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Article

Glocalisation as a Key Human Survival Technology: Towards a Fractal Logic for Growing Peaceful Futures through an Archaic Renaissance

Paul Wildman* & Iona Miller

Abstract

Glocalisation proposes both theory and practice for bridging global/local scales in an alternative equitable international system, using a mosaic of committed key actors. The meaning of globally accessible information and economy becomes organised in its local context. Intense local and extensive global interaction is a dynamic that operates in fractally embedded spatial and cultural dimensions to mobilise and interface social and economic interaction at the local, national and transnational levels i.e. glocal, proactively responding to our responsibility to future generations. A potential movement, a peace-building activity combining realism and idealism, glocalisation is proposed as a bottom-up view of the complex process of harmonising local and global needs for sustainable futures. It brings globalisation issues down to the human scale, linking committed local and global social actors in a way that shows the global implications of local innovations. The immediate goal of glocalisation's scale-relativity is practical development of pilot projects and best practice scalable and replicable exemplars and policies, not recipes, which can be applied in many if not all areas. Our article includes proposals and concrete initiatives that promote balance of local and global dimensions via information sharing, economics and governance on a global or trans-regional basis.

Key Words: glocalisation, globalism, localism, futuring, chaos theory, negentropy, fractal-logic, creativity, values and ethics, sustainable lifestyles, learning, holism, communication, science-art, networking, depth psychology, transpersonal psychology, paradigm shift, complexity, imagination, consciousness studies, fractal logic.

The future's already here, it's just not evenly distributed yet. William Gibson

We expect artists as well as scientists to be forward-looking, to fly in the face of what is established, and to create not what is acceptable but what will become acceptable . . . a theory is the creation of unity in what is diverse by the discovery of unexpected likenesses. In all of them innovation is pictured as an act of imagination, a seeing of what others do not see . . . 'creative observation. Jacob Bronowski (1958).

Einstein was a man who could ask immensely simple questions. And what his work showed is that when the answers are simple too, then you can hear God thinking. Jacob Bronowski (1958).

* Correspondence: Paul Wildman, Kids and Adults Learning, P.O. 73, Northgate 4013, Brisbane Qld, Australia.
E-mail: paul@kalgrove.com

Introduction

This article seeks to add to the four articles we have published through SGJ viz. making sense from chaos as part of our Mysterium, a journey learning through this Mysterium from our archaic past, writing an esoteric thesis on this journey and finally using a form of qualitative research – Reflexive Praxis to document this journey. These articles are listed respectively at the start of the reference section below. Now we seek to add to this line of enquiry by describing a form of local development that is harmonious with the key attributes developed in the above four articles.

We propose a neg-entropic glocalist paradigm for the valuecosm and governing principle of ecological development. 'Edge' artists as strange attractors are a source of negentropy in society, catalysts of contemporary life. We can draw from the organic metaphors of quantum physics, field theory, and chaos theory to illuminate the state of the arts.

Physics describes the interrelationship of chaos and order as field relationships, while chaos theory describes nature's own methods of creation and self-assembly. Entropy is the tendency for any closed part of the universe to expand at the expense of order. It is a measure of randomness and disorder - chaos.

Background

Negentropy is the generative force of the universe. Negentropy (emergent order from chaos) is a nonlinear higher order system, a dynamically creative ordering of information. Evolution, thinking, science, and art are therefore neg-entropic. Negentropy, like art –as in the painting below, is 'in-form-active.' It is related to mutual information exchange. Information is embodied in the fractal nature of imagery and symbols, which compress the informational content of the whole. The issue for this article is to propose a memetic analogue for the genetic aspect of evolution.

Extending this quest to futures we find seven synergistic aspects: 1) mapping acceleration, 2) anticipating the singularity, 3) seeking common ground¹, 4) timing, 5) deepening the understating of this incipient singularity, 6) creating alternatives to this process and 7) transformation between the two. Road-maps, mind-maps or mud-maps of this process can help us visualise strategies and collaborative foresight which collectively evokes paradigms which represent the style, often visually, of our logic. Neg-entropy, acceleration and thus infinity/diversity can be seen as creativity and built into the physics of the universe alongside the conventional big ticket items of entropy, deceleration and singularity/university.

¹ Quantum Theory shows us the view that there is a *Common Fundamental Ground (CFG)* which gives rise to the entire process of the dualistic realm and it also emphasises the necessary cognitive function of consciousness as fundamental. Smetham (2012:772). We argue this CFG is directly analogous to our DUF (DemiUrgic manifesting Field) concept as discussed in the first of our four article series earlier in SGJ (see the first article in the first section of the references below in this regard).

Creativity is an emergent phenomenon patterned by strange attractors, which govern the complexity of information in dynamic flow. If you can't see how to use continually less matter, energy, space, or time (physical resources) in your scheme to improve human performance, then, we submit, that one isn't operating at the 'leading edge' of the tidal wave - somewhere else on the planet things are flowing much faster and more efficiently, and will soon change your game. How can we give people a choice as to which values they want to maximise first, so that different cultures can take different paths toward a diverse yet neg-entropic future? One approach is illustrated by the following painting:



Aesthetison Drive, oil on canvas, Robert Pope

This painting is described by an extract from Robert Pope's diary, which reads: 'I drove from Port Macquarie to Tamworth in New South Wales and crossed the Great Dividing Range. As I ascended the steep slope of a mountain and as the valley mists parted, Pope writes 'I glimpsed in my mind the vision of a majestic craft being propelled by the living power of beauty' - the mighty neg-entropic yin motor of the aesthetison. Such a motor works on the opposite to our existing explosive yang motors such as the internal combustion or explosion based motors.

The yang motor operates on vacuum technically speaking thus creating a vacuum ahead of the craft cp. an explosion behind the craft as in the case of the yang motor. Thus the craft [some would suggest this motor already exists and may power interstellar flight in future] moves into the vacuum ahead of it. Humankind would not only survive, Pope writes, but would make that joyous voyage into the realms of the timeless existence, which it hungers for and dreams of. Something in the beauty and shape of the mountains held the secret of this new technology, just as surely as a moving lodestone once held the secret to the electric motor. Pope, R. and R. Todonai (1988:70-71)

Policy challenge paradigm

Today there is grand controversy about the Pyramids as to why, how and when they were built and for what reason. Until recently this was far from the case. The conventional answer such as ‘tombs for the Pharaoh’s’ no longer cut it and indeed no burials have been found in any Pyramid previously opened or unopened. Malkowski (2010:116, Ch6). We need to look elsewhere for alternative reasons and rationales. One emerging even bizarre possibility is that the Egyptians didn’t build them and the Pyramids predate the Egyptian dynasties by millennia even stretching back to 20,000 BCE and beyond for their construction. The precision building incorporates advanced mathematical, scientific, geodetic analysis, engineering and astronomical wisdom equal to, and sometimes greater than, today, while forming the basis of the supposed ‘Greek Miracle’ in all these regards.

These alternative readings of the Pyramids have only come to light since the conventional approach to Egyptology as philology has crumbled. Further they have been launched by craft’ers and other practical investigators often on the outskirts of the status quo of academia. Since becoming an established academic discipline ‘Egyptology’ as part of the enlightenment accepted the primacy of the Classics and with the backing of the University system has been part of the valorisation of textuality and the noospheric and the resultant anchoring of Western culture as ‘The singular progressive culture – ever - originating from the ‘Greek miracle’ and moving forward starting in Europe from brutality to civilisation as it were, with the ‘arrow of progress’ moving ever onward as an even better modernity beckons.²

Here once classical textuality was given primacy, we encounter notions of ‘progressivism’ and ‘racial superiority’ of, what may be termed the ‘European Confederacy’. This meant that Egyptologists would never have to refute craft based, technical, bottom up arguments about the nature of the Pyramids nor would they be compelled to confront the very real prospect that African and Middle Eastern peoples had vastly superior cultures some 15+ millennia before Europe achieved similar levels through the enlightenment in the past few hundred years.

Yet it has only been in the past generation that questions by outsiders such as engineers and amateurs etc. have started seriously questioning the conventional rationale for these magnificent structures. Further, Malkowski (2010:135) maintains, these investigators remain unorganised and somewhat unsupportive of one another so have not provided the ‘critical mass’ or ‘nutrient gel’ required for development of an alternative meme. In short they/we have allowed ourselves as independent researchers to be considered ‘pyramidiots’.

Consequently we argue we can see a pattern emerging here. One that may well be relevant to those of us publishing our inquiries in journals such as SGJ.

² Such hubris, along with conventional conceptions of GOD, died in the gas ovens of Auschwitz yet no RIP has been written and few acknowledgements of this grotesque achievement in the heartland of the enlightenment have been forthcoming. It seems as something that came out of our shadow and as quickly returned thereto with us all being complicit in its disguise. That however is another story beyond the scope of this article. See Adorno (2003) and Arendt (1963).

In summary we suggest that fruitful new lines of inquiry often come through **practical questioners** who are generally outside the academic system and who have a **long term praxis** in their area of inquiry. Furthermore they are **craft based** and start **from the ground-up** by asking experientially Grounded Theory, even 'king has no clothes' type, questions which they themselves then investigate. Questions such as: *Given my professional experience/praxis, if I was the designer/builder, what could this have been used for and how would that have worked?* So in this sense we submit that such researchers use **Reflexive Praxis** (Adorno, 2003; Arendt, 1963; Foster, 2007; O'Connor, 2004; Wildman and Miller, 2012a), which is based on their generic and general experience applied to the local situation/circumstance i.e. a form of global – local inquiry i.e. **Glocal**. In short history teaches us never to be complacent about the barbarians from the boundary at the gates.

So here we propose, is a clear **exemplar** comprising two case studies from the past that are most apropos to our inquires today, the: (1) Power of paradigms to exclude/silence peripheral/field knowledge, and (2) Prospective virility of a Glocal form of Reflexive Praxis that has at least allowed heterodox questions to be asked and practically answered.

Economic development paradigm

Can we formulate tailored local responses to growth imperatives from the inevitable forces of globalisation? A combination of 'Globalisation' and 'Localisation,' Glocalisation was first used by transnational corporations to mean a global marketing operation with an adaptation strategy for local markets. This corporate 'buzzword,' a top-down view is NOT what our perspective is about.

Friedman (1962), defines Glocalisation as *the ability of a culture, when it encounters other strong cultures, to absorb influences that naturally fit into and can enrich that culture, to resist those things that are truly alien and to compartmentalise those things that, while different, can nevertheless be enjoyed and celebrated as different.*

For example a structural shift in information flow, Web 2.0 is about Glocalisation, it is about making global information available to local social contexts and giving people the flexibility to find, organise, share and create information in a locally meaningful fashion that is globally accessible.

Glocalist concepts

Diverse, over-lapping fields of global-local linkages - pan-locality, a merging of global opportunities and local interests, aiming to create a more socio-economically balanced world, reconceptualised in un-geographical (not non-geographic) terms, i.e. comprehensive place and non-place based diversity beyond the Nation State.

Conceptually Local: Combining globalisation and localisation, the coined-term glocalisation proposes both theory and practice for bridging scales in an alternative equitable international system, using a mosaic of committed key actors, including a full range of local, national, international, public, private, nonprofit and citizen based entities. The meaning of globally accessible and generative information becomes organised in its local context.

Networked individualism: Intense local and extensive global interaction, this dynamic operates in fractally embedded spatial and cultural dimensions to mobilise social and economic interaction at the local, national and transnational levels, responding to our responsibility to future generations. De-territorialised craft based/hands-on active learning processes rooted in mutual understanding of needs, problems and solutions, in short decentralised globalisation such as prioritised strategic peace-building.

Placeless power and interconnectivity: A conscious development strategy, empowering non-subjugated localities to develop direct economic and cultural relationships to the global system through information technologies, bypassing and subverting traditional power hierarchies like national governments and markets. The identity-affirming senses of place, neighborhood, town, locale, ethnicity, etc. survive (if just barely) against the global onslaught of global capitalistic mono-culturalism, centralised co-opted media, and the lack of systematic integration of social, economic and ecological issues.

Glocalisation: as proposed in this article is a movement, a peace-building activity of networked intentional communities, even islands of peace, combining realism and idealism. It is a bottom-up view of the complex process of harmonising local and global needs for sustainable futures. It brings globalisation issues down to the human scale and allows this scale to retain its integrity all the way up to the global level. In Archaic times this was the role of Oikonomia that is the household economy nowadays this has been superseded by Chrematistics that is love of money. We see Chrematistics at work today with the sovereign debt crisis and the GFC. Our physical world and our financial/abstract worlds are now sundered. Glocalisation seeks to restore this balance.

Social Synergy: Glocalisation links committed local and global actors, including virtual personalities, individuals, local, national and international business, governmental and nonprofit entities, coupling and re-coupling monetary and physical economies for positive sum solutions. We can harness thus the benefits of multinational glocalisation, ethical economics through repurposing open-source information for local realities.

Glocalist economic development paradigm

The basis of our technology is moving from a mechanistic entropic explosive fire-based yang to a neg-entropic yin implosive paradigm. The most important thing happening today is a metamorphosis of human life: hyper-change, chaordic causation, the cybernetic revolution, the biotech revolution. Business as usual is non-sustainable and cannot continue unchecked. We need a Plan B for human survival. Negentropy is arguably our greatest hope for a sustainable future rooted in human survival technologies, which doesn't mean that 'technology will save us'. It both creates and solves problems.

Unique physics governs matter at the nanoscale. Soon 'reality chips' will put themselves and us together and culture will be revolutionised. Bioart, tweeking genetics and physical structure, is the medium of the 21st century - 3-dimensional designing and engineering of new bodies and environments from the nano-scale up. Probably more than a million people living today were conceived in petri dishes.

Bioart is an aesthetic response to biotechnology (meta-biology). Direct brain interface is coming soon. Information is more fundamental than matter, controlling and patterning randomness; it makes matter matter.

We are in a trans-human transition era we call the Information Age rushing towards the singularity where human and artificial intelligences swap supremacy on our planet, at a point two generations away. At this point memes take over from genes and our memetic logic base is uploaded into our emerging sentient technology codified for us as fire based individualist entropic 'predator drone technology'.

Our series of SGJ articles posit another logic base, a networked glocalist yin oriented implosive neg-entropic one.

We are heading toward either an Age of Wonder or an Age of Blunder certainly we will have to leave our present Age of Plunder, soon synthetic or virtual worlds which will supersede the real world in many ways. Synthetic reality will compete for our attention. Such Meta or Super-trends shape our children's future: technological progress, economic growth, improving health, increasing mobility, environmental decline and global warming, and increasing culture shock and permanent war on 'the other'.

Physics has jumped its classical boundaries, making a quantum leap from the domain of matter/energy yang explosive force to the more fundamental scale of the vacuum potential/yin energy underlying field phenomena. We now consider our fundamental nature not only through biochemistry but through our energy body, living our wave-nature as well as particle-nature. The biophysical role of underlying EM fields can be demonstrated in energy medicine, quantum mechanics and field theory.

The energy body is our fundamental nature. Our consciousness has jumped out of our skin encased meat-body through technological extension; we've gone global. An analogous creative current informs Art that jumps the canvas into digital multimedia and back, including webart. Healing has jumped the consulting room into non-locality and back virtuality as global distance becomes a less and less meaningful barrier.

Glocalisation as a planning paradigm

Fundamental Principles of the social dimension of the developed plan would need to include holistically:

1. Express resolve to establish procedural and educational planning strategies – to gain public commitment to a set of fundamental principles – including ethical responsibilities to be adopted by all – to guide future urban and rural development
2. Present ethical arguments capable of practical demonstration and thus able to win public commitment to the principles of *long term* sustainability and responsibility for future generations
3. Call for public acceptance for post-carbon intergenerational planning horizon that extends beyond 2020 to at least 2050, and preferably 2100.
4. Ability to argue for public acceptance of the imperative to innovate and plan in science and art for a post-carbon era.
5. Argue for public commitment to plan for and live within eco-regional carrying capacity and footprint limits
6. Develop an overall planning system of loosely coupled interfaced off-grid glocal un-geographic places or ‘islands of peace’ for post human habitation.

Overall planning procedure, the developed plan would need to:

- Outline strategies to engage public in democratic deliberation to (1) determine consent for the basic principles needed to guide evaluation and choice of alternative structure plans (2) decide on structure plans
- Outline plans to advance social methodologies for participation and technical methodologies for calculating eco-regional carrying capacity, and holonic footprinting (see explanation herewith) in order to inform decision making on structure plans. Outline plans to engage local/global partnerships and collaborations to undertake the research, and indicate the timeline for research completion.
- Outline action goals to engage educators in all sectors – schools, universities, communities, NGO’s, government agencies and corporations – to facilitate collaboratively the social learning and deliberation on the scale required (so that key players can anticipate the role they will need to play.
- Convey the known alternative conceptual options for guiding development of the structure plans and provide links to websites that provide developing analyses and discussion forums around each of the options.
- Include constitutional recognition of the following critical glocalist design policy issues:
 1. **Governance** – constitution, induction, innovation and grievance procedures – one day per week
 2. **Dependency** – drugs and dole – addictions to chemicals and government handouts
 3. **Macro Planning** – almost absent even obscenely so – ‘rurban’
 4. **Site Planning - economy** – generate at least 2/3rds employment locally, contact patterns, relationship within and between the buildings, network market with other Eco

Villages', Earthships <http://earthship.com/>; <http://earthship.com/australia>; craft www.crafters-circle.com and so forth

5. **Innovation** – socially and technologically with social as well as economic innovation zones e.g. building materials in line with the US solar decathlon viz,

<http://www.solardecathlon.gov/>

6. **Off-Grid and Smart Mini-Grids** – urban design based on the solar decathlon whereby a house can produce 60% of food and 100% of water and electricity required inc. charging a small electric car

7. **Focus** – induction commitment ongoing involvement, agency structure balance

8. **Community leaning** co-operation, community economy, deep learning

9. **Socio-economic outreach** – too often EV's are *live in & work out* a sort of middle class boomer retirees pose' with no economic centre with hundreds of regulations about noxious weeds and so forth with no through going evolving participation process and can only work for the educated upper middle class

10. **Dashboard** - <http://www.carryingcapacity.com.au/> the carrying capacity dashboard a planning tool

11. **Footprint** – individually, house, household and community – this is one criterion that, we're pleased to say, most of the EV's have taken on board -

<http://www.footprintnetwork.org/en/index.php/GFN/page/calculators/>

12. **Local Socio-economic innovation** process

13. All these integrated into **participatory design**

14. **Learning focus** - the historical place of kids and adults learning

- Outline plans to incorporate these points and engage authorities, academic and pracademic (practical and academic) institutions to undertake suitability mapping and start-up siting for the development and demonstration of alternative planning models that offer promising long term sustainability prospects as well as retrofitting existing urban developments. (Wildman, 2008)

Glocal futuring

'It was Plato who introduced 'the division between those who know and do not act and those who act and do not know,' Paul Wildman explained in his eBook Series on Zen and the Artifice of Ingenuity (2008, 2010, 2012)). After Plato in the West we have doggedly followed a staunchly mechanist view, identified with Newton, that 'The Universe was a mechanical one whose order was maintained by a distant God'. Yet Newton in fact wrote more on alchemy than mathematics: he saw the universe enlivened by emotion and love. These works remain unpublished. The results of this split are readily seen today in terms of the specialisation of skills, separation of academia from actual social change projects, separation of producing from consuming e.g. we are moving rapidly away from being 'prosumers' - having our own gardens, making our own clothes and other bush mechanic type activities. Arendt (1963) claims this is the challenge for modernity: to re-braid thinking and doing, while Adorno states unequivocally that we must remember the past or else we will repeat it – this is the lesson for the west from Auschwitz. Adorno, 2003.

In today's complex and turbulent world it is vital to have futurists who can collaborate on practical collective projects, focus on action codified in exemplar projects and validate actions towards a better world. Unfortunately, current 'education' systems focus almost exclusively on the cognitive aspects of the individual learner in classrooms abstracted from the students' lived life with non participatory power structures and with the students and parents having no input into curriculum priorities – this has ontologically separated the learner from the praxis of the lived life. Furthermore, classrooms separate the learner from design, production and integration of learning into community life. Overcoming this separation of thinking and doing is, we argue, the one key challenge for our post-postmodern glocalised future.

We may be able to meet this challenge as innovative individuals who look forward wisely and solve collective problems today through applying ingenuity with what is available, thus integrating thinking, doing and being in what in ancient times was called poiesis. Human knowledge of neg-entropic processes is urgently needed to avoid extinction. Sir Isaac Newton referred to the basic universal physics as a profound living philosophy to balance the mechanical description of the universe. This has become known as ethical physics and is known today through the logic of life vis. fractal logic the logic of neg-entropy. The holographic universe that such an approach begets is infinite, open, evolutionary and ethical – the new logic. This new logic needs to become the model for our social sciences such as economics. Wildman (2003, 2004).

Our work suggests that we need to start this type of futuring/planning before further major meltdowns occur, however we also recognise how unlikely this will be until it's too late. Wildman, 2009.

Attributes of futuring

On the basis of the criteria identified by Wildman (2003) some characteristics of social neg-entropy are:

1. **Giving** (in that giving from the heart without necessary expectation of return generates good will – an esoteric form of neg-entropy)
2. **Empathy** (care and concern for others health and well being as well as yourself)
3. **Net energy creation** (as contrasted to an energy sink)
4. **Organologic** (such as diversity encouraging, fractal geometry, spectral-reserve, self-organisation, recursiveness)
5. **Diversity harmonising** cp. to Conformity centralisation
6. **Informal/outside** the box (in that all the formal economic structures are now seriously entropic and generally shrink wrap any within house initiative); not one best way; the whole is more than the sum of the parts, neg-waste (another word for entropy)
7. **Trans rational** from either or to either and i.e. towards the theory of the included middle where something can be both a and b rather than only a or b – with no middle overlap
8. **Rebraiding thinking and doing as in the artificer as vital for learning.** Wildman, 2012
9. **Replacing black with green letter law** – this means being rewarded for what we will do right

tomorrow and not punished for what we did wrong today. Wildman (2003)

10. Glocalisation

Bridging and bonding

Value is viable and thus valuable neg-entropic complexity and evolution may be seen as the increasing of diversity within this viable complexity through self-organisation and fractal logic. This will then lead to the emergence of something valuable and potentially viable which can be found by such self-organising fluctuations among the neighboring possibilities.

Ethical economics

Considerations of Ethical Economics includes for instance recognition of the importance of the physical economy cp. the monetary economy; fractally embedded self-reliant economic and political systems; creative partnership futures and community economy development. See for instance Wildman (2003, 2012).

Cultural reclamation

Through thorough positive sum planning to minimise entropy; intentional sustainable communities; anticipating emerging issues; deliberative and participative democracy.

Tocqueville 1825 identified a form of oppression as 'mild despotism', which he saw as erosion of liberty far more serious than violent form of despotism characteristic of feudal societies. Corporate feudalism rolls back the world clock by imposing propagandised groupthink of the lowest common denominator:

it covers society's surface with a network of small, complicated, painstaking, uniform rules though which the most original minds and the most vigorous souls cannot clear a way to surpass the crowd: it does not break wills, but it softens them, bends them, and directs them; it really forces one to act, and constantly opposes itself to one's acting; it does not destroy, it prevents things from being born; it does not tyrannise, it hinders, compromises enervates (deprives, weakens), extinguishes, dazes, and finally reduces each person to being nothing more than a herd of timid and industrious animals (robots?) of which the government is the shepherd. Young (2001:38).

Glocality

We may yet be able to organise boundary conditions under which evolution on earth can continue. These boundary conditions are therefore no longer purely biological they have evolved

to be culturological i.e. Glocalological. The spreading of this logical insight about the primacy of mental and cultural evolution is the key task, which, we have to fulfill in a hurry, and globally. We need a Socio-Cultural Neg-Entropic Innovation Process to replace our current Military-Corporate Entropic Innovation Process and we only have a generation to do it.

We believe that such a Neg-Entropic Social Innovation Process (NESIP) needs to focus on:

1. **Glocal Governance**

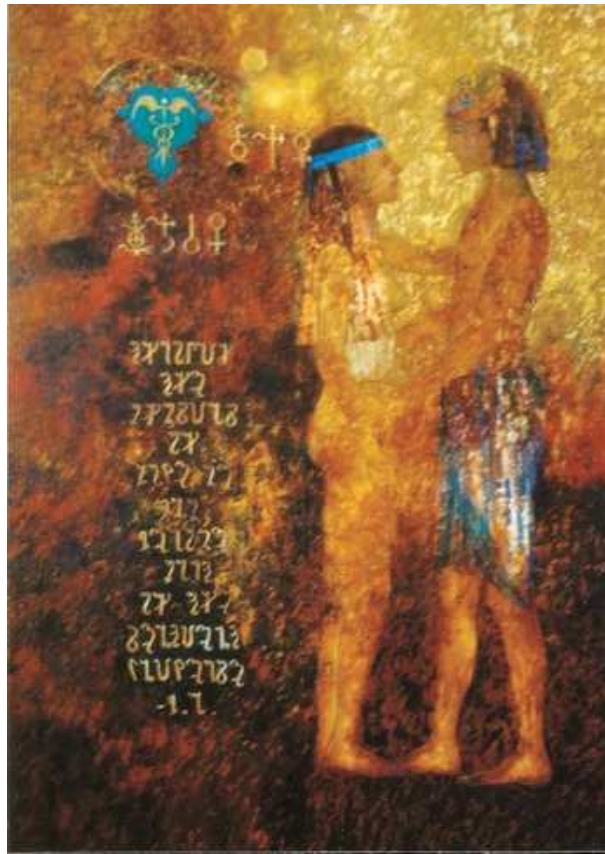
2. **Glocal responsiveness** to socio-cultural events and acts of terrorism

3. **Zones of Social Innovation** – resourced e.g. through private philanthropy or the UN

4. **Strong commitment to ‘Islands of Peace’** to improve the health and well-being of all people and peoples

6. A dynamic non-bureaucratic approach to **enacting** Glocalisation, and overall

7. **A Physics Of Love** that ennobles relationships between living entities and enriches our planet leading to a deeper respect for all life and what supports it. This way of being is called 'relatio' where relationships, as a way of knowing, become neg-entropic. Wildman (1996). These aspects are embodied in the following painting by Robert Pope.



The Physics of Love, oil on canvas, Robert Pope.

This painting portrays ancient concepts about love, light & life critical aspects of the physics of neg-entropic love which are above all vital aspects of the state of Nirvanam. The two Egyptian figures portray the ageless wonder of Male↔Female [Yang↔Yin] energy. Compassion in the energy 'spark', common sense or gnous generated in their gaze generates complementary ennobling love – the dance of Nirvanam. Here the opposites of Yin-Yang are joined in the spark whereby our minds can 'descend' and unite with our hearts. The Mandelbrot set in the upper left hand corner has the Caduceus of Hermes (symbol for medicine – which incorporates the two snakes of primordial Yang and Yin wisdom crossing at the Tantric chakras – the energy centres of the human body) superimposed upon it. This symbolises the use of fractal geometry to establish a new science of life and health for the betterment of the human condition.

The adjacent symbols portray a ray of light from the sun (Yang) being reflected from the moon (Yin) as polarised light, which has the ability to spin the atom of living carbon in one direction and the inanimate carbon atom in the opposite direction. This portrays an aspect of the 6th century B.C. life force, the Nous, a fundamental concept of physics during the Golden Age of Athens. The symbol has been placed above the ancient alchemy letters for the seven primordial particles, depicting the power of the Nous (here Nirvanam) to evolve both the material universe and generate the ennobling intellect. The following alchemy symbols explain that through the Physics of Love we can become part of the living Universe. These have been placed into a modern physics format within the work of Robert Pope and the late Dr Bert Cunningham of the Faculty of Commerce and Administration at the Griffith University, Queensland, Australia – to whom the painting is dedicated. The final two symbols represent the name of Dr Bert Cunningham, whose life's work was dedicated to expanding such knowledge. Pope and Todani (1988).

Glocal futuring

Futuring means bringing proactive concrete responses to future issues into present-day operation. Rebraiding thinking and doing, this approach is suitable to re-designing education to meet present and future challenges derived from global issues, this ancient 'rebraiding' approach to futuring or 'deep futures' demonstrates practically a better tomorrow today, cutting the lag time from innovation to diffusion. Principles of deep futures include: the evergreen principle of sustainability; metafuture (both over longer period of time and in depth in terms of consciousness); compassionate community; collective responsibility, rebraiding thinking and doing (as in repair rather than reuse, handmade – chiro and cogno), for instance as summarised below viz.:

- **Mapping the present and the future** through methods and tools such as the Reflexive Praxis and Glocalisation
- **Anticipating the future** through methods such as emerging issues analysis, the futures wheel and the Millennium Project <http://www.millennium-project.org/>
- **Timing the future**, understanding the grand patterns of change, macrohistory and macrofutures.
- **Deepening the future** through methods such as causal layered analysis and four quadrant mapping
- **Creating exemplars today that can act as alternatives to, in and for, the Present** through methods such as scenarios and nuts and bolts off-grid intentional glocalised communities

- **Complete recasting education to be more about vertical integration** of kids and adults learning than age cohort segmentation
- **Deepening our understanding of causation to include fractal and chaos causations as well linear sequential and both as consciousness** that merges mind and matter in what we call cosmotechne
- **Transforming the present and creating the future** through visioning, whole system glocal design studios, backcasting, action learning and the transcend conflict preemption and resolution methods. (Wildman (2003, 2004, 2012), Inayatullah (1998)).³

Establishing a glocal roadmap

A roadmap is the outcome of a collaborative foresight process that can include general and structure plans as outlined above and also it is an outcome that considers a broad set of strategies important to reaching back from a goal in the future. In this article we argue that to be neg-entropic, or at least minimally entropic, minimalist muda or waste in the Japanese Kaizen sense, such roadmaps need grow organically from within a glocal approach as outlined above and it needs to do this in three crucial ways which:

1. Emerge in a collaboration network of transdisciplinary and cooperating praxis,
2. Emphasise uncertainties and challenges in the environment and in causations in the environment as well as within the researcher and use fractal logic and retro-evo-devo sustainability (see below), as well as identifying probable and preferred futures, and
3. Have long-term inter-generational time horizons (25 years plus is de rigueur as one must structurally move beyond ones lifetime) by comparison to traditional forecasts and plans. (<http://www.metaverseroadmap.org/roadmap.html>)

Fractal logic

Scientists throughout the world working at the cutting edge of human survival technology are now seeking transdisciplinary solutions to the social, economic and environmental crises threatening us all. There is much desire in Western culture to try, in some way, to design social systems based on enhanced human values. Clearly, entropy obsessed, waste-based Western technology and over-consumption is now systematically causing the destruction of human values and the degradation of the global environment. More holistic worldviews of science and technology (Poetry-Science; Science-Art; Freestyle Multimedia; Head-Heart-Hand Art) can lead toward viable visions of an optimistic future.

Recent major scientific discoveries in quantum theory have been made which demonstrate that the living process is indeed associated with a very complex infinite universal energy system.

³ Creating is actively creating a future such that we can practically demonstrate today that a better world is possible tomorrow for our children's children. Thus creating becomes crea(c)ting.

New understanding of complexity and self-organisation in nature, nature's own means of self-assembly, reveals its bottom-up geometrical basis. This new paradigm is rooted in practalising alternatives to the entropy law (second law of thermodynamics) through the use of chaos theory, complexity and holographic theory, whole systems design and glocalist praxis in a post human cosmotechne valuecosm sense.

We can use this scientific knowledge to construct a global human survival technology of unimaginable w/health, resources and human opportunity. The catalytic neg-entropic glocalist properties of science-art have been identified as the essential ingredient needed to provide the opportunity for this human survival technology to be developed. They contrast with the catastrophic entropic centralist properties of science-industry. Artists actively demonstrate the environments of the future and thereby help gestate create new valuecosms, and in this regard biotech, cosmotechne and infotech are indeed likely to be disruptive over the next 30 years.

Retro-evo-gloco-devo

Human survival cannot be rooted in entropic theories of destructive physics logic from which technology and global economic rationalism is derived as we can see with our current global economic and sovereign debt crisis situations. We urgently need a holistic, negentropic paradigm to support an optimistic vision of the future and radically new adaptive survival technologies. To understand the future, we must consider the essential nature of evolution as learning as development and vice versa. 'Re-Evolutionary Development' combines the processes of deep learning from our past with unpredictable futures through evolution with dynamically systems oriented development. After all evolution is to genetics what glocalisation, even as glocal-ution, is to memetics.

We need to build better environments not just 'better' humans. And we submit that the former will lead to the latter. The emergence of the valuecosm has re-emphasised the value of human teachers who can help us to become independent thinkers and innovative doers⁴, and of education systems that help us to make decisions for ourselves in ways we have not done for centuries, and to understand the benefits and limitations of the advice we get from others, whether human or computer.

In an era of unprecedented accelerating change, there are individual, social, economic, ideological and physical menaces to long-term sustainability. Human society is not yet technologically powerful enough, economically rich enough nor politically united enough to afford a worst case attitude. Yet we are immersed in a paradigm based in fractal logic of accelerating universal change, so it may be possible to use the butterfly effect to change our glocal systems in time to avert an apocalypse.

⁴ We should not underestimate the challenge here, as we have seen the impact of domestication on animals with brain volumes of animals like the wolf, pig, dog and horse reduced by as much as 40%. Now we are seeing the same contraction in humans with our average brain volume declining about 10cc per millennia for the past ten millennia that is since domestication of plants i.e. agriculture and domestication in general. We submit that glocalist intentional communities are crucial for humans to re-engage their lost self-reliance abilities and to lean by hand how to be wise again and hopefully avoid the apocalypse.

Human survival technology must link life to an aspect of infinite universal reality drawing on ancient even archaic wisdom. Wildman and Miller (2012b). The culture shock associated with collapse of our entropic paradigm will be enormous, and we anticipate a mass die off with population dropping by up to two-thirds our current 7 billion over a few years by the mid 2020's. This issue highlights fundamental human ethical values, and sooner or later it must enter the international legal system on behalf of global human survival – glocal rights including biodiversity and the council of all beings. Already the United Nations University Millennium Project, Australian Node, has endorsed the concept of using Creative Physics fractal logic for the cause of global world peace and such an awareness is growing via the internet. See <http://www.millennium-project.org/> and <http://www.iaewp.org/> .

In 2012 Science-Art Research Centre of Australia (www.science-art.com.au) warned that any country or government which did not realise how to use fractal logic to obtain new technology from information overload would become losers in the 21st Century.

Conclusion

We have argued that negentropic science, consciousness and art urgently need to be re-braided much as the editorial policy of this journal endorses. Further we have argued that nothing less than the future of humanity depends of this redux of science, consciousness and art in short the re-emergence of neg-entropic science art-ifice. And to this end in conjunction with SGJ and IAERP (International Association of Educators for World Peace) and in memory of the late Australian Chancellor thereof, Peter Bentley, we propose an annual Glocal 'Islands Of Peace' Award (GIOPA). A final article in this series will flesh out this award and include a further example of a practical form of glocalisation called the artificer or Prepper (survivalist) in the US and in Australia the Bush Mechanic.

On this basis dedicate to this article in support of SGJ and its endeavours in the area of science, consciousness and art-ifice. We welcome contributions comments, ideas and projects along these lines. Maybe by featuring (y)our work we can help build towards a critical mass for this type of glocalised and integrated science-art.

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