle that is not relevant in considering price or impact, (6) obsession with financial, rather than real transactions, called 'chrematistics', to the point where financial wealth is now 30 times what the actual production of goods and services are. US hegemony, and its agents such as the IMF and World Bank, is (7) clogging our cultural and neg-entropy sources, i.e. the capability of the social and environmental systems to absorb.

Applying our Fingerprints to design an alternative Socio-economic system

We argue that using the Reflexive Praxis fingerprints to design a counterpoint socio-economic system which is sustainable, starts with a different story (FP2, 3, 5 & 7). We need to recognise the importance of the following narrative, including that:

- (1) sustainable, as in creatively evolvable development, is prime (FP1, 11, 12),
- (2) wants may be unlimited but needs aren't; they have to fit the carrying capacity of our planet (FP9),
- (3) human satisfaction and meaning comes from glocal prosumption, (individuals producing and consuming their goods and services locally in response to local and global needs) (FP4),
- (4) an emphasis on glocalisation is prime (FP6 & 8),
- (5) waste is the beginning of the productive process not the end,
- (6) focus needs to be on the living economy based on the 'real physical economy', *oikonomia*⁷ (FP3, 10,) to

⁷ **Oikonomia** is ancient Greek for 'home economy' meaning 'prudential household management' its counterpoint is **chrematistics**, 'love of wealth/money/currency', in short, greed. Aristotle pointed this distinction out 500BC. Today all that is left of *oikonomia* is home economics which has degenerated into cooking classes if it exists at all, whereas *chrematistics* the financial economy has triumphed and silenced our *oikonomic* discourse.

(7) we must urgently unclog our neg-entropy sources by reducing waste/entropy/muda (FP9).

For example take Waste or Muda⁸. Experts such as Hawkins et al (1999) and, Womack and Jones (1996) estimate that *over 2/3rds of what we produce and consume is designed in waste*. As western nations we consume 75% of the entire world's energy while comprising less than 1/4th of the world's population. The US, for instance, with 1/20th of the world's population uses over 50% of the world's energy. This means that with the current socio-economic system less than 1/4 of the world's population produces over 75% of the world's entropy viz. energy⇒waste. One may well ask whose fingerprints do we see here?

Intriguingly *Eco* forms the base root for both *ecology* and *economics*. Both have concern for our natural systems - the first in that we live within them and the second in that we use them for the production and distribution of goods and services for everyday life. So combining these two aspects through 'oikonomia' (community socio-economic development incorporating waste elimination and) can lead us to the realisation that we have the basis for practical sustainability and survivalist concepts such as bionomics, community socio-economics, triple bottom line, permaculture, biodynamic farming, Biochar, farmers markets, hackers and preppers and so forth. Oikonomia then is, in effect, a description of, and wisdom inherent in, archaic village and tribal economies.

Socio-economic Entropy Sinks

Clearly, the non-viability of our present economy has much to do with the entropy production from how our culture 'force generates' our social energy viz. through compliance and centralising conformity through bureaucracy rather than self-reliance and harmonizing diversity.

We can see this in what we call 'the ultimate entropy trap' – war⁹. It's in the wasting of energy, the squandering of resources and the choking of the 'natural' and 'cultural' neg-entropy sinks. So in many ways our species is '*homo entropicus*'. All dissipative structures such as humans live on entropy production. Whether a given entropy use rate is viable or not, cannot be concluded simply from the second law of thermodynamics. In addition dissipative structures such as bureaucracies, **which control the socio-economic and social systems in which we live and have our business**, live on neg-entropy and contribute to entropy production. As a counterpoint to such systems we recommend prudential or even oikonomic glocal economy development based on the household economy or cottage industry. (Footnote 7 applies).

⁸ **Muda** is the Anglicised Japanese word for 'waste' the ultimate entropy. Muda is part of the Lean Thinking/Lean Production movement that grew out of the Just In Time system in Toyota which in turn grew out of Deming's famous '14 points' for the organisation of efficient production systems immediately post WW2.

⁹ Scientifically we may be able to develop, and not continue to suppress, methods of extracting usable forms of neg-energy (dare we say 'over-unity') from the 'Dark' Energy pool, called the plenum. **Sociologically** we submit the dark energy heterologue is 'war' so it may be from the shadow we can extract 'over-unity' sociological potential, another method/heuristic/pattern is exaptation i.e. reuse of an organ/artifact in a different arena.

An outcome from this analysis, as discussed with money elsewhere in this article, is the anticipation that the military can have a role to play in our wriggling universe as true 'green berets'. Instead of entropy warriors, they become neg-entropy or peace warriors, even neg-entropy police, as peace familiar enablers¹⁰.

We need to understand, according to Kafka (1994) that the evolution of viable and thus valuable structures implies an increasing organisation of random fluctuations within the context of maintaining diversity. In a word 'simplicity'! Any viable 'gestalt', a type of integrative structure of matter and energy in space and time, can be looked at as 'attractor' in the space of possibilities for syncretic or neg-entropic potential.

Within the context of maintaining diversity, causation then can be in effect traced back but not necessarily forward.

An attractor, which has proven its viability and value, is likely to be used as a building block in the evolution of still higher structures. In turn, they derive their own viability from the fact that they organise the fluctuations of their constituents even better, protecting them from all stronger interactions, thus stabilising their 'attractivity'.

Higher attractors organise relatively weak interactions of their constituents. Therefore, successful 'entrainment' of sub-ordinate structures in more complex higher ones does usually not mean a loss of all their individuality, i.e. their proven viability. Molecules don't try to change atomic nuclei, life does try to change the genetic code, mind didn't – until recently – try and change the biology of the immune system or the climate of the earth.

The obvious hierarchy of attractors is not a hierarchy of 'power'. Evolution is co-evolution or 'fitness' of a part as a property of an overall community system. Kafka (1994) argues that the Darwinian drift towards 'higher' attractors is not at all based on some mysterious 'drive' of the attractors to 'push aside' and replace others. It is a logical consequence of a large number of independent trials of possible glocal attractors, with slightly different realisations at many places and times.

Wriggling Reality – Wriggling Socio-economies

Synergistic self-organisation then can be generated by disbursed even 'Small to Medium Enterprise (SME) based' pilots, trials, simulations, micro-economic worlds (community economies), scenario development and others forms of 'wriggling'¹¹ rather than universal

¹⁰ The first author is the Australian Chancellor for the International Association of Educators for World peace and welcomes input regarding a glocal peace awards system from this neg-entropy perspective. See: <http://www.iaewp.org/>.

¹¹ **Zitterbewegung, our wriggling Universe** at the sub-atomic scale, (English: 'trembling, jittering, wriggling, rippling motion': from German) is a theoretical rapid motion of the Universe through its elementary particles, in particular electrons. We suggest we can extend Zitter to Zitterbug to Jitterbug a 1920s dance. The research this is based on comes

centralised hierarchical systems of monopoly power. Such wriggling implies some basic conditions of success. For instance, in a trialable potentially viable Social-Sustainable-Self-Organisation requires:

- (1) Respect for God's fingerprints (above) which subsequently requires:
- (2) Sufficient diversity
- (3) Sufficient autonomy
- (4) Sufficient hands on participation and visceral comprehension
- (5) Sufficient time
- (6) Sufficient systems focus
- (7) Sufficiently host positive environment - a sufficiently facilitative or generative context to allow for, yet then be able to eliminate, errors before they have destroyed the viability of the very basis of their emergence
- (8) Sufficient wriggle space for individuals, innovation and investigation to occur i.e. respect for the wriggling nature of our Universe
- (9) Appropriate technology balance both computer and hands on
- (10) A generative learning loop - otherwise, it may not be likely to find more complex attractors in the space of possibilities, and the wriggling at the front of evolution becomes unstable.

Considering how quickly humanity is changing our planet's climate, we recognise that the recent burst in Gaia's evolution gave birth to us. We suggest a necessary part of the adaptation lies in the wriggling of our hands and minds – empathy not entropy, techne not technique.

At the present front of evolution, new value/de novo events and phenomena can occur themselves under proper boundary conditions. Those complex conditions, however, cannot be easily understood. They must guarantee diversity and a more leisurely pace so that system adjustments may occur. This will mean the end for all sorts of power which organises our present global entropic acceleration. It heralds the obsolescence of the many activities which are called socio-economic but are, in fact, destructively wasteful. And in the new realm of possibility, we must succeed in this self-organisation of our freedom, our culture, our economy, our children and our Planet.

The necessary self-organisation of our future and human freedom depends on recognising and even **developing these fingerprints into viable generative and largely neg-entropic social technology *strange attractors***. We call them *familiar enablers* and believe it is certainly possible, and it will become likely as soon as more people start considering the logical roots of

from English physicist Paul Dirac (1902-1984)> We have the jittering quark in string theory where electrons are not point particles but rather tiny *wiggling* strands of energy that look like *strings*. Buckminster Fuller described “jitterbugging” dynamics of his Vector Equilibrium “vacuum matter pump”.

In string theory, atoms are made of up of electrons etc. which are in turn made up of sub-atomic particles which are in turn made up of quarks, which are in turn made up of strings. Our Universe comes about through the vibration in the patterns of strings which generates the properties such as mass and charge and thus our Universe. This Quantum Physics theory then helps resolve the dilemma between the jittery wriggling'ness of space in the subatomic scale and the smooth'ness of space in our macroscale. See http://www.speed-light.info/string_theory_04.htm

the global acceleration crisis towards what Buckminster Fuller calls 'utopia or oblivion'. Here we posit a counterpoint to this which we call 'intropy', that is, 'familiar enabler projects' aimed at becoming more fully human now rather than rushing to become post-human tomorrow. Our children's children deserve nothing less.

Entropy in Socio-economics

The notion of entropy - the exhaustion of 'neg-entropy' (potential difference) has become a symbol of our day. It is being recognised in most areas of scientific thinking with the principal exception of socio-economics. There the equations of neo-classical socio-economics are supposedly timeless, universal and self-balancing towards equilibrium.

There really is nothing left to run out but our credulity.

Socio-economic development has failed to create and maintain social welfare. Natural and cultural resources are depleted, the living environment is dying. Unemployment is increasing, poverty spreading, while all the time social innovation remains lagging technological innovation. Dangerously unstable physically, economically and socially entropic situations have emerged¹². This unsustainability is manifest in unemployment, corruption, criminal activities and wars that are spreading like viruses.

This present situation is best expressed in lyrics:

I've seen the future, brother: it is murder

Things are going to slide, slide in all directions

Won't be nothing

Nothing you can measure any more

The blizzard of the world

Has crossed the threshold

And it has overturned

¹² A concrete example of a prediction of our Reflexive Praxis methodology is the urgent need, within our call for social neg-entropy viz. a focus on Oikonomia, for what we call Fingerprint Accountability (FA) or more generally may be called Entropy Accounting (EA) and in concrete form Comprehensive Social Accounting (CSA) which by extension includes Total Embodied Energy (TEE).

We submit that TEE should be listed on products as an ingredient and in a company's balance sheet. TEE would start with waste and include energy miles, environmental production costs, use, repair, reuse and eventual recycling costs in the whole systems life cycle of the particular product. The lack of any framework for such accounting or any significant calls therefor, from any green groups that we know of, to us is a sign that much of the 'green debate' is structurally entropic with no real grasp on the deeper entropy issues at play.

Tragically this critique can also be levelled at much of the Occupy movement. Occupy sees as a solution for the very valid social conundrums it identifies, and responds with calls for increased regulation, government spending, public sector size and so forth. All are generally entropic and, in a sense, what the movement is supposedly opposed to.

An outcome of our research is a hypothesis that EA could also include processes as well as products, for instance a value chain EA in Lean Production and a Community EA report.

The order of the soul (L. Cohen, 1992)

Mark Balfour (1990) in his excellent book *The Sign of the Serpent* speaks of such synergistic universal energy coming from the serpent. In aboriginal terms the serpent is a matriarchal generative force associated with showing the tribes their walkabout paths and the balance of esoteric ↔ exoteric energies so important in day-to-day life. These special places have 'Kurunba Energy'. Kurunba is a word used by Central Australian Aboriginals to describe a sacred embodied generative neg-entropic place. Further Balfour links the Rainbow Serpent lore with that of India's and in particular the spectacled Cobra (pg54), see also Varela (1993).

Globalisation as energy colonisation and synergy piracy

The present globalisation push that would remove all obstacles to the free flow of goods, services, and capital, though posing as an essay in equalisation, can be seen as the reverse. That is a huge push to:

1. Use available energy for instance cheap labour and oil thus directly generating entropy
2. Take over neg-entropy sources anywhere and everywhere in the world and appropriate all available synergies, for instance, in local and indigenous cultures.

Both of these enable transnational firms to profit from social neg-entropy differentials. For instance by the gap in living standards and in environmental and labour protection between the developed and the 'underdeveloped countries' and by converting prosumer diversity in the so called 'undeveloped countries' to consumer homogeneity in the so called 'developed' west. See also Corning (1996, 2003).

Glocalisation: from Physical Energy to Socio-economic Synergy

Are we, then, devoid of a satisfactory 'why' theory for complex systems? Is the evolution of complexity an unsolved and perhaps unsolvable mystery? As it happens, there already exists a general theory of complex living systems (inclusive of human-made systems) that was proposed some years ago. It is called the 'Synergism Hypothesis' first posited by Peter A. Corning 1998. The theory however, like much in social innovation, has taken nearly a generation to become more widely explored. Addressed primarily to evolutionary biologists and anthropologists it has generally not engaged social scientists.

The hypothesis, in brief, is that synergy, a vaguely familiar term to many of us, is actually one of the major organising principles of the natural world. It has been a wellspring of creativity in evolution, and it has played a central role in the evolution of complexity in nature. The Synergism Hypothesis asserts that synergy is more than simply a category of interesting and ubiquitous effects; it has also been a major causal agency in evolution.

Synergistic functional effects of various kinds have been a necessary, if not sufficient, requisite for the evolution of cooperation, mutual-aid, complexity and diversity (cp. competition, heterogeneity) -- singularity at all levels of biological organisation. It is in fact a unifying theory of complex living systems (though not all systems). It is also compatible with 'inclusive fitness theory', 'multilevel selection theory', 'symbiogenesis', and other formulations that are concerned with cooperative relationships in nature as in an important sense an alternative to the conventional Darwinian 'survival of the fittest individual'.

Synergy (neg-entropy), even more so than competition, has played a significant creative role in evolution. It has been a prodigious source of evolutionary novelty. Elsewhere it has been proposed that the functional (selective) advantages associated with various forms of synergistic phenomena have been an important cause of the evolution of complex systems over time including social agglomerations such as cultures, tribes and to lessening degree nations.

Underlying the many specific steps in the complexification process, a common functional pattern has been operative -- that is bottom-up glocal self-organisation. Furthermore, a major co-determinant of this process has been the parallel evolution of synergistic processes and systems in the diverse biological, natural and social environments. This is the process we call Globalisation and it has genetic *and* memetic analogues. Wildman and Miller (2012c).

Another concrete prediction from our methodology (FP3) is the need for finance to (1) localise and (2) link it to the physical economy. Intriguingly in an example of what could be called reverse enantiomorphism. *Currency* which now represents the classic entropic system in that the financial economy is completely independent of, and now many times the size of, the physical economy could, if realigned as *money*,¹³ represent a surprising opportunity for harnessing neg-entropy.

The intervention is as follows: finance→currency→money↔re-establish physical economy∞monetary economy synergy↔entropy minimisation↔greater synergistic organisation↔diversity and complexity↔glocality↔creative evolvability. Finance, once linked to the physical economy and denominated in terms of minimising entropy, as 'glocalised money' could well prove the doing, as it proving to be the undoing, of our Western society under the existing form of globalisation.

Reflexive Praxis as Sacred Activism for an Archaic Renaissance

Arguably it seems to us therefore that the only way of dealing with our present bureaucratic entropy production is activism. This activism is one:

- 1 That recognises and respects the fingerprints above
- 2 That starts outside the box i.e. outside of/outcast from the status quo

¹³ Here we make the distinction between (fiat) **currency** (printed by government) with no inherent value and **money** (physical) say from a precious metal or other exchange good which has intrinsic value. See also Maloney (2008).

- 3 Where the proponents model the social change they are seeking, and
- 4 Where the proponent has a means/technology/business/project that is implemented and constructively links to the status quo mainstream with the sought after change
- 5 Is based on the pulse of action – reflection that is experiential learning as part of ones praxis
- 6 Embedded in this change is a learning loop for all as individuals and as a collective to participate in these six comprise what we call a modality of neg-entropic activism we call Reflexive Praxis – see Wildman and Miller (2012b).

The promised land of scientists and businessmen in gene-technology, nuclear and solar power and so forth never manifests. The promised-land behind all those other doors which key technologies (also called silver bullet, picklock or breakthrough, technologies?) are supposed to unlock are proving of little benefit to the 75% of humankind who live in or close to poverty. Is it the Extropian neg-entropic Holy Grail? In short No – especially when one embeds these capabilities in an overall entropic economic system.

Instead, a host of new unintended problems, and more urgent ones at that, arise. And we find that in the resisting status quo that the old we seek to re-move turns out to be the way to remembering and thus creating the new. We simply expend all our energies trying to shift something 1 degree back on a course which is itself 180 degrees off. And then we are discredited or get old and die. We suggest, as activists, as midwives of culture, we need to move through a critical theory position to include ‘familiar enabler’ projects - ones with a commitment to deep change through Reflexive Praxis.

From entropy jockey to neg-entropy wizard

Today we find in many regards the most rewarded people in society are those that manage military and economic systems and can thereby plunder the most entropy. We call then the ‘entropy jockeys’. That is a reference to the fictional Dr. Strangelove character who happily rode a nuclear bomb down from the B52 bomber.

In many tribal societies this role of protection of neg-entropy was held by the most revered person. The elders were those who gave the most away most in order to help others, for instance through potlatch with North American Indians and the jubilee year in Judaism. We can call them neg-entropy wizards. The need for the neg-entropic wizard/priest/minister/shaman/mason has been a focus in this article series by Miller and Wildman (2012a, b). In the second article, we suggest this is the greatest calling for the Shaman or Mason - that of wizard. Their CRAFT¹⁴ is to become aware of Gods Fingerprints, to exemplify them and protect these processes from corruption and toxic co-option i.e. by traditional religion, politics or the Nation State. For us this role of wizard can best be captured by the Artificer, in Australia called the Bush Mechanic or in German equivalent Volk Handwerker as Entropy Warrior or Neg Entropy Lover, and in the

¹⁴ See www.crafters-circle.com CRAFT – Community Resilience through Artificering for Futures Transitions is an eZine put out by us and our colleague Jim Prentice. See also <http://bushie.weebly.com/>.

emerging Prepper culture. See Wildman (2012).

Such an approach links Idea | Design | Implementation thereby overcoming the fatal flaw in Western thinking that Jantsch (1975) and Arendt (1963:177) speak of as 'the separation of thinking and doing'. Artificer learning is a subset of Action Learning in turn a subset of Experiential Learning. Artificers then are *entropy comfort pirates* who act to minimise entropy by repairing and reusing our muda or waste, whether it be TV sets or cars or other DIY entropy minimising self-sufficiency. Glocalist activities span such areas as steampunk, hackers, tribals, artificers, as well as those planning for crisis management before, and after, the apocalypse such as preppers and survivalists. There are also glocalist social services such as childcare, doulas, midwives, healers, therapists, and other people helpers.

Conclusion

This article has sought to identify what we call 'gods fingerprints' and proposes that collectively these indicate a certain 'social neg-entropy potential' that may well be worth concrete application. We have argued that human knowledge, engagement and measurement of neg-entropic, and entropy minimisation processes are part of this concrete application and are urgently needed to avoid extinction. Sir Isaac Newton referred to an alternative physics as a profound living philosophy. Indeed we concur.

But we caution those who are keen to bring the new from the old. Nothing short of focused determined 'hands-on' work on a weekly basis over a number of years is necessary. For us this is not an easy fix, not an armchair ride, not another dozen journal papers and most crucially not another app for our iPhones or extropic brain implant chips. It is, brothers and sisters, 'hands on' to 'act ahead wisely'¹⁵ to demonstrate today that a better, not bitter, world is possible tomorrow for our children.

We welcome co-operative development of 'familiar enabler', Reflexive Praxis type projects, which can be included among our exemplar projects. Demonstrating projects designed to minimise entropy, at least to minimise 'social entropy', could kindle a groundswell of interest at the grassroots level. Such an orientation is a counterpoint to "doomsday prepping". It is an intentionally more positive approach to the same dilemma, but driven from the compassionate core, not from fear but the desire to conserve and thrive. Perhaps that creative approach alone is our greatest contribution to the potential future -- remaking the world of our minds with our hands.

¹⁵ In ancient Greece this was called 'Prohairesis' – deciding/acting ahead wisely. In the west we have no word for this other than say, prudential.

Appendix: Various neg-entropy terms: Extropy, Intropy, Fractropy and Syntropy

Advances in technology (including the 'social technologies' of knowledge management, learning, and decision-making) are starting to enable us to change human nature itself. We socialise and innovate, in our physical, emotional, and intellectual, spiritual and collective aspects.

There have been many proactive non-reactive names proposed for the generative force in the Universe, such as Neg-Entropy, Extropy, Fractropy and Synergy. These are all valid. The point is however that it is more important to grasp the underlying concepts and ideas and power for change and transformation than to bicker about a particular word. That is 80% of meaning is under water i.e. the tip of the ice berg is not the main game.

The most commonly accepted term is by far neg-entropy and this is used in this article. The term of personal choice for the first author is syntropy. Extropy has more the human systems application of syntropy in it yet points to a valorized and stratified post-human future, while fractropy seems to be more about the underlying systems logic of the system.

Neg- Entropy - probably the best known term for the generative force of the Universe, sometimes not accepted easily as it is reactively defined i.e. by not being entropy. Nevertheless it is the term most commonly in use and thus is used in this article. We feel that Syntropy comes closest to it. Whereas Extropy tends to be more sociological and transhumanist and is in a sense a sub set or outworking of Syntropy.

A Transhumanist Declaration - by Max More <http://www.extropy.org/faq/index.html>
President, Extropy Institute more@extropy.org see also Cordeiro, (2003).

Extropy - the extent of a system's intelligence, information, order, vitality, and capacity for improvement.

Extropians - those who seek to increase extropy, and/or support the evolving transhumanist philosophy of extropy.

Extropy is a transhumanist philosophy. The Extropian Principles define a specific version or 'brand' of transhumanist thinking. Like humanists, transhumanists favor reason, progress, and values centered on our wellbeing rather than on an external religious authority. Transhumanists take humanism further by challenging human limits by means of science and technology combined with critical and creative thinking. Extropians challenge the inevitability of aging and death, and seek continuing enhancements to our intellectual abilities, our physical capacities, and our emotional development.

Xtropians see humanity as a transitory stage in the evolutionary development of intelligence, and advocate using science to accelerate our move from human to a transhuman or posthuman condition. As physicist Freeman Dyson has said: 'Humanity looks to me like a magnificent beginning but not the final word.'

These Principles are not presented as absolute truths or universal values. The Principles codify and express those attitudes and approaches affirmed by those who describe themselves as 'Extropian'. Extropian thinking offers a basic framework for thinking about the human condition. This document deliberately does not specify particular beliefs, technologies, or conclusions. These Principles merely define an evolving framework for approaching life in a rational, effective manner unencumbered by dogmas that cannot survive scientific or philosophical criticism.

Like humanists, extropians affirm an empowering, rational view of life, yet seek to avoid dogmatic beliefs of any kind. The Extropian philosophy embodies an inspiring and uplifting view of life while remaining open to revision according to science, reason, and the boundless search for improvement.

Extropian Principles

Perpetual Progress - Seeking more intelligence, wisdom, and effectiveness, an indefinite lifespan, and the removal of political, cultural, biological, and psychological limits to self-actualization and self-realisation, perpetually overcoming constraints on our progress and possibilities. Expanding into the Universe and advancing without end.

Self-Transformation through technology - Affirming continual technological development by implication this includes moral, intellectual, and physical self-improvement, through critical and creative thinking, personal responsibility, and experimentation, seeking biological and neurological augmentation along with emotional and psychological refinement.

Practical Optimism - Fueling action with positive expectations. Adopting a rational, action-based optimism, in place of both blind faith and stagnant pessimism

Intelligent Technology - Applying science and technology creatively to transcend 'natural' limits imposed by our biological heritage, culture, and environment. Seeing technology not as an end in itself but as an effective means towards the improvement of life

Open Society - Supporting social orders that foster freedom of speech, freedom of action, and experimentation. Opposing authoritarian social control and favoring the rule of law and decentralization of power. Preferring bargaining over battling, and exchange over compulsion. Openness to improvement rather than a static utopia

Self-Direction - Seeking independent thinking, individual freedom, personal responsibility, self-direction, self-esteem, and respect for others

Rational Thinking - Favoring reason over blind faith and questioning over dogma, remaining open to challenges to our beliefs and practices in pursuit of perpetual improvement. Welcoming criticism of our existing beliefs while being open to new ideas

Intropy - Potential for development of the human species through – hands on social, psychological and spiritual application of God's Fingerprints rather than technological development per se.

Intropian Principles

Chiro drives Cogno – Intropians believe that hands on experience and projects is the way to change the world and develop ourselves through techne rather than techni'que, this brings in the 10,000hr rule, CRAFT, the Artificer and the Volk Handwerker philosopher or Bush Mechanic.

Chironaut cp. Psychonaut cp. Astronaut – Intropians spend a great deal of hands-on-time doing entropy minimisation work for others, seeking inner wisdom and inner | outer harmony for instance through modalities such as Reflexive praxis incorporating Heuristic Inquiry, active meditation, praxial visualization, exemplar/grail¹⁶ projects and so forth

Techne cp. Techni – here machines and technology are to be seen as extensions of human hands to enable and empower, rather than replace, them i.e. techneque cp. technique. A subtle even small yet we believe utterly crucial difference

Gods Fingerprints – basically as outlined in this article

R(el)ationality – from a Renaissance perspective rather than an Enlightenment (subjective/objective) style, thus rationality includes creativity (as we call it 'creativity'), relations/conviviality/inclusion/diversity, innovation, dreams, unconscious and emotions.

Overview - These Principles are not intended as rules to be imposed on anyone. They are not endorsements of particular technologies. They are not final, unalterable statements. They are not offered as absolute truths, rather an interpretation of our title. They do express the values and attitudes common to Intropians as we determinedly but playfully pursue our personal goals.

Fractropy

This **conceptualisation** of neg-entropy is based on the new logic of fractals. Such a logic is definitely indefinite. It is about spaces within spaces within places and places within spaces. It is about fuzzy logic and intuition.

¹⁶ Exemplar project harks back to the 'hands on' 'Journeyman's piece' of the Middle Ages which was a piece designed by the apprentice designed and built on his or her own time and represented the state of the art and was adjudged by his or her peers, after which he became a tradesperson – in all apprenticeship and Journeyman's piece taking around 10,000hrs over 7 years, similar to that taken to become a Jesuit priest, not just another instant app. for ones iPhone. A Grail project is this plus one that demonstrates the interface between the exoteric and esoteric realms.

Aspects of fractropy include recursiveness, self-organisation.

Fractropy is the 'opy' or mathematics of life systems and is thus linked to the other two meanings of neg-entropy.

Syntropy

'Syntropy is an omnipresent evolutionary tendency which propels all mind, consciousness and matter towards organisation, wholeness and unity.' Guy Dauncey (2003)

Szent-Gyorgyi a Hungarian scientist borne in 1893, postulated in the 1920's that there exists what he calls the 'principle' of *syntropy* or 'negative entropy.' Realising that entropy is a universal 'force' which causes organised forms to gradually disintegrate into lower and lower levels of organisation, he conceptualises the world as a great machine running down and wearing out. The concept of syntropy postulates the existence of the opposite force, a force which causes living things to reach 'higher and higher levels of organisation, order and dynamic harmony.' The basic problem as stated by Szent-Gyorgyi is 'that there is some basic difference between the living and the non-living... as scientists we cannot believe the laws of the Universe could lose their validity at the surface of our skin,' pointing out that the law of entropy, for some reason, seems not to prevail in living systems.

Syntropy clearly helps to account for a number of realities the evolutionary hypothesis cannot explain but, as noted above, there are a number of serious questions which militate against the entropy law, specifically the Second law of Thermodynamics – over time energy dissipates and disorder increases.

At present the concept of syntropy is primarily metaphysical, similar to Freud's ego, id and super-ego constructs. Importantly, though, the need to develop a concept such as syntropy clearly illustrates that scientists realise there are serious problems with the theories of evolution and entropy, problems which are often ignored. The recognised need for the syntropy concept illustrates that the difficulties which have been stressed by teleological evolutionists or 'creationists' for some time are increasingly being recognised by evolutionists in the various evolutionary schools of thought. And once a serious examination of these problems is undertaken, scientists may begin to search for concepts which fit the facts much more adequately than conventional neg-entropic evolutionary hypotheses.

He was awarded two Nobel Prizes for his scientific research (1937 and 1955). See <http://www.icr.org/article/136/> accessed 10-2012.

References

Five articles in this series

Miller, I. and P. Wildman (2012a). The Demiurgic Field (DUF): It's Patterning Role in Chaos, Creation, and Creativity. *Scientific GOD Journal (SGJ)*. <http://scigod.com> ; <http://www.scribd.com/doc/98802448/Scientific-GOD-Journal-Volume-3-Issue-5-Toward-the-Unification-of-Science-Spirituality> . 3(5): pp. 43-70.

Miller, I. and P. Wildman (2012b). Ancient wisdom in the Modern Age: An Archaic Renaissance. *Scientific GOD Journal (SGJ)*. 3(6). pgs. 578-592.

Wildman, P. and I. Miller (2012a). The Esoteric Thesis: Unspeakable Things & Unknowable Truths. *Scientific GOD Journal (SGJ)*. 3(6). pg.593-605.

Wildman, P. and I. Miller (2012b). Research by Looking Backwards: Reflexive Praxis in Search of Archaic Wisdom. *Scientific GOD Journal (SGJ)*. 3(8): pgs. 971-814.

Wildman, P. and I. Miller (2012c). Glocalisation as a key human survival technology: towards a fractal logic for growing peaceful futures through an archaic renaissance. *Scientific GOD Journal (SGJ)*. Unpublished

General References

Arendt, H. (1963). *On Revolution*. London: Penguin. 350 pgs.

Balfour, M., (1990). *The Sign of the Serpent - The key to creative physics*. New York: PRism-Unity. 190 pgs.

Bell, J. (2003). Exploring the 'Singularity'. *The Futurist*, 37(3): p. 18-25.

Bloom, H. (2012). *The God Problem: How a Godless Cosmos Creates*. New York: Prometheus Books. 700pgs.

Cavanagh, J. and J. Mander, eds. (2000). *Alternatives to Socio-economic Globalisation - a better world is possible*. Berrett-Koehler: San Francisco. 300pgs.

Cordeiro, J. (2003). Future Life Forms Among Transhumans. *Journal of Futures Studies*. 8: 65-72.

Corning, P (2003) *Nature's Magic*. Cambridge University Press; Cambridge. 450 pgs.

Georgescu-Roegen, N. (1971), *The Entropy Law and the Socio-economic Process*. Cambridge, Massachusetts: Harvard University Press. 450pgs.

Hawken, P., A. Lovings & Lovins, H. (1999). *Natural Capitalism: Creating the Next Industrial Revolution*. Rocky Mountains Institute. 400pgs.

Jantsch, E. (1975). *Design for Evolution: Self-Organisation in the Life of Human Systems*. New York: George Braziller. 320pgs.

Kafka, P. (1976-1994). *On the Principle of Creation and the Global Acceleration Crisis - a collection of 6 essays over the period 1976-1994*. Germany. 100pgs. <http://www.equilibriumus.de/html/e4-essays.pdf>
www.equilibriumus.de accessed 10-2012

Maloney, M. (2008). *Guide to Investing in Gold and Silver: Protect Your Financial Future*. New York: Business Plus. 200pgs.

Szent-Gyorgyi, A. (1972). *The Living State: With Remarks on Cancer*. New York: Academic Press.

Szent-Gyorgyi, A. (1977). 'Drive in Living Matter to Perfect Itself,' *Synthesis 1*, Vol. 1, No. 1, pp. 14-26.

Varela, F., E. Thompson, and E. Rosch. (1993). *The Embodied Mind: Cognitive Science and Human Experience*. Cambridge USA, MIT Press. 308pgs.

Wildman, P. (2003). *Social Neg-Entropy identifying its contents and discontents*. Prosperity Press. Pg6.

Wildman, P. (2000). *Life Futures: An Initial Taxonomy of Terrestrial and Non-Terrestrial Forms of Life*. *Journal of Futures Studies*. 4(2): p. 93-108.

Wildman, P. (2012). Work in Progress Report on the Relevance of Rediscovering the Australian Bush Mechanic as a Credible Chiro-pedagogical Modality of Critical Futures Praxis. *Journal of Futures Studies* - June. 16, 4: 25pgs.

Womack, J. and D. Jones. (1996). *Lean Thinking: Banish Waste and Create Wealth in Your Corporation*. New York: Simon and Schuster. 350pgs.

See also

<http://complexsystems.org/abstracts/scep.html> accessed 10-2012

Corning, P. (1996) *Synergy, Cybernetics, and the Evolution of Politics Past, Present, and Future*. Ph.D.