

book reviews

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science/philosophy of science

Exclusion Zone Water

Charles Eisenstein

THE FOURTH PHASE OF WATER

Gerald Pollack

Ebner, 2013, 358 pp., \$29.95, p/b - ISBN 978-0962689543

In *The Fourth Phase of Water*, Gerald Pollack offers an elegant new theory of water chemistry that has profound implications not only for chemistry and biology, but for the metaphoric foundation of our understanding of reality and our treatment of nature.

Let me emphasise that this is not a New Age book by someone of questionable scientific credentials. This is a book on chemistry, albeit one easily accessible to lay people. Pollack is a highly decorated professor at the University of Washington, author of numerous peer-reviewed papers, recipient of the 2012 Prigogine Medal, and editor of the academic journal *Water*. I mention this because in a field fraught with what some call pseudo-science, but what I'll politely call speculative inquiry unburdened by scientific rigour, paradigm-busting theories attract an inordinate degree of hostility.

Indeed, Pollack devotes one of the early chapters to two such episodes: the polywater debacle of the 1960s, and the water memory controversy twenty years later. These illuminate some of the politics of science-as-institution and means by which dissident views are suppressed. Furthermore, as I will touch on later, they also reveal some of the sacrosanct metaphysical assumptions underlying science as we know it – assumptions that the present book indirectly violates. It is no wonder then that it has encountered a mixed, and in some cases decidedly chilly, reception in scientific circles. Notwithstanding all that, *The Fourth Phase of Water* avoids any of the stridency or persecution stories that sometimes color heterodox books. The tone is courteous, conversational, and cautious when presenting more speculative ideas.

One would think that after two hundred or more years of modern chemistry, something as fundamental and seemingly simple as water would be thoroughly understood by now. Before reading this book, I took for granted

the explanations my high school and college textbooks offered for evaporation, capillary action, freezing, bubble formation, Brownian motion, and surface tension. Everyone else assumes the same thing, which may be why the conventional explanations are seldom scrutinised. However, as *The Fourth Phase of Water* demonstrates, a little creative scrutiny reveals severe deficiencies in conventional explanations.

The crucial concept in the book is that of “exclusion one water,” or EZ water for short. Imagine a beaker of water in which hundreds of thousands of plastic microspheres are suspended. Standard chemistry would expect that these would be evenly distributed throughout the medium – and they are throughout most of the water. However, near the sides of the beaker (and any hydrophilic surface submerged in the water), the water remains clear, free of any spheres. Why? Standard chemistry predicts an exclusion zone a few molecules thick might exist next to the glass, where polar water molecules stick to the distributed charges, but the exclusion zone Pollack observed was at least a quarter millimeter – several hundred thousand molecules thick.

Pollack and his colleagues proceeded with caution, testing and ultimately eliminating various conventional explanations for the phenomenon (e.g. convectional flows, polymer brushing, electrostatic repulsion, and leaking materials). They also began investigating the properties of the exclusion zone, with intriguing results: EZ water excludes almost everything, not only suspended particles but solutes as well. It exhibits an electromagnetic absorption peak at 270nm, and emits less infrared radiation than bulk water; it has higher viscosity and a higher index of refraction than bulk water. Most surprisingly, they discovered that the exclusion zone had a net negative charge, and that the water outside the zones had a low pH, indicating that protons had somehow been ejected from the EZ water.

With this information, Pollack and his collaborators hypothesised that the exclusion zone is composed of a liquid crystalline form of water, consisting of stacked hexagonal layers with oxygen and hydrogen in a 2:3 ratio. Of course, ice also consists of stacked hexagonal sheets, but in the case of ice the sheets are held together by the extra protons. Pollack proposes that EZ sheets are “out of register” – aligned so that the oxygens

of each layer are frequently next to the hydrogens of the adjacent layers. The alignment is not perfect, but it creates more attractions than repulsions, enough to create cohesion as well as a molecular matrix tight enough to exclude even the tiniest of solutes.

Where does the energy come from to create this charge separation? It comes from incident EM radiation. When a water sample is shielded from incoming radiation and heat flux, no EZ forms.

The bulk of *The Fourth Phase of Water* is devoted to applying this hypothesis to various phenomena in water chemistry. In my mind, his greatest strength as a scientist is to ask seemingly naïve questions that no one else is asking. For example, he questions the conventional explanation of surface tension, which invokes the hydrogen bonding pressure on the water surface. Could the extraordinary surface tension of water really be explained by the energy in a layer less than one nanometer thick? He asks, why don't gels, which can be over 99.9% water, leak water? Why do charged aerosol droplets of water coalesce into clouds instead of repelling each other and dispersing evenly throughout the sky? Why does hot water sometimes freeze more quickly than cool water (the Mpemba Effect)? Why does the steam rising from a cup of hot coffee come in discrete puffs? Why do boats leave a wake of relatively still water behind them sometimes 15 or 30 minutes after passing?

This book offers extraordinarily economical answers to these questions and more. The experiments he cites are straightforward and compelling. While they offer highly unconventional answers to basic questions in chemistry, he does not invoke supernatural or paranormal forces. Nor does he question fundamental physical laws (of thermodynamics, relativity, quantum theory, etc.). One cannot help but wonder: Why, then, is his theory ignored?

I think the reason goes beyond standard Kuhnian resistance to paradigm shifts. Pollack is not, after all, the first scientist to get into trouble for advancing theories about water that suggest it is more than a generic, structureless substance, more than a medium for chemistry and a raw ingredient for chemistry. Something else is going on here.

A quick review of the history of the two controversies mentioned earlier, polywater and water memory, is instructive. In the first case, Russian

chemists discovered that water in narrow tubes exhibited anomalous properties, neither liquid nor solid (the anomalies are exactly the same ones that Pollack describes). An uproar followed, and Western scientists accused the Russians of failing to eliminate impurities from the water – namely, trace amounts of dissolved silica from the glass tubes. In the end the Russians admitted that the water was impure, and the discovery was relegated to the dustbin of history. No one, however, offered an explanation of how dissolved silica could account for those anomalous properties. Pollack points out the truly pure water, the universal solvent, is nearly impossible to obtain. The substance of the Russians' discovery was never considered; rather, a convenient pretext was found to dismiss it.

The case of water memory is even more egregious. In 1988, Jacques Benveniste published a paper in *Nature* that claimed that a sample of water that had formerly contained antibodies still evoked an immune response from white blood cells, as if the water "remembered" their presence. *Nature* published the article (Benveniste was a top French immunologist), but then sent an inquisitorial squad to investigate, which included the professional magician James Randi and the fraud investigator Walter Stewart. Accounts differ as to what happened next, but everyone agrees that no direct evidence of fraud was found. The team concluded only that the results were not replicable, a claim that Benveniste strenuously denied to no avail: his funding was canceled, his laboratory taken away from him, and his academic career was ruined. To this day, his name is associated with pathological science and his obituaries are masterpieces of character assassination.

Notice how, in the previous paragraph, I put the word "remembered" in quotation marks, as if to assure the reader that I don't think water could literally have memories. The quotation marks imply that water can only, at best, behave as if it could remember. Because, after all, it is just water, right? It doesn't possess the complexity, the organisation, the intelligence, the experiential beingness that would be necessary in order to have actual memories. Modern chemistry holds just that: that water is a generic fluid, any two samples of which are fundamentally identical, differing only in temperature and the presence of impurities (and hydrogen isotope ratios for you sticklers out there).

Polywater, water memory, and Pollack's theory all violate that principle, which is really a kind of anthropocentrism. Our civilisation, especially in its treatment of nature and in the sameness of its commodity economy, operates by the assumption that we humans alone have the qualities of a self. The rest of the world is just a bunch of stuff out there; therefore, we are at liberty to exploit it

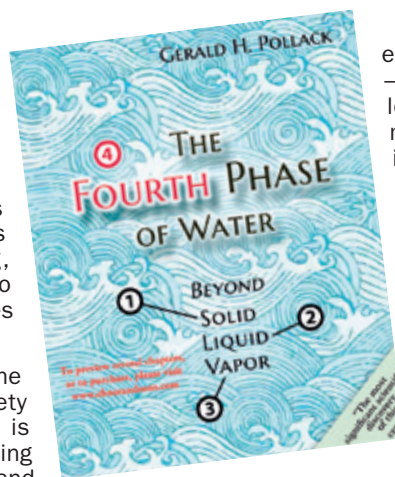
as we will, to impose our intelligence on a insensate substrate that lacks any of it. Any scientific theory or technology that violates this principle seems immediately wrong, even outrageous, to the mind that operates by it.

One way to view the transition our society is undergoing today is that we are assigning selfhood to more and more beings that we "othered" in the past. We've made some progress: today we recognise the full legal personhood of women and racial minorities (although unfortunately, racist and sexist beliefs persist with much greater tenacity than most white men recognise). We no longer see animals as insensate brutes, although again, the manner and degree of animal intelligence is poorly understood. Even plant intelligence is emerging as a hot topic of research, although it is the rare scientist who would say "plants are intelligent" or "plants have a subjective experience" without offering a thicket of disclaimers and qualifiers to the effect, "Of course I'm not saying they are *actually* intelligent."

To be sure, Gerald Pollack isn't saying water is intelligent either. His research does open the door to such a view though, because it implies that any two given "samples" of pure H₂O are unique, with a structure that depends on what it has been in contact with. Why did I put "sample" in quotes here? It is because the very word implies that if I take a small amount of water from a larger amount, say a test tube from a bathtub, that the smaller will have the same properties as the larger. In other words, it implies that water, or anything sampled, is fundamentally isolable from its environment.

Pollack's research casts both assumptions – uniformity and isolability – into question. He does not go so far as to claim that water can carry information, but he comes close when he observes that the exclusion zone's properties differ for different materials. That is perhaps why homeopaths have seized upon his research (as they also did with Benveniste's). Homeopathy, of course, is the very epitome of quackery in the eyes of medical orthodoxy; its association with Pollack's work (though he never makes any claims for it himself) is surely one reason why the scientific establishment is wary of his work.

No sober observer would say that he has "proven" the validity of homeopathy, let alone the menagerie of water-based modalities and products one can find on the Internet. But if we accept his results – and I hope other scientists repeat and



extend his experiments – at least one can no longer say that these modalities contradict indubitable scientific principles. Of course if any two samples of pure water are identical, then structured water products and medicines are bunkum. Thanks to Pollack (and a lineage of other researchers that he has uncovered in the scientific literature),

this is no longer certain.

The Fourth Phase of Water contributes to a much larger paradigm shift that is proceeding across all the sciences, and indeed to a transition in the defining mythology of our civilisation. In science alone, the implications of his findings, if verified, are profound, especially in areas like cell biology, plant physiology, chemical signaling, and of course medicine. Beyond that, they erode the story that we live in a dead universe of generic substances, that we, the sole intelligence of that universe, are therefore its rightful lords and masters. Pollack is part of the evolution of science toward a more shamanic worldview that understands that all things possess some kind of beingness.

Resistance to this shift is still strong, perhaps because its consequences are so huge. Even without realising the enormity of the implications, orthodox thinkers instinctively attack any work that is aligned with it. A common tactic is to allege "contamination," which (along with fraud) is used as an all-purpose dismissal of anomalous results, in archeology and even astronomy as well as chemistry. It amounts to an accusation of sloppiness, of incompetence. No one wants to be thought a dupe; therefore, when the ostracism of iconoclasts such as Benveniste, Pollack, Pons and Fleischmann, Halton Arp, etc. begins, those who are secretly sympathetic to them keep silence, fearing quite justifiably for their funding and careers.

While I suspect that Gerald Pollack is sympathetic to the larger transition in civilisation's mythology, there is little sign of it in the book. He restricts himself to chemistry and, when he ventures into the realm of speculation, makes it clear that he is going out on a limb. Perhaps his unsensational tone, his consideration of alternative explanations, and his adherence to experimentally based assertions will do something to assuage the natural skepticism of the scientifically orthodox reader. But I doubt it. The radical implications of this work strike too close and too deep.

Charles Eisenstein's latest book is *The Beautiful World We Know in our Hearts is Possible*.

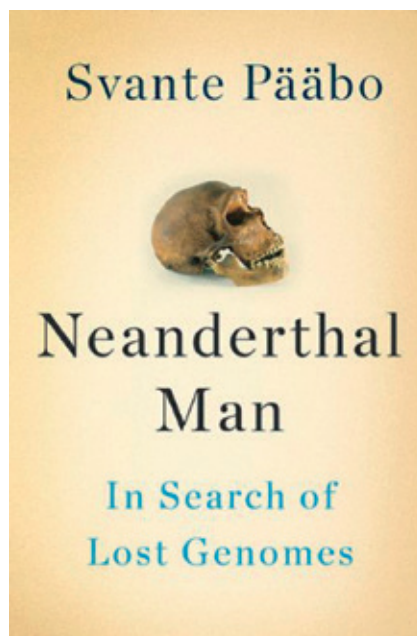
21st Century Neanderthals

Martin Lockley

NEANDERTHAL MAN: IN SEARCH OF LOST GENOMES

Svante Pääbo

Basic Books, 2014, 276 pp., \$27.99, h/b -ISBN 978-0-465 02083-6



It seems that the Scientific and Medical Network publishes a lot of spiritual commentary and not so much pertaining to mainstream scientific analysis. Much as I like spiritual commentary and reviews of books of this genre, I sometimes wonder whether we shouldn't be paying more attention to the scientific and medical mainstream. I think I understand this oversight, which has to do with a SMN aversion to a certain brand of formulaic science, often branded as narrow scientism, which is not receptive to alternative, imaginative approaches which we intuit as necessary to advance new paradigms. Thus, we are inclined to comment, as if we were sociologists, on the effect that too much scientism and technology has on society and its educational, commercial and political institutions. All this commentary is fine if we don't miss good science when we see it. Perhaps we are destined to react to most new paradigms (e.g., evolution, ecology, quantum physics) only after the fact when we have had time to assimilate them and the impact they have had on undermining old paradigms. There may be a psychological component to all this: our intuitions tell us that new paradigms are necessary to move us beyond the old questions and problems that cannot be solved by "old thinking." In aspiring to understand and realise our human (and scientific) potential more fully, we may jump the

gun in dismissing the old order before the new is adequately appreciated. It takes analysts in the trenches to tackle bits of the problem, and build up "data" and "information" before the holistic synthesisers formulate the new paradigm. Call it the "100th monkey effect," something in the air, or simply the fact that the time is right (*Kairos*). We only come to know what we know more fully when we better appreciate the context, and that often requires a participatory group effort that shifts the collective consciousness.

Recently (Network 114) I penned a couple of reviews on more or less typical books concerned with the archaeological evidence bearing on the elusive quest to understand our human origins, including our relationship to Neanderthals, which we increasingly recognise as tied up with not only anthropological but also linguistic, psychological and spiritual questions. In *Neanderthal Man* by Svante Pääbo (his choice of traditional masculine label) we approach the problem entirely through genomic analysis. As this is not my forte perhaps I am not well qualified to judge the analytical merits of the exposition. However, readers might be interested in the glimpses that Pääbo gives us into the cutting edge scientific culture which he and leaders in his field seem to take in their stride. In their world the editors of *Science* and *Nature* often hover like expectant hawks eager to schedule press conferences and snap up the latest results of Neanderthal genome analyses. The rest of us, if we aspire to publish in such journals, can expect a 99% rejection rate, often before our contributions are even reviewed! No matter, each generation has its scientific fashions and in 21st century anthropology and paleontology it has become conventional wisdom to recognise that anatomical similarity is no guarantee of close biological relationship, even though such a traditional rule of thumb is not without merit, as shown by close similarities between Neanderthals and modern humans. Rather, advances in the ability to extract genetic material from extinct species (mostly from the recent Ice Age), have led to the ability to amplify these "bits" and compare them with the genomes of living relatives. Thus, and you be the judge, one might measure the closer genetic similarity between a mammoth and Asian elephant (the African species is more distant) or between the extinct ground sloth and its closer relationship to its 2-toed relative (rather than to the 3-toed species). Again these are measures of genetic rather than absolute or universal similarity.

Pääbo, now the director of the Department of Genetics at the Max Planck Institute of Evolutionary Anthropology, came by his expertise honestly in the traditional academic fashion, serving various apprenticeships

studying Egyptian mummies, cave bear and mammoth DNA, and learning the different potentials of mitochondrial (mt) DNA and nuclear DNA, how to amplify gene fragments using now-standard PCR (polymerase chain reactions) to create libraries, how to spot errors in the sequences and how often to repeat, refine and check analyses to verify results and avoid unnecessary pitfalls. Such procedures allow practitioners to claim "scientific rigour." At the same time they acknowledge, as one chapter heading admits, that "the devil is in the details," beginning with the extraction of tiny fragments from *within* Neanderthal bone, where DNA is least likely to be degraded. [Recognizable soft tissue has even been extracted from *within* dinosaur bone]. It requires PCR to clone multiple sequences and clusters of powerful computers to run the analyses that produce tens of millions of sequence fragments available for comparison with modern sequences, which includes the identification and removal of bits of DNA recognisable as bacterial, or from modern humans such as lab workers. Then comes the process of identifying bits of DNA that differ from that of modern humans in the positions of a small number of their familiar nucleotides (A,T,G,C). Multiple clones of each putative Neanderthal fragment, from two PCR experiments, are subjected to multiple analyses before any pattern is considered diagnostic on the basis of consistent reproducibility. To the non-specialist such as myself, it seems that the various steps are delicate and complicated, creating many chances for error to creep in. But geneticists in this field are usually vigilant and ready to spot such errors, and re-run their analyses to correct and refine the product. In fact, much of the literature deals with refining and testing methodologies and finding ways to clone and amplify DNA fragments, without distortion or contamination, in order to create libraries that are available for future researchers to examine and re-analyse.

So what is the punch line? Did we entirely replace Neanderthals some 30-50,000 years ago, becoming what Pääbo calls the "replacement crowd"? Are Neanderthal genes still scattered evenly, or unevenly in modern human populations, implying interbreeding, or even happy coexistence as a period of similar, even shared tool technologies implies? Genetically, this seems to be the case at the level of about 2%, a result that caused Pääbo to reassess some of his earlier work. Are, or will those with more Neanderthal genes be stigmatised as brutes or worshiped as especially revered ancestors!? Will companies like *23andMe* and *Ancestry.com* reliably tell us how much Neanderthal DNA we have mixed with that of Vikings, Aztecs or Polynesians? Could such companies, or Pääbo and his gang, patent the Neanderthal

genome? Pääbo's answer is no: they shared, as did the Neanderthals!!

In the last few chapters Pääbo turns from genetics to more fundamental and ambiguous questions about "human essence." (What made moderns ascendant over Neanderthals?) He admits that "the dirty little secret of genetics is that we still know next to nothing about how a genome translates into the particularities of a living and breathing individual." [Particles do not make particularities!] Such candour is refreshing, and gives non-geneticists hope that other avenues of exploration will not inevitably be trumped by results from giant cloning machines and supercomputers. In the end when Pääbo and his team published their Neanderthal genome paper (in *Science* 2010) with 174 pages of supplemental material, it was "more like a book than a scientific paper" offering data that "would be applied, as a tool that would allow others to extend their own research" with no patent restrictions.

Given that these results all derive from a few milligrams of bone dust, skeptics may say that specialised science learns more and more about less and less. But even if there are doubts about the quality of DNA extracted from bone and the accuracy of cloning and amplifying methods, many geneticists in the trenches are aware of the pitfalls and the areas where they "know next to nothing." Our ignorance in these areas is not the fault of a defunct scientific paradigm, and if it were we would all have to take responsibility for failure to achieve full enlightenment. Rather, it seems to me that part of the "human essence" of us moderns is that we have rather high expectations for novel future paradigms and future insights, whether arrived at by cloning machines and supercomputers or natural intuitive insight. Did Neanderthals look to a future or afterlife, as they evidently did when they began burying their dead, and could they have conceived of being immortalised in the 21st century in books and genetic libraries compiled from the dust of their bones?

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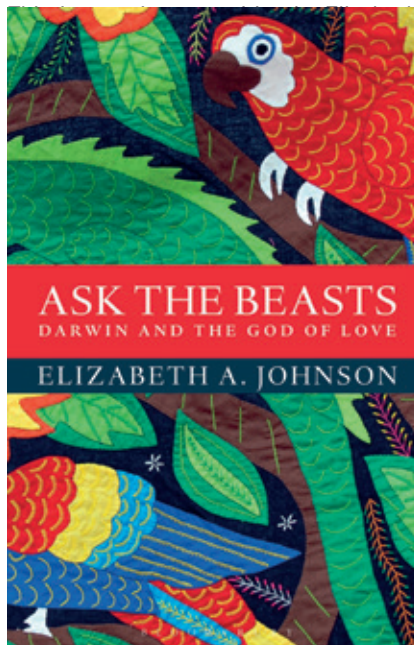
The Beauty of the Beasts

Martin Lockley

ASK THE BEASTS: Darwin and the God of Love

Elizabeth A. Johnson

Bloomsbury, NY, 2014, 323p, h/b
£18.99, ISBN 978-1-4729-0373-0



A. Johnson (EAJ) Professor of Theology at Fordham University (New York) reminds us that the biosphere is a particularly exquisite creation that we might do well to appreciate more reverently. We are reminded that, metaphorically, there have been three big bangs "creating" or bringing into existence the physical universe, the biosphere and human consciousness. Although EAJ cites Teilhard de Chardin elsewhere, she does not mention that these phase shift events correspond to his physiosphere, biosphere and noosphere. No matter: this cosmological chronology is well-known even if the origin of the phase shifts remains mysterious – as mysterious as the creative impulse or, as EAJ would prefer, God's creative, loving power.

We are reminded by her title, from Job 12.7, ("ask the beasts and they will teach you"), that we are dealing explicitly with the biosphere and our human relationship to it, both today, and historically in Christian theology (and ultimately in theology in general). We are invited to give careful consideration to the natural world *in its own right* (her italics) which involves a new way of thinking compatible with "the nascent field of ecological theology." Again, explicitly, we are informed that *Ask the Beasts* "explores the subject by conducting a dialogue between ... Darwin's account of the origin of species and the Christian story of the ineffable God of mercy and love recounted in the

Nicene Creed." To this end the first 100 pages essentially review *On the Origin of Species* affirming its scientific merit in detail – more detail than is perhaps necessary for some (e.g., many SMN members) with a background in biology or evolutionary studies. So this section is ostensibly for those who might doubt, or be unfamiliar with Darwin's main thesis, or find it difficult to reconcile with theological /creation paradigms. To address this well-known science-religion dichotomy EAJ points out that there are four models of engagement: 1) conflict, (alas poor Dawkins), 2) independence (ignoring opposing paradigms), 3) dialogue and 4) integration.

As explicitly stated, the book aims at dialogue, much of which is doubtless of interest to, if not also quite familiar to, SMN members. EAJ's approach involves a distinctive mixture of lyrical, poetic worship of creation (some hers and some borrowed) and exposition involving sometimes dense scholarly theological and philosophical terminology. Borrowing metaphors from Augustine's *Confessions* she poetically describes the natural, given or gifted world as "Like a saturated sponge creation is dripping wet with divine presence...Like a soaking ocean, a flowing fountain, and inexhaustible wellspring of sweet water, the life of the Spirit pervades the world." Nice!, dare I say "sweet!?"

Unlike much western theology and culture, some ancient wisdom traditions have taken the "natural world seriously as a subject worthy of religious interest" without treating humankind as superior and separate from nature. Ecological theology affirms a symmetric promise of redemption for all species not just an asymmetric redemption for humans alone. When discussing the "emergence" of the biosphere from its prior physio-chemical state, I agree that this is a manifestation of the "fecundity of nature itself" and that "novelty comes about by self-organising dynamism inherent in creatures themselves. Evolution over deep time is so creative..." But, I would add that that this view of the intrinsic dynamism of organic systems is more Goethean (and spiritually resonant) than Darwinian. Thus, EAJ's view of evolution as the random interplay of "law and chance" (natural selection and mutation) appears rather dated as it tends to deny the same creative dynamism just attributed to nature, and her ability to "bring forth ever-new living forms." In short the Darwinian paradigm may not always best serve in demonstrating biosphere evolutionary dynamics.

The "Enter the Humans" chapter notes the rise of self-reflective consciousness as a phase shift or "singularity" [referred to in chapter 1 as the third big bang] and our extraordinary capacity to alter and exploit the natural environment, in ways that many

consider “unnatural.” Our sins in this arena are somberly enumerated at some length leading to the conclusion that we need to change our intellectual, emotional and ethical mindsets so as to foster a new respect for all life, not just for self interest (survival) but in order to resonate with the magnificence and generosity of the gift of creation. Given her interest in Darwin EAJ might have cited *Darwin's Lost Theory of Love* by David Loye, (reviewed Network 80, p. 43) which showed how, 12 years after the “Origin,” in *The Descent of Man* (1871), Darwin made 95 references to “love” and 90 to “morality.” Thus, Darwin recognised that humans, capable of formulating the golden rule, clearly manifest a strong moral sense or conscience, and so are a different “kind” of species – one not slavishly bound by the so called “laws” of natural selection promoted in the “Origin.”

This penultimate chapter made me ruminate on changes in human consciousness evident in our cultural evolution. Many in Darwin's day abhorred the notion that we might be descended from beastly jungle apes. Today we race to save them from extinction. We lament that Stone Age Native Americans ran herds of buffalo off cliffs and that greedy settlers slaughtered almost every last one in the 19th Century. Like cormorants fishing in the cleaned up waters of the Rhine or Thames, the Bison are a symbol of our very recent 20th and 21st century abilities to cherish biodiversity, and as noted by EAJ, to create university departments of Environmental Science and Sustainability and even programmes and books dealing with Ecological Theology.

But there is still much urgent work to be done, and in her powerful final chapter EAJ realistically considers what it has means to have “dominion” over the beasts. She points out that for Noah, concerned to help God with their survival, dominion meant stewardship, whereas for the likes of buffalo hunters in meant to “dominate” and plunder the natural world rapaciously. Equally powerful is the reminder of Job's argument with God who appeared out of a whirlwind, to ask “Where were you when I laid the foundation of the Earth?” and created the myriad of majestic creatures (beasts) each with their roles. Recently evolutionary science and many theologies have essentially come to agree that the biosphere is a miraculous community or web of life, with dynamics still poorly understood, of which we are an integral part.

This convergence of ecological sensibilities is also a profoundly theocentric view, and, as EAJ rightly says, a sign of shifting consciousness. Some activists may be seen as a modern expression of whirlwind frustration, asking “who dares mess irreverently with the biosphere?” But simply recognising the shift is not

enough: we must be active stewards. I would venture that we need to see ourselves as an organ of the biosphere, with a role befitting our ‘singular’ gifts as evolutionary offspring. Not least of these are our ability to exercise conscience and sense of community, show love and compassion, recognise problems and our ability to mitigate and solve them through intelligent stewardship and the exercise of choice and free will. This hopeful sentiment perhaps takes evolution-creation or science-religion debates beyond dialogue and into the realm of integration. God should not be a semantic obstacle when quoting EAJ and her conclusion: “Onwards, for the love of God.” Indeed, onwards, for the love of creation, her creatures and her beautiful beasts. .

medicine-health

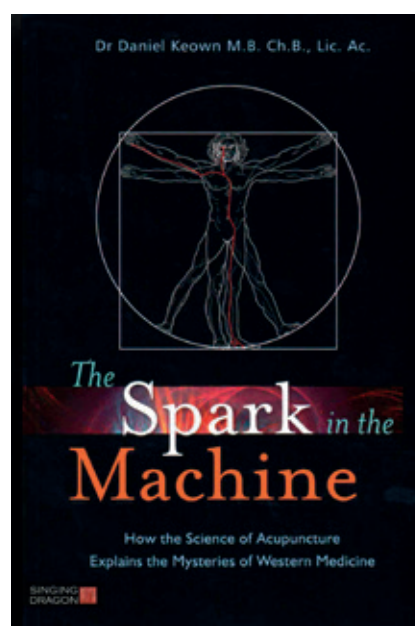
The Science of Acupuncture

David Lorimer

THE SPARK IN THE MACHINE

Dr Daniel Keown

Singing Dragon, 2014, 294 pp., \$19.95,
p/b – ISBN 978-1-84819-196-9



One of the differences between Western and other medical traditions is that Western medicine does not acknowledge the existence of subtle energy or subtle bodies – the only body is the physical and this can broadly be explained and mechanistic terms. It is slightly unfortunate, therefore, that the title of this book uses the word machine when it represents a real breakthrough in the understanding of acupuncture and the way it links with key concepts in Western medicine. This goes far beyond

the endorphin theory of acupuncture, which only predicts one effect - pain relief – when many others including lowering of blood pressure and heart rhythm regulation have been studied and established. The author is a medical doctor who has also completed a degree in Chinese medicine and acupuncture and has studied with Dr Wang Ju-Yi in Beijing.

The three parts of this book explain the science of acupuncture, embryology as understood by Chinese medicine, then the yin and yang channels covering the function of various organs. The book begins with a discussion of Robert Becker's research on salamanders, when he found that there was a reversal in the polarity of the normal electrical current when he amputated a limb and that this reversal would cause limb regeneration. The cells would once more de-differentiate into stem cells and then start rebuilding the limb. Significantly, when he re-reversed the polarity at injured limbs, the regeneration stopped. He then asked the significant question, explored in this book, whether this was the same mechanism as worked in acupuncture. The short answer seems to be yes.

The key to understanding this is the nature of fascia and collagen. The word fascia means bind together, and it binds our tissues, connecting organs to muscle, spine and nerves, surrounding bone and underpinning skin. It is vital to how the body forms and, in view of the author, explains acupuncture channels perfectly, as well as the nature of Qi and its internal pathways. In short, it is the overlooked link between acupuncture and anatomy. Collagen is the principal ingredient of fascia and is a triple helix. Most significantly, it is piezoelectric, with the ability to generate tiny electrical currents when an object is deformed. Fascia ‘is in effect an interconnected, living electrical web’ and collagen ‘should be seen as an electrical super-substance, semiconducting, piezoelectric, bio-helix, holding, generating and even directing body electricity.’ This leads on to a discussion of the parallels between Qi and electricity (biophotons are also discussed at this stage), and the formulation of Qi as the organising force of the body, intelligent metabolism or Life Force, a unifying concept expelled from modern biology in the 1920s.

These ideas are elaborated in the following chapters in relation to the function of organs and more basically to DNA and the various levels of fractals existing in the body. The author sees Qi as the organising or morphogenetic force behind DNA as well as embryology more generally. He explains the role of acupuncture points and energy disturbance as a precursor of disease. He coins the term elecQicity for the electrical organising energy running through the body and responsible for embryological self-organisation as a

morphogenetic field, concluding that when the West talks of fascial planes, the East speaks of acupuncture channels. This is surely a major conceptual breakthrough.

The second part is devoted to a detailed discussion of embryology in relation to Chinese medicine, explaining the basic terminology and the various dynamic processes and relating them to a Western understanding. The third part looks at the channels in Chinese medicine and their relation to the function of organs. In the course of the discussion on the heart, the author cites an interesting case of a boy who received a new heart and behaved towards the donor's parents in ways highly reminiscent of their own son. The recipient even recognised the father in a church congregation even though they had never met. Sometimes, the knowledge of Chinese medicine can be life-saving in a Western medical emergency (there are emergency case reports at the end of each section here). A medical colleague performed an arterial blood gas test on a patient, precisely on an acupuncture point known as the master point of blood vessels. Unfortunately, the needle had the effect of draining the Qi from the heart and lung channels and leading to immediate death. There is much more technical material here, which medical practitioners will be able to appreciate in more detail.

The epilogue discusses the need to know what you are measuring when conducting research. Medical researchers have tried to apply the rules of double-blind randomised controlled trials to acupuncture, but do they really know what they are measuring? The Chinese approach is holistic and contextual, so asthma may have a number of different causes in that philosophy. One of the problems is that sham points don't exist as conceived - there are strong points and weak points as well as good acupuncturists and bad acupuncturists. This would be enough to confound any results, and the author commendably recommends open-mindedness on the part of both Western medicine and acupuncturists when it comes to formulating the kind of science of acupuncture explained in this groundbreaking book.

An Inconvenient Truth

David Lorimer

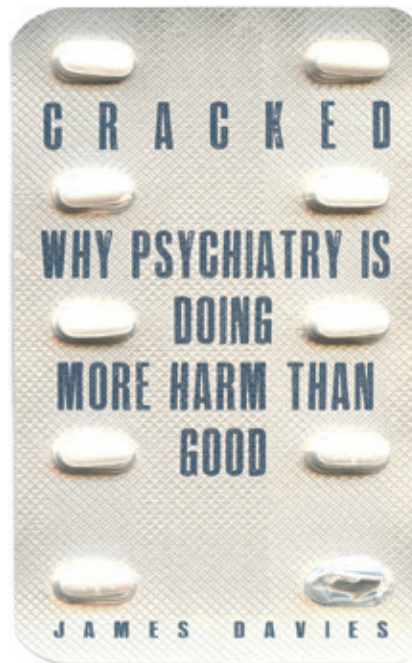
CRACKED

James Davies

Icon Books, 2014, 327 pp., £8.99, p/b
– ISBN 978-184831654-6

Aptly described on the cover as 'chilling reading' and 'a potent polemic', this book makes a good case to back up its subtitle of why psychiatry is doing more harm than good. In the US and the UK, an incredible one in four people will be diagnosed with a mental disorder in any

given year, and more than 50 million antidepressant prescriptions will be given in England alone. The author is a psychotherapist with a Ph.D. in medical and social anthropology from Oxford. He interviews many of the key people in the field in the course of his investigations, beginning with the DSM - the Bible of psychiatry (Diagnostic and Statistical Manual of Mental Disorders) now in its fifth edition.



The number of mental disorders has risen from 106 from the first edition in 1952 to 374 in the current edition, which is a story in itself. The process of arriving at a classification has been based on clinical consensus and professional recognition, naming and defining a condition without it necessarily having a biological basis or being the result of scientific research. It was decided that five symptoms would be adequate to make a diagnosis, without any real intellectual justification for this figure. Disorders are like constellations in the sky, the discernment of a pattern. One of the reasons for the rise in the number of mental disorders is what the author calls medicalisation of misery, which fails to distinguish between the normal challenges of life and actual mental disorder. For instance, there was a huge outcry when grief was medicalised in the latest edition. In other cases such as ADHD, self-harm and anorexia, the condition, once classified, becomes very common with a corresponding drug developed to treat it. In the view of the experts interviewed, this can lead to serious overdiagnosis and false epidemics.

Antidepressants have gross sales of £12.5 billion a year, but detailed research by Irving Kirsch (who discovered that 40% of trials were unpublished - needless to say the less

favourable ones) showed that they were hardly any more effective than placebos and the context of the trial itself encouraged a placebo effect through the expectation inherent in the experiment. Eli Lilly even marketed Prozac under the name Sarafem to treat premenstrual dysphoric disorder, so women were taking Prozac without knowing it. It is also clear that antidepressants do not actually cure people but rather induce an overall numbing effect that is not a return to normality. Some of these treatments are given in the name of chemical imbalance, which Davies shows to be a convenient myth hinting at a biological basis for the condition when there is none. The condition is effectively biologised and medicalised, which suits a chemical approach. This brings up another interesting question, namely the idea of mental disease as opposed to dis-ease, with the implicit assumption of a brain or biological basis to the condition. This approach is encouraged in medical schools and of course by the pharmaceutical industry but is seriously one-sided, as Davies points out later in the book.

As also indicated out in books I reviewed in April, leading psychiatrists and universities have extensive ties with the industry, as does the FDA, the regulatory body in the US. Key opinion formers are induced to support industry research and promote new drugs to their colleagues with their implicit intellectual authority. Many of these fees are undeclared by the professors to their universities, and Davies also gives an interesting example of Daniel Carlat, who was wooed by the industry to support the marketing of Effexor, having heard it promoted by a doctor he respected. Towards the end of the conference he received an envelope with \$750 and a note to go out and enjoy the city. When he returned to his practice, there were already two messages on his answering machine and he began giving presentations at £400 an hour. Eventually, on one occasion he mentioned the fact that the trials for this drug might have been too short, a point that was immediately picked up by the sales rep in the audience, who called the next day to ask if he had been ill. It was at this point that he realised that, from the point of view of the company, he was just a marketer for the drug.

Sometimes it can be important to understand the culture in order to market a drug effectively. The author gives an interesting example from Japan about how culture shapes the experience of illness. GSK held a conference on this topic, which enabled them to understand the Japanese mentality better and therefore to find the right words to promote their antidepressant drugs. This was hugely successful and resulted in a great increase in sales. Towards the end of the book, the author interviews the President of the

Royal College of Psychiatrists about the state of the profession, arguing that the non-medical approach is in fact the real work of psychiatry. He recommends that psychiatry needs to develop a greater humility about what it can achieve, that there should be much more thorough regulation and transparency about financial ties the pharmaceutical industry, that future psychiatrists should gain a greater critical awareness of the lack of a scientific basis for many psychiatric diagnoses, and finally that the public should become better informed about the current crisis in psychiatry.

This is where Davies' informed, incisive and highly readable book comes in. I would encourage everyone to read it (and I note that the author recently spoke to the London group). I also agree with his conclusion that the solution is not yet more medicalisation but rather 'an overhaul of our cultural beliefs, a re-infusing of life with spiritual, religious or humanistic meaning with emphasis on the essential involvement of community, and with whatever helps bring us greater direction, understanding, courage and purpose.'

philosophy-religion

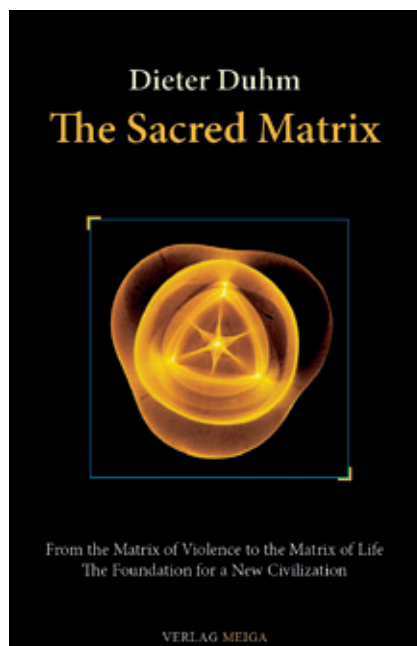
The Foundation for a New Civilisation

David Lorimer

THE SACRED MATRIX

Dieter Duhm

Meiga Verlag, 2005, 369 pp., no price given – ISBN 978-3-927226-16-2 – www.dieter-duhm.de, www.tamera.org



This is a truly radical and seminal book, ranking alongside the important work of Charles Eisenstein reviewed in previous issues. As readers will see, I

have also printed an article by Dieter Duhm in this issue. His background is particularly interesting, both as a psychologist and sociologist and at an earlier stage as an activist with the Marxist left in Germany. His 1972 book *Fear in Capitalism* was a bestseller. By 1974 he had left both University and political work and began an intensive exploration of religion, spirituality and the nature of consciousness. By the late 1970s he was already a leader in an alternative community, which has reached a new level in what he calls the Healing Biotope at Tamera in Portugal. Here people are trained to live the principles of a new civilisation based on a profound understanding of the sacred matrix.

The 12 chapter headings give a good sense of the scope of the book: a new direction for evolution, the Earth's cry for help, the legacy of history, the issue of sexuality, the concept of healing, a project for global peace work, the universal state of being, cooperation with Nature, the effectiveness of prayer, communities of the future, political theory and Tamera and the healing biotope project. He begins by quoting Einstein to the effect that what can be thought can also be done. New ways of life are possible and can be lived. The basic thrust of the book, as suggested by the title, is how to redirect the existing matrix of violence, oppression and fear through suitable shifts into the sacred matrix of universal life and interconnectedness. The 12 basic tenets (p. 11) summarise the argument elaborated in the following chapters. These include the transition from a patriarchal era to a new form of human civilisation, deconstructing global structures of violence and fear, racism and exploitation; the realisation that the inner and environmental crises are two aspects same condition; the healing of love between the sexes, transcending the historical repression of sexuality and showing how sexuality and spirituality are not mutually exclusive; the balancing of masculine and feminine; the realisation that we share one existence, one life and one consciousness; that there is a basic matrix inherent in all beings for a new world based on love and cooperation; that we need to establish new life systems and sustainable communities; that the transition from the matrix of violence to the matrix of life follows its own natural pattern or entelechy; and that the world is fundamentally a web of frequencies and information that connects all beings.

Duhm identifies three principal areas for cultural transformation: our relationship to Nature and Creation, our relationship to community, and our relationship to sensual love, all of which he regards as necessary for the establishment of a non-violent earth. His definition of realistic is far from pragmatic, but corresponds rather to

the needs of the Earth and life. Thinkers on his radar include not only Einstein, but also Nicola Tesla, David Hilbert, Walter Russell, Wilhelm Reich, Victor Schauburger and David Bohm - many of these people are unjustly neglected. An essential process in which we can all take part, even in our daily lives, is the shift from fear and suspicion to love and trust. Our communications and news systems are dominated by fear, and we receive very little inspiration from the many wonderful initiatives that are taking place around the planet because we do not hear about them. Duhm regards fear as a virus that is a suppression of life itself and encourages us put up defences against each other and closes down the heart.

Perhaps his most radical proposal is that 'a future worth living requires a different model of sensual love or it will not come about all.' Many alternatives have failed because of conflicts around sex, power and money. For Duhm, sexuality is the conceiving power in the universe, which, 'when it flows through the soul and body of a human being, elicits deep feelings of longing, desire and passion... it is deep communication, deep union and deep recognition at the physical level.' However, this is the most repressed area in modern society, as is evident from widespread abuses and the enormous amount of hidden activity on the Internet. Duhm quotes extensively from his partner Sabine Lichtenfels, who writes about 'the longing for the eternal presence of the Goddess and of coming home to her that touches us in our longing for permanent intimacy and partnership.' The suppression of female sexuality is a particularly important factor related to corresponding attitudes to the body and Nature, especially within Christian traditions. Ultimately, human love and divine love can be experienced as one as we find a deeper and freer basis for our relationships and see them embedded 'in the universal union with all beings.' This is not an easy process, as the author learned from demonising press coverage of the community in which he was a part in Germany.

Healing and wholeness are expressions of life itself, and Duhm regards love as the Archimedean fulcrum to open the heart. This love is not sentimental, but rather a divine power, a state of being, connection, surrender and service. Our power can be liberated by freeing up blockages and opening up to healing. This involves working on ourselves and realising the relationship between our own inner states and those of the outer world – Duhm expresses the principles in 10 commandments for peace workers and 10 tenets of healing (pp. 177, 203). We all live in a community of beings and have a responsibility towards them in terms of, for instance, not using food or products that involved cruelty against other living beings. Nature also seeks cooperation with us

and will reciprocate in unusual ways, as shown in an extraordinary occasion with rats in the community food store (p. 272).

In his chapter on prayer, Duhm reminds us of the implications of being an intrinsic expression of one life and one consciousness and therefore on the cosmic control circuit. This means that when we pray, central control also prays in us and through us reciprocally. Connecting to our higher self puts us on the correct frequency within the creative continuum so that we are also open to the inner voice - a voice of love and basic trust in the course of things. Trust and connection are also critical in the development of community and in the formation of new fields to inform new ways of life. Embedding this is a process of discipline, 'engaging in new behaviour in the small details of our lives' so as to live in alignment with our vision. This is exactly what is happening at Tamera, where personal problems are regarded as your task and inner peace a connection with life, community, universe and divinity that has overcome the fear and violence within us. This brings us back to need to reconnect our lives with the Sacred Matrix, part of the Great Work of our time. It is one thing to criticise the existing system, but another to live from the principles of a new civilisation. This brilliant, inspiring and courageous book sets out a full agenda for doing so.

No Faith in Zealous New Atheists

Martin Lockley

WHY SCIENCE DOES NOT DISPROVE GOD

Amir D. Aczel

William Morrow, New York, 2014, 294 pp., \$27.99, h/b - ISBN 978-0-06-223059

Amir Aczel, is a Boston University mathematician and prolific author of some 17 non-fiction books, many of which, like *Why Science does not Disprove God*, deal with big cosmological questions. He states that "the purpose of the book is to defend the integrity of science" which, he stresses, should not be used by the New Atheists, like Richard Dawkins, to further a dubious "sociocultural agenda." Without using tedious transcripts Aczel bases many of his arguments on interviews with 35 well-known figures whose reputations precede them. These include 10 Nobel laureates, like Steven Weinberg, gurus like Deepak Chopra and other well-knowns like Benoit Mandelbrot, Roger Penrose and Dawkins himself. Thus, his exposition is well-rounded. Nevertheless his message is clear: "new atheism is combative, aggressive and belligerent against people of faith," and moreover, willing to "bend and distort" science to this end. [Sorry Richard *et al.*, but you

asked for it!] SMN psychologists might be interested to ponder Dawkins claim that the abuse he suffered as a child was less damaging than being exposed to religion. Speaking for himself in this manner is clearly no consolation to others who have suffered abuse.

The book's early chapters flow chronologically from Paleolithic goddess figurines to early historical evidence that demonstrates "why archaeology does not disprove the Bible" making the fundamental point that both religious and scientific sensibilities spring from the same source in human consciousness. Thus, to label the former as a delusion afflicting stupid people is a gross psychological and philosophical simplification of humankind's search for meaning. Likewise the history of astronomy, astrology, mathematics and cosmology are intricately interwoven knowledge traditions and a perennial source of awe, wonder and mystery that the New Atheists seem to shun, belittle or explain away. Thus, dismissing this or that as invalid science displays a rather narrow minded view of the cosmos that borders on fundamentalism. By contrast Einstein replied to a young girl who asked him about his religious beliefs by writing "everyone who is seriously involved...in science becomes convinced that some spirit is manifest in the laws of the universe, one vastly superior to that of man. In this way the pursuit of science leads to a religious feeling."

The New Atheists do claim to be awed by natural phenomena, but in denying the need for any creative impulses they invoke quantum rules to infer that we "all emerged from quantum nothingness." Aczel points out that quantum physics implies no such "universe from nothing deception." It seems the New Atheists are evidently wedded to a nihilistic ideology from the outset. [Personally, I've never understood this concept of "nothingness" - or the rather silly question "why is there something rather than nothing?" Perhaps I'm wrong but the answer seems rather obvious: one cannot experience nothing!] To conceptualise nothing is a contradiction because something or someone has to do the conceptualising in the first place. [Likewise, to say the universe is meaningless is to say that one's nihilistic claim is also meaningless: check with Whitehead on that one]. Thus, I was intrigued to learn that Bernard de Espagnat, French philosopher and quantum physicist, suggested that quantum theory is only a *veiled reality theory* (italics original) that our greatest mathematical laws only partially address. Thus, it is "highly presumptuous" to infer that there is not something we cannot conceptualise. [This again seems reasonably obvious given that until quite recently we could not conceptualize gravity, electricity or quantum phenomena]. To suggest otherwise is to imply that science has

solved almost everything, and as New Atheists hold, proved the non-existence of God and done away with the need to explore any mystery beyond our current comprehension (and methodologies) of science. [Can you prove the non-existence of anything?] In short all serious (convincing) philosophers of science admit that science has limitations and that our conceptual abilities may be, to paraphrase, French physicist Herve Zwirn, as inferior to those of future generations as those of animals are to our own. Certainly to claim our science has disproved God or some other "external force of creation" is highly presumptuous and dogmatic.

Aczel goes on to remind us that life is unpredictable, and that things may change abruptly, as 'catastrophe theory' mathematicians will confirm. Human domination of Earth may be one such unexpected eventuality [ostensibly upsetting nature's equilibrium, our concept of equilibrium or nature's response! But, one may ask, are phase shifts between equilibrium and non-equilibrium unnatural?]

Aczel describes chapter 11, dealing with the "Goldilocks" Anthropic Principle (AP), as "the book's most important chapter." SMN readers probably need no reminder that the AP holds that nothing [that word again] including the universe as we know it could exist if the laws of nature were not fine-tuned exactly as they are. Physicist luminary Richard Feynman referred to the "fine constant structure" as a "magic" number, ostensibly written "you might say by the hand of God." Roger Penrose has spent a lifetime trying to understand these phenomena and in his books (e.g., *The Road to Reality*) uses such terms as "creator" and "act of God" quite freely. Why then is the AP so important besides the implication that we would not be here to ask the question without it? Aczel holds that as yet no scientific explanation exists for the ostensibly God-like AP. But ironically the New Atheists embrace the God-lingo of physicists, and Dawkins even finds the AP "beautiful - perhaps because [his] consciousness has been raised by Darwin." [Here I lose Dawkins' thread. How does he define raised consciousness?] Let's see what Aczel has to say. He points out that, as well as their nihilistic bent, and denial of meaning (other than their own), the New Atheists seem enamoured with robot and machine metaphors. "We are robots" writes Robert Kurzban, who seems, like Dawkins, to think computers could develop consciousness and take over the world. Daniel Dennett wrote in *Consciousness Explained* [some say "explained away"] that we don't really understand consciousness [even after he explained it] and even after "so many idiots" have worked on it! [Again one might loose the thread, given that such idiots make the machines to beat chess masters and perhaps take over the world].

I recommended the book to one of my colleagues who commented that it did not prove anything, except [I replied] perhaps what it set out to do – to show that Dawkins *et al.*, have not been scientific in their failed attempts to disprove God. What Aczel does do is keep us focused on the frontiers of consciousness, philosophical rumination and the limitations of rational, scientific discourse. We just don't know "whether mathematical space is an accurate description of real physical space-time" or a veiled or virtual facsimile. We "humans cannot perceive or understand the infinite in any meaningful way," [although we may glimpse and be awed by its deeper, more expansive, and meaningful manifestations in moments of insight, illumination or spiritual experience. Note to Richard Dawkins: that's my take and perhaps that of thousands of others who have reported to the Religious Experience Research Centre at the University of Wales. Perhaps Dawkins could report on how Darwin raised his consciousness]!!

Aczel winds up his exposition with discussion of the convergence of mathematics, spirituality and the human mind, pleasing, at least to this reader, for its holistic and philosophical tone, as it leaves new frontiers of deep structure and wisdom open for exploration. In this regard Aczel holds that the scientific argument for New Atheism fails [to acknowledge the unknown]. Science has not yet explained the miracle of universal fine-tuning, or consciousness [...sorry Doctor Dennett] nor have the New Atheists added anything to the discussion, except perhaps misinterpretations of where the complex and ambiguous evidence might lead. So the jury is out and Aczel admits "I have not proved the existence of God." However, he has shown that our "impulse to know the world and our place in it is at the roots of both science and spirituality." Aczel has provided good reasons for us to have little or no faith in the New Atheists, their zealous agenda or their unscientific arguments..

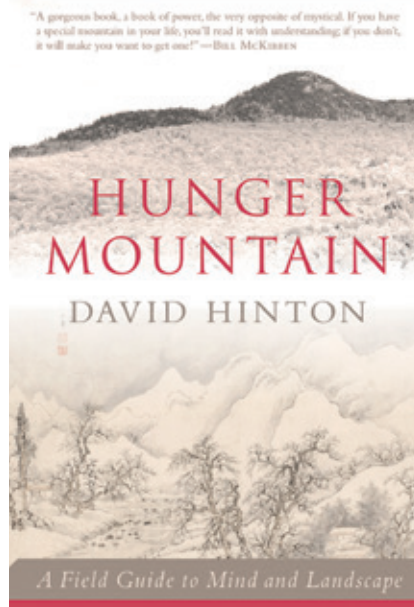
A Small Treasure Come to Light

Michael Tobert

HUNGER MOUNTAIN

David Hinton

Shambhahla 2014, 160 pp. \$14, p/b - ISBN 978-1611-800166,



Hunger Mountain is to be revered. It reaches us through the poetic words of David Hinton, a translator of Chinese poetry, a meditator and perhaps, who knows, an enlightened man. In the course of his walks up his favourite mountain in Vermont, the author reveals something of his own quiet mind and of the mind of Lao Tzu and Tu Fu and Su Tung-p'o, and of the ancient Chinese calligraphy, which is both reflection and encouragement of such minds. *Hunger Mountain* is a book that is out of the ordinary, a small treasure come to light.

The West's way of expressing the world was, and is, through combining letters to form words and sentences; classical Chinese used pictures as words. In addition, Chinese grammar, so I learn, was minimal. The things we in the West can hardly do without are, in classical Chinese, frequently absent: prepositions and conjunctions, verbs and tenses, distinctions between singular and plural, subjects and objects.

This leads to a different way of seeing the world. In the West, we bring an image into our minds and form sentences around it. This necessarily burdens the image with the mind it passes through, with ourselves. In ancient China, the Chinese characters and sparsity of grammar allow pictures of moon and mountain to be, as far as possible, pictures of how it is, the poet just a mirror reflecting what he sees.

As in the poem which David Hinton gives us, T'ao Ch'ien's 'Moonrise':

"Thin slice of ascending light, arc tipped / Aside all its bellied dark—new moon appears."

The poet shows us the thing itself, the moon, which is one of the 10,000 things that make up the Cosmos and around the moon is what is not: the bellied sky, the Absence or non-Being, the primal source from which the 10,000 things emerge.

This implied inclusion in the picture of what is absent is clearer when the characters of the language are before us on the page. David Hinton draws these for us – (to be scrutinised with microscope in hand) – and explicates them: the foxtails streaming out from the hands of the dancing woman in the symbol of non-being or generative emptiness, or the tiny brush strokes that conjure the image of lake from even tinier components: water, old and skin, so that lake becomes a wrinkled skin of ancient water. And behind the characters, he invites us to glimpse the meditative understanding that underpins Chinese thought: that Absence, equally with Presence makes up the Cosmos. It is the generative Absence from which the 10,000 things of the Presence emerge and to which they return; the moon and the bellied dark, each an aspect of the other.

Hunger Mountain is a series of linked reflections on the stuff of Chinese poetry: mountain, dragon, gate, silk, sincerity, friends – there are 21 short chapters – and mirror. Of this he says, *'The beauty of mirror as metaphor for empty mind is that absence is its essence. The mirror is defined by what it is not, by whatever it reflects, and so it is a metaphor that is almost not a metaphor at all. But still there remains a trace: the surface, the inside and outside, and so the subjectivity it is trying to get beyond.'*

And he links this, as inevitably he must, to meditation, since it is (only) through meditation that the truth at which the poets point can be experienced. *'Meditative practice reveals that we are most fundamentally the opening of consciousness that watches thought coming and going, rather than the center of thought and intention with which we normally identify. And moving deeper into meditative practice, as the restless train of thought falls silent, self and its constructions of the world dissolve away into that emptiness of Absence. What remains then is consciousness emptied of all contents, known in Ch'an (Zen) terminology as "no-mind" or "empty mind". To dwell in that elemental emptiness, that generative realm of Absence is to ... inhabit the primal Cosmos in the most complete and immediate way.'*

Towards the end of the book, the author climbs Hunger Mountain in the rain and records his change in mental state from the time he first hears the rain to the moment the distinction between himself and the rain ceases:



'To hear autumn rain falling on Hunger Mountain is to long for the sound of autumn rain falling on Hunger mountain.

To hear autumn rain falling on Hunger Mountain is to hear autumn rain falling on Hunger mountain.

To hear autumn rain falling on Hunger Mountain is autumn rain falling on Hunger mountain.

Autumn rain falling on Hunger Mountain hearing rain fall.

Longing.'

His journey takes us from the implicit 'I' that is the centre of western thought to the thing itself, that which is as it is. And this movement away from the central 'I' towards the 'consciousness emptied of all contents' leads naturally to the idea of fundamental consciousness, a consciousness that does not depend on the body; so that death becomes the return of consciousness to its true form. Chuang Tzu talks of the freedom of released consciousness like this:

"On loan from everything else, they'll soon be entrusted back to the one body. Forgetting liver and gallbladder, abandoning ears and eyes—they'll continue on again, tumbling and twirling through a blur of endings and beginnings. They roam at ease beyond the tawdry dust of this world, wander without themselves, boundless and free through the selfless unfolding of things."

Reading David Hinton is to be aware of both his deep scholarship and of the validity of his personal experience. With many who write on this subject, I find myself asking, 'Yes, the words are fine, but has he experienced the state he describes?' In *Hunger Mountain*, the attempt to explain in words what words cannot explain is done with such modesty that scepticism is difficult. David Hinton may be an enlightened man; who can say?

Michael Tobert's latest novel is *The Cryptogram*.

Towards a New Culture

David Lorimer

SEALED BY THE SUN

Emily Michael

Self-published, 2014, 500 pp., no price given, p/b – ISBN 978-954-2987-10-9, www.emily-michael.info

Rudolf Steiner (1861-1925) and Peter Deunov (1864-1944) were contemporary Christ and Michael centred mystics who knew about each other's work and were specially connected through a Bulgarian called Boyan Boev (1883-1963) as Boev was initially a student of Steiner, who recommended that he should in fact study under Peter Deunov (Beinsa Douno). Boev was a science teacher and conscientious objector during World War I, during

which time he spent a spell in prison before being enlisted as a paramedic. His support for Deunov meant that he lost his teaching job during the early 1920s, and devoted the rest of his life to Deunov and his work, becoming one of the principal transcribers of his lectures. He is the author of a small book on the influence of the Bogomils, which I have reviewed in Books in Brief in this issue. This book is much more extensive and tells the spiritual history of Bulgaria with a particular emphasis on the Bogomils and their legacy - the work of Deunov in the 20th century is an expression of this same impulse of cultural renewal. As some readers will know, the corresponding expression of Bogomilism in France was the Cathar movement in Languedoc, although this had its own lineage to early Christianity.

Peter Deunov's father was a prominent Orthodox priest who visited Mount Athos as a young man. Deunov was a violinist and composed more than 200 songs and melodies, as well as the music for the sacred dance paneurhythmy, about which I edited a book in 1991. He trained as a primary school teacher, then went to America between 1888 and 1895, where he studied medicine and theology at Drew University. Returning to Bulgaria in 1895, he spent an intense period of retreat before beginning to teach more widely in 1900. In 1897 he experienced an initiatic overshadowing by the being Beinsa Douno and was given a mission as a World Teacher. He had a further initiatic encounter with Christ in 1914. There also seems to be a special spiritual connection with the Alsatian/American healer Francis Schlatter, who died in 1897. Reportedly, neither slept, but continued their spiritual work in other dimensions.

This book has enabled me to understand the spiritual significance of Beinsa Douno at a new level, especially in relation to Steiner and Krishnamurti; it also helped me realise that his lectures were not only directed at the human beings physically present, but also at beings from other levels and indeed to human beings in the future. As already mentioned, it was Steiner who advised Boev in 1910 to return to Bulgaria and study with Beinsa Douno. In 1929 there was a major meeting in Holland, at which Krishnamurti was to be declared the World Teacher at the instigation of Annie Besant, who had found him originally in 1910. Krishnamurti refused to take on this role but said that the time for the World Teacher to appear had come: 'he is already in a physical body on earth; however, he is not among us now. The World Teacher is in Bulgaria and his name is Peter Deunov.'

The book also refers to a study by Rene Guenon entitled *Theosophism: History of a Pseudo-Religion*, which I have not read but it makes the case that Krishnamurti was raised

by Besant and Charles Leadbeater as part of a plan by the intelligence services, which Krishnamurti eventually renounced. Steiner had already left the Theosophists in 1912. Guenon said of Beinsa Douno that 'he is the real messenger of Heaven. He is the greatest person who has come down to the earth. He did not come to create a new religion, of which there are already enough; neither did he come with a new science or with the intention of founding a social movement. He is the greatest spiritual magnet yet able to appear on the earth. He will magnetise his disciples with the magnetism of love, and they in turn will transmit this magnetism to humankind as a whole.' Einstein had come to know of Beinsa Douno in 1922 and shared his high ideals of a new culture. In 1928, he said: 'all the world renders homage to me and I render homage to the Master Peter Deunov from Bulgaria.'

There is much rich material and background stories of Boev and his friends in this book as well as documents from Beinsa Douno and relating to the work of Rudolf Steiner. Some of his friends contribute memoirs about him, including an incident when as a young man he hid from the Turks in a cave without any food. If there is a God, he thought, maybe give me some bread to satisfy my hunger and when I return to Bulgaria, I will give up atheism and preach that God exists and helps people in need. Half an hour later, a turtle appeared at the entrance of the cave with some bread...Boev subsequently went to Munich to study with Steiner. Another section in the book tells the story of Jenny Pateva and the translation into Bulgarian of Steiner's book on knowledge of the higher worlds. It describes her major work for peace and women's issues, also inspired by Leo Tolstoy, who had been on his way to meet Deunov, but had not made it in time.

For Douno, the living Christ represents the culture of resurrection rather than that of the cross. This is expressed in the three cardinal principles of love, wisdom and truth and the lifestyle of love, peace and non-resistance to evil. In a particularly interesting comment on these principles, Boev explains how love represents the East, truth the North, wisdom the West and the polarity of good and evil the South. The new culture entails the overcoming of evil with good, as Christ explained in the Sermon on the Mount, but we still try to fight evil and destroy it instead. Only a few have realised how self-defeating this cycle of violence is, and the world continues on this course. This was a fundamental insight promoted by Tolstoy and taken up by Gandhi, Martin Luther King and Desmond Tutu. Readers will find much spiritual inspiration in this book and gain a clearer understanding of the real spiritual agenda of our time

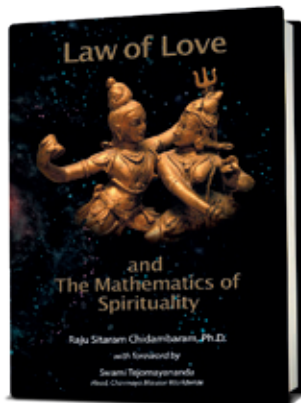
Measuring Spiritual Progress

David Lorimer

LAW OF LOVE AND THE MATHEMATICS OF SPIRITUALITY

Raju Sitaram
Chidambaram, PhD

AuthorHouse, 2011, 308 pp., \$19.95, p/b – ISBN 978-1-4567-9500-9



The author of this fascinating book has managed to combine his interests in Vedanta (associated with Swami Chinmayananda) with his training in mathematics in a single volume. The three parts present the Vedantic vision of creation, a mathematical representation of spiritual progress and an account of Vedanta's answer to life's persistent questions. At the beginning of the book, he recounts an incident with the great Indian philosopher Sarvepalli Radhakrishnan, who was then vice president of India. He asked about the historic stand-off between science and religion, which elicited the memorable one-liner: 'a little bit of science takes you away from religion – a little bit more of it will bring you right back to it.' The author asks if spirituality, like science, can be evidence-based, and his answer is that it can be intelligently pursued, rationally understood and experienced here and now.

He draws significant distinctions between spirituality and religion, illustrating his argument with a layered diagram with core spiritual truths at the centre and theology, mythology, sacraments and institutions further out. This enables him to map the spiritual journey as one from ignorance to perfect knowledge through worldly experience. The next chapter explains in some detail the basic terminology and worldview of Vedanta, from which he derives his own model of the person or *jiva* and our spiritual evolution towards liberation. He brings in an important distinction between eating (*bhoga*) and witnessing (*yoga*), corresponding to the bird that eats and the one who watches the process. Progress is one in knowledge and goodness leading to detachment and unconditional love. He discusses the logic of Vedanta in relation to the modern science of consciousness, also drawing parallels with the work of Amit Goswami.

This leads into the second, mathematical part beginning with a list of mathematical symbols used. *Jiva* is the experienter and the experienced is the world of objects, emotions and thoughts, with *t* as this experienced world at time *t* where the symbol *M* stands for the whole field of experiences. He then introduces an important graphical representation with the horizontal axis of spiritual detachment (θ) standing

for zero while the vertical indicates the maximum attainment or $\pi/2$. This puts the eating bird on the horizontal axis and the witnessing bird on the vertical, thus enabling the author to chart the progress curve of a *jiva* through time as progressing towards full attainment and realisation, which

is also an embodiment of love (pp. 103, 117) and a realisation of the oneness of being. The author finds a correspondence between the language of Vedanta and modern physics, which he also illustrates graphically, relating it to the idea of accumulated merit in time. There is then a technical chapter on Sri Ramana's principle of personal will, a theme to which the author returns later.

A separate but related approach is the theory of Vasanas or tendencies where the spectrum ranges from *tamas* through *rajas* to *sattva* and *tattva* of self-realisation. He formulates this as a Vasana function $V(x,t)$ where the vertical axis is the intensity *V* of Vasana *x* and the horizontal represents the Vasana spectrum. Also referring to the chakras of kundalini yoga, the author specifies that the intensity of a Vasana can be thought of as the frequency or (energetic) rate of vibration either of a chakra or a particular Vasana. Various perturbations can influence the position of the *jiva* on this spectrum, but the underlying idea is to gain sufficient control of the mind to move into a *sattvic* state. Suffering is inevitable and the way in which one addresses it will depend upon where one is on the Vasana spectrum. The *sattvic* is increasing detachment, but the nature of this path will depend upon whether the *jiva* focuses most on the yoga of *jnana* (wisdom), *bhakti* (love) or *karma* (action); in all cases, the end is service.

A discussion of time brings the subject back to free will in the light of the assertion of modern physics that distinctions between past, present and future are an illusion. He argues that *jivas* 'only experience what already exists and can do nothing "now" that has not "already" been done.' I take this as the viewpoint of the witness in a state of non-duality. However, one should also note that Prigogine fundamentally challenged this understanding of physics with his work on nonlinear dynamics in relation to evolution. For the author, however, all states and experiences are already inscribed on the Cosmic Mind (*M*) like a CD. This is the Ramana Maharshi view that there is ultimately only one experienter, which is hard to fathom from the angle of a separate ego.

The third part discusses Vedanta's answers to 8 conundrums relating to the nature of the world, evil, choice, love, action and the nature of problems in this Life (Limitless Incessant Flow of Experience). The author gives his own answers to these basic questions of life and the Cosmic Play of Isvara, asserting that the ultimate purpose of life is spiritual growth, and more especially the embodiment of love, which allows him a final mathematical formulation from E to F - empty the mind of thoughts leading to worldly attachment and fill the heart with universal love based on knowledge. He adds a few thoughts on the potential application of love to modern life, a topic extensively covered in the work of Charles Eisenstein. He advocates both research into an education in spirituality, which is already occurring, although much of what is taught in schools is comparative religion rather than the practice of spirituality. I can't say that I followed all the mathematical intricacies in the second part of the book (mathematicians will gain a great deal more than me from this section) but I deeply appreciated the overall thrust of the book in reconciling science and spirituality with an emphasis on the personal development of wisdom and love.

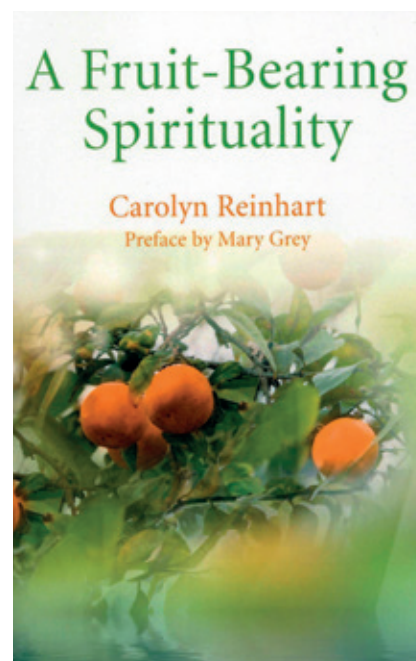
Science and Social Praxis

Chris Clarke

A FRUIT-BEARING SPIRITUALITY

Carolyn Reinhart

Zero Books, 2013, 192 pp., £11.99, p/b – ISBN 978-1-78099-441-3



For those who regard spirituality as a private indulgence, Caroline Reinhart provides one of the best antidotes. She

begins her book with her experiences in developing a Centre for disabled people and carers on a wide tract of virgin land on the South coast of England, where land and people, both in need of care, called forth a practical spirituality that was integrated with action – a combination for which she uses the term “praxis”. In describing this, Reinhart builds the first section of the book as an exposition of this integrated praxis, empowering both individuals and communities. Crucially, praxis is transformative, changing individuals and communities.

In the second section the context is opened up to society as a whole, and particularly to the idea that science can support social praxis. Here I felt less comfortable, as she drew almost exclusively from writers such as Zohar, who often take radical liberties with quantum physics; or from Goswami and Laszlo who re-write quantum physics to suit their own ideas. Her conclusion that science can support a union of action and spirituality does, however, remain sound, though much work is still needed to make this a reality within the mainstream scientific community.

The final section is the most effective, as Reinhart spells out the practicalities of living in the light of these insights, and strikingly reaches the awareness (emphasised in Christianity but actually universal) that the core of a transformative life – for individuals and for societies – is love. The cumulative development of her three sections builds into an important vision of a future world, making this valuable contribution to modern spirituality.

Chris Clarke was Professor of Applied Mathematics at the University of Southampton..

psychology- consciousness studies

Western Civilisation on the Psychiatrist's Couch

David Lorimer

ANALYZE WEST

Dr Nicholas Beecroft

Self-published, 2014, 371 pp., no price given, p/b – see www.analyzewest.com and www.futureofwesterncivilization.com

In this brilliant, original and entertaining book, psychiatrist Nicholas Beecroft conjures up Western civilisation in a character called West who is on the brink of suicide when he arrives in the office of psychiatrist Dr James Hill. He is bloated, consumed with fear and anxiety and has lost his self-confidence and sense of direction. He does not know whether he is on

the brink of a breakthrough to an enlightened global consciousness or a collapse into extremism, disruptive climate change, terrorism and Chinese domination - or a bit of both. Nicholas is a military and organisational psychiatrist who has consulted on the psychology of international relations, cultural diplomacy, national identity and counterterrorism. He has also interviewed 30 visionary leaders in his future of Western civilisation series, which feeds into the content of this book.

The book takes the form of a novel with a subplot about the pressures of modern medicine and psychiatry woven into a love story, which also gets Dr Hill into trouble, but has a happy ending and helps keep readers turning the page. West is quite embarrassed to turn up in a psychiatrist's office as the spirit of Western civilisation, which also puts Hill in an awkward situation when it comes to explaining the nature of the patient and his condition. He is very nervous about falling into the hands of the media or his competitors and when asked about his age, says around 3000. He has been suffering from panic attacks since 2008 but has all kinds of other worries to contend with as well, leading to a loss of self-confidence and low self-esteem. He has a vast appetite for oil and gas but realises there is a limit to his growth. Sometimes he eats healthily, but most of the time he eats processed junk food and is caught in a cycle of bingeing and dieting.

The second session introduces the voices of spiral dynamics, with their different views of (and values relating to) human development, which they proceed to explain to West. These voices are all present within him and show themselves in different guises at contemporary events. They are like multiple personalities, and each has its own complaints. The internal dialogue helps him to come to terms with his situation and the reader is soon back in medical reality, including a complaint about Dr Hill's conduct in approaching a junior doctor, Suki Chen, for a date. West then turns up again in the emergency department, having been found drunk and having taken an overdose on Waterloo Bridge. The dialogue continues, and Hill recommends mindfulness-based stress reduction before going on to a discussion of truth and science.

Subsequent dialogues enable West to explore different aspects of leadership and human potential, environment and resources, energy, sex and gender, meaning and purpose, economics, power and authority, religious extremism, security, defence and peace. The position and prospects of various individual countries are brought in, including Russia, China, India, Africa and the Arab world. This enables Nicholas' experience in international relations to be brought to bear on such questions

as identity and racism, escaping the victim – perpetrator – rescuer triangle, transforming fear and anger into love, and questions of equality and justice. Throughout these discussions, the voices of spiral dynamics continue to be expressed and exchanged.

Meanwhile, the new chief executive of the health trust suspends him without pay pending referral to the General Medical Council on two grounds: abusing his power and position by initiating a sexual relationship with a junior doctor, and seeing Mr West without keeping any records or personal details or writing to his GP. Moreover, he has been deliberately concealed from his colleagues when the patient is clearly psychotic with delusions of grandeur and almost committed suicide as a result of Hill's inaccurate diagnosis and lack of adequate treatment. Eventually, the GMC hearing takes place with legal cross-examination. The prosecution claims that West has paranoid schizophrenia and needs antipsychotics, antidepressants and sedatives. It turns out, however, that these senior trust doctors had hacked into Dr Hill's computer, which is a criminal offence. At this point, West himself enters the chamber and it turns out that he knows everything about those prosecuting Dr Hill, including the fact that the prosecution barrister takes cocaine at sex parties. The hearing ends in disarray and Dr Hill is eventually cleared.

The last part of the book introduces the New Magna Carta, the subject of Nicholas' next book, representing his positive vision of the future. It is an important state occasion enabling West to make a public declaration and inviting people to rewrite the Magna Carta for the 21st-century. At this point he introduces Dr Hill as the psychiatrist who has been helping him clarify his thinking and find his voice. West expresses his strengths and weaknesses, what he was grateful for and ashamed of, and where he is heading in an emergent, evolutionary process. There are questions from the audience, which are difficult to answer because of the contradictory inner voices already encountered during the process. However, he does have a highest set of values, which the reader will recognise as drivers of human Progress (p. 357). He also knows what is required for humans to thrive and survive. The book is quite an epic journey and the next episode will be a psychiatrist's prescription for Western civilisation, to be published in 2015, which I will personally look forward to reading and reviewing. In the meantime, I would recommend going on the instructive and entertaining journey recounted in this book.

Wise Action*David Lorimer***FULL SPECTRUM INTELLIGENCE****Chris Thomson**

Changemaker Books, 2014, 194 pp., £8.99, p/b – ISBN 978-1-78279-693-0

When Chris was working in Edinburgh as a lawyer, he was in the Court of Session in Edinburgh one day when Lord Stott was speaking, an occasion that made a great impression on him. He used simple language, spoke slowly and clearly, saying only what was necessary and no more. Chris comments that he has since tried to emulate him by keeping his own language clear, simple and relevant. This clarity and simplicity is one of the great strengths of this directly written book, drawing both on his own experience and his wide knowledge of many different disciplines. There is no elaborate footnote analysis or bibliography, although some books are referred to in the text. The first part describes the nature of intelligence and its importance, the second is a practical guide on improving various aspects of intelligence, while the third explores the relationship between intelligence, knowing and belief, as well as including two chapters on intelligence in action.

Indeed, Chris defines intelligence in terms of behaviour rather than any measured capacity and asks at the beginning of the book if there is in fact intelligent life on the planet, judging from our actions. He quotes an intergalactic visitor using various criteria of development who concludes that human beings regard themselves as more intelligent than they really are and seem to value technological capacity higher than human capacity - adding that there are some higher-order intelligences possibly worth contacting and that most of them live in the oceans... He sees us as a problem-causing species that can nevertheless develop as knowers, in consciousness and in the intelligence. Throughout the book there are questions asked of the reader. By full spectrum intelligence, Chris means mental, emotional, intuitive, social, spiritual and physical intelligence. After describing some interesting personal experiences he explains the intelligence process in terms of awareness, understanding and response. He summarises this in a useful chart with key questions relating to each of the intelligences (Howard Gardner's multiple intelligences are a slightly different framework.)

In the second part of the book, Chris not only describes his understanding of these various intelligences, but also provides to some useful exercises to develop them. Under physical intelligence you can count how many sounds you can hear at any given moment or walk along a block noticing as much as you can and imagining that

someone is waiting to test you at the end. It is certainly true that we are much less aware and observant than we might be. Martial arts practitioners develop a sense of the body absent in non-practitioners. On emotional intelligence, Chris gives guidance on becoming quiet inside, some of which involves slowing down (I will come back to this further on). Mental intelligence is characterised by clarity, openness, strength and creativity while also looking at deeper causes and deeper solutions. Chris gives the example of treating problems only on a symptomatic level, showing how inefficient this approach in fact is. He sees intuitive intelligence as based on interconnectedness and recommends that we treat coincidences as messages. He gives an interesting example of social intelligence in a Bohmian dialogue process where assumptions have to be suspended and one has a chance to become quieter inside (I may have been there). Spiritual intelligence involves the development of our inner senses and he gives a good explanation of the universe as holarchy - we can tune into various levels. This kind of experience also refines our understanding of the relationship between spirit and matter.

A chapter on other senses such as identity, health, survival, quality and nature of right and wrong leads into an excellent one on 'less is better.' Our whole culture is based on the notion of more as better, which for Chris means that we do too much, want too much, say too much, rush to much and try to control too much. He argues that many of our major systemic problems are due to this mindset, suggesting that it is better to do less and live more, have less and enjoy more, say less, rush less and make less effort, applying the law of reverse or optimum effort. He elaborates helpfully on all these points, commenting on the way that many meetings are unnecessary and reports and emails too long and poorly written. As many readers will know, the slow movement is an antidote to the stress of modern busyness. Some of these same points apply to the intelligent organisation, the focus of the next chapter, where Chris recommends a shift to 'sense, adapt and respond' from 'predict, command and control.'

He then moves on to science, consciousness and energy, suggesting that human knowledge is the recognition of order, and progress the wise use of that recognition. This leads him to question the status of chance and randomness as inherent qualities of the world - he sees them rather as features of ignorance and qualities of the relationship between us and the world. Chance is often used as a way of explaining away events that some people feel are subjectively relevant. The final chapter on spiritual wealth questions many of the assumptions of modernity based on its materialistic

worldview. I think he is right to assert that this leads to a loss of deeper meaning and wisdom - this corresponds to his earlier observation that, while GDP has continued to rise, the broader index of the Genuine Progress Indicator has been level since 1975. He questions the assumptions of what he calls economism and sketches some key features of a new economics, a new education, a new healthcare, a new science and a new politics (maybe the subject of his next book?). His afterword paints a more hopeful picture on the basis that we can develop our intelligences along the lines he suggests and provides a cautionary note from another civilisation with an imbalance in the opposite direction. I agree with Phil Hanlon when he writes in the foreword that Chris's book is a good antidote to the dis-eases of modernity with its practical, instructive and down to earth approach.

Connecting Consciousness*David Lorimer***KNOWING, DOING AND BEING****Chris Clarke (SMN)**

Imprint Academic, 2014, 216 pp., £14.95, p/b – ISBN 978-1845-40455-0

In this short and succinct but ambitious book, Chris Clarke proposes new foundations for consciousness studies based on scientific findings of the last 50 years. The book has seven chapters and extensive footnotes, with useful summaries at the end of the chapter. Chris follows in the footsteps of Immanuel Kant in arguing that 'what we know about our world is conditioned by our capacity for knowing things, which establishes a connection at a fundamental level between knowing and what is known;' in this respect, the basis of our knowing is consciousness. Using his expertise as a mathematical physicist, Chris explores the connection between quantum theory and consciousness - what we know, what we are and how we act - hence the title referring to knowing, doing and being. In this context, consciousness refers to the essentially subjective aspect of our knowing as distinct from the more formal part that can be embodied in language.

One of the most important concepts running through the book is the division in the components of mind between the relational or implicational and the propositional (based on the work of Teasdale and Barnard) and paralleled by Iain McGilchrist's work on the distinction between right and left hemisphere styles of thinking. A key point is that 'the dominant scientific view rests only on our propositional knowing but nonetheless it identifies our current scientific theories with "reality".' Needless to say, Chris

regards this as too narrow a definition of reality and seeks 'a wholeness of knowing' beyond this. He discusses Kant's important notion of apperception or understanding of sense perception in relation to ourselves, taking up the challenge to investigate this in the light of modern developments. Some researchers like Nagel have pursued this question from the inside, while others like Dennett articulate a mechanistic, outside-in approach. Chris offers his own definition of consciousness as 'the form of our total subjective experience.' This allows him to incorporate spirituality in the scope of his exploration and to postulate pure being beyond any particular states. In this context, spirituality is an exploration of the relational subsystem.

The next chapter on quantum theory is the most technical, but key concepts are clearly articulated and explained, including measurement, entanglement, histories and quantum cosmology. We ourselves are an integral part of any system, which makes the notion of pure observation problematic. As Chris observes, physics has no notion of being because this belongs to the relational rather than the propositional way of knowing. He now moves on to a more detailed consideration of the subsystems of the mind and the ways in which they have become distinguished in the history of philosophy, linking the rise of the propositional with Aristotle. He argues that our relational knowing must once more be acknowledged as an essential part of being human, but also of physics. Here he draws on the work of Matte Blanco on symmetric logic, paralleled with developments in quantum logic and points to a common core relating to some systems in context-dependent association allowing for degrees of truth.

In answer to the question of what consciousness does, Chris states that it delivers a real universe. He explores will and intention in the light of the experiments with random number generators, commenting on the small effect size and its implication that consciousness cannot initiate quantum collapse. Any adequate theoretical framework must model what the propositional receives from the relational and it is here that he reintroduces the notion of being – of which consciousness and brain are aspects. His own theory proposes the notion of assertion as an alternative to observation, and indicates how this could contribute to an adequate theoretical underpinning of parapsychology. In the next chapter on what things are conscious, he sums up the argument so far, calling those things that have consciousness beings. He suggests that the cosmos is a being at the top level in the hierarchy of nested beings and corresponding to the relationship between cosmic and individual consciousness.

Any new programme for consciousness studies must in some way connect our propositional and relational knowing of consciousness, which we can pursue through praxis. Chris links this with the work of Matthew Fox and Brian Swimme that involves the wholeness of our being as what Spinoza called *conatus*, the striving of each being to persist in its own being. He ends by sounding a note of self-awareness about the recondite nature of his discussion of quantum theory and consciousness. Important as this is, social and ecological justice is arguably even more important, and which Chris takes equally seriously. He is able to integrate these in himself and encourages readers to pursue their own integral path. This is a book that repays close attention and reflection and is an important contribution to the interface between science and spirituality and between the relational and propositional subsystems of the mind.

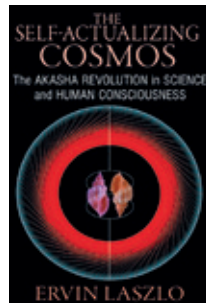
The Deep Dimension and Physical Reality

Paul Kieniewicz

THE SELF-ACTUALIZING COSMOS

Ervin Laszlo (SMN) with contributions by Paul LaViolette, Peter Jakubowski and others.

Inner Traditions 2014 199pp \$14.95
ISBN 978-162055276-6



that appear to propagate faster than the speed of light and are not limited by space-time geometries. Like a universal ether they pervade the entire universe, and are not limited by time either. Laszlo believes that existing physics cannot explain non-local phenomena. A new paradigm is required such as the Akashic paradigm – the subject of this book.

He brings the reader up to date with the latest findings in particle physics that are difficult to explain in terms of existing physics. Quantum entanglement is one example, where information between related sub-atomic particles appears to propagate instantaneously. In one experiment, the intention to observe one particle instantly affects the behaviour of another, even though the experiment is never carried out. Other examples of non-locality are parapsychological phenomena such

as remote healing, telepathic links, and remote communication with plants and animals. Those phenomena can be understood within the framework of a deep dimension that enfolds all of space-time.

An analogy to the deep dimension is a sea wave whose surface represents space-time as we know it, the Manifest dimensions, (M-dimension) while within the body of the wave is the non-local dimension, the A-dimension (A for Akashic). Akasha and the Akashic field are not new theories but were proposed by Hindu philosophers thousands of years ago as the universal ground that gives birth to the physical world. Laszlo points out that physical fields (gravitation, electro-magnetic etc) and sub-atomic particles are not real entities originating in our manifest world, but emerge into it from the A-dimension. A-dimension may explain not only non-local phenomena but the fine tuning of physical constants required for our universe to exist. In a cyclical universe, the memory of one universe, its physical properties, can be carried forward into the next via the A-dimension.

However the A-dimension is not only a theoretical concept proposed to explain new physics. It plays a fundamental role in our daily lives, and is accessible to anyone who takes the trouble to access it. He interviews a healer, Dr. Maria Sagi who recounts how she accesses and uses the A-Dimension in her work. Her healing crosses not only space boundaries, as in remote healing, but also time. She can heal wounds that happened in a subject's past. However one doesn't need to be a medium, clairvoyant or healer to experience the A-dimension. It is where our consciousness arises. The A-dimension can explain the hard problem of consciousness – how a physical brain and consciousness (probably non-physical) are able to interact. Consciousness resides in the A-dimension while the brain works in the M-dimension. Because the A-dimension is beyond space and time, it contains the entire consciousness of the universe, all information that is, was and is to come. Potentially we have access to it. However our brains filter that information to protect us from an overload that would burn us out. We can however open the filter to allow more information in, via altered states of consciousness, achievable through a variety of methods.

How can the Akashic field be incorporated into modern physics? Two promising hypotheses, Paul LaViolette's Sub Quantum Kinetics and Peter Jakubowski's Universal Quantum Field may provide the framework for the A-dimension. To understand those chapters the reader must have a specialist's knowledge of sub-atomic physics. La Violette postulates a "space-filling etheric medium" populated by entities called

etherons that give birth to elementary particles in the M-dimension. This recalls the continuous creation in the Steady State Theory of Fred Hoyle. Jakubowski's Universal Quantum Field is unobservable except for fluctuations that cross it. Our world is composed of those fluctuations. Both hypotheses clearly have yet to make testable predictions before they can be accepted. However I am encouraged to see some physicists grappling with the issues instead of dismissing them.

"The Self-Actualizing Cosmos" presents many provocative ideas that challenge not only physics but our perception of who we are and the nature of our consciousness. The realisation that our consciousness arises in a deep dimension, beyond space and time, and indeed, that there is only one consciousness, can be life-transforming. For those familiar with Laszlo's writings, this book presents his latest thinking. For those new to those ideas, it is an excellent introduction to them.

Paul Kieniewicz is a geologist, astronomer and writer. He is the author of *Gaia's Children*, co-author with Andrew Glazewski of *Harmony of the Universe*.

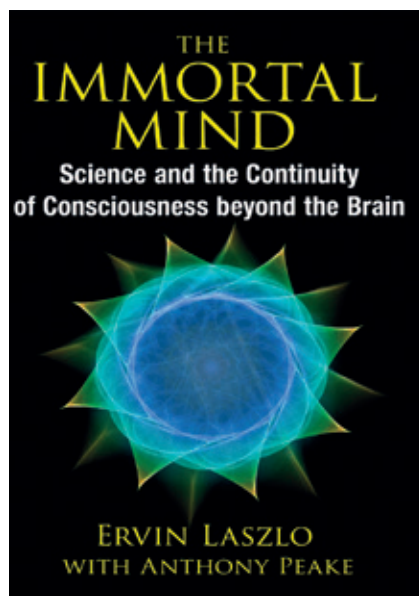
Consciousness beyond the Brain?

David Lorimer

THE IMMORTAL MIND

Ervin Laszlo (SMN) and Anthony Peake

Inner Traditions, 2014, 169 pp., \$16.95, p/b – ISBN 978-162055303-9



My own book on this question came out in 1984 and covers some of the same ground in a slightly different way, coming to a broadly similar conclusion. The book is in three parts: the evidence for consciousness beyond the brain, the science in terms of cosmos and

consciousness, and the explanation based on Ervin's Akasha model. The authors investigate six main areas: near death experiences, apparitions and after death communication, medium transmitted communication, instrumental transcommunication (ITC), past life recollection and reincarnation. As readers will be aware, mainstream science avoids these questions while emphasising the evidence for consciousness as a brain function. Each chapter describes the phenomenon, presents a number of case histories and draws a conclusion from these. Many of the cases are well known from the literature, and a few are even taken from classic 19th-century cases.

I think it is fair to conclude, as the authors do, that the NDE represents conscious experience taking place during the time when the brain is clinically dead, a fact that has been established beyond reasonable doubt. Apparitions show that contact with deceased persons is a widespread phenomenon where some evidence is highly significant. In the chapter on mediumship, the cross correspondences are quoted along with other classic material and the use of mediums in criminal investigation. The case that stood out for me, and which I had not come across before, was a chess game between Viktor Korchnoi and a deceased grandmaster called Geza Maroczy, ranked third in 1900. Circumstances meant that the game was very slow and took a long time, but the deceased grandmaster gave instructions in a technical form known only to professional players. Maroczy resigned at move 48 and would have been checkmated five moves later.

I don't personally think that the evidence from ITC is as strong as from other research areas, but Ervin describes a fascinating personal experience in this respect. There is also evidence from computers and messages from mobile phones only briefly mentioned here. The chapter on past life recollection shows that such memories can be accessed, while the chapter on reincarnation discusses the work of Ian Stevenson. All this suggests the conclusion that communicating intelligences are dynamic rather than simply psychic imprints. The authors put these findings within the framework of the Akasha paradigm, suggesting that the world we observe is a manifestation of a deeper reality or matrix. The Akasha is defined as the algorithm that governs the fields and forces that regulate the behaviour of particles and systems of particles in the world; non-locality also suggests that the manifest universe is 'an instantly and intrinsically interconnected whole', as proposed by many recent scientific developments. They suggest that consciousness is in fact an intrinsic element in the Akasha that infuses the cosmos and exists 'whether or not it is transmitted by a living brain.' This leads on to a more

systematic presentation of the principal propositions of the Akashic concept of consciousness, which I personally found very resonant whereby 'our localised consciousness is an integral part of the consciousness that in-forms the universe.'

This leads them to conclude that our consciousness does not end with the demise of the body but continues to exist in another deeper dimension. They suggest that this insight heralds a transition from an era of conscious mortality to one of conscious immortality. I would not expect sceptics to be persuaded by the evidence presented here but it is sufficiently comprehensive for most readers to be able to reach their own conclusion.

Finding the Extraordinary in the Ordinary

Jonathan Edelman

FIRST SIGHT: ESP AND PARAPSYCHOLOGY IN EVERYDAY LIFE

James Carpenter

Lanham: Rowman & Littlefield Publishers, 2012, xii + 487 pp., £31.95, h/b - ISBN-10: 978-1-44221390-6

First Sight by James Carpenter, a practising psychologist, is one among many recent publications with a high standard of scholarship that seeks to rethink mainstream psychological understandings of mind, consciousness, etc. As Carpenter rightly notes, parapsychology is often framed as dealing with the abnormal, and parapsychologists are apt to argue that it is the *anomalous* events that are ignored or even denied by mainstream psychologists, but that they must somehow be worked into our understanding of the self, mind, etc. Carpenter, however, argues that a paranormal or para-psychological (*psi*) phenomenon is not always a rare or an atypical event (although he acknowledges them as well), but it can be traced out in everyday and normal cognitive functions of ordinary people.

Carpenter's "first sight" theory of *psi* is that we should also look for the paranormal in the normal as well as the extraordinary. There is an unconscious and unbounded origin to normal waking consciousness, one that can be studied and one that must be included if our picture of the human self is to be complete. He attempts to show us how *psi* is present within ordinary consciousness, and how this *psi* can help us better understand ordinary human decision making, creativity, cognition-formation, anxiety-management, memory, etc. He also applies his theory to some of the traditional paranormal "practices" such as remote viewing, and tries to make sense of paranormal events like pre-cognition using first sight.

The text is systematically organised, detailed in its exposition and sufficiently referenced, although I shall say more on that below. It has 26 Chapters with VI Sections. Sections I-III are mainly concerned with providing a general theory of mind, one that takes into consideration how conscious experience is formed by personal or individual processes of meaning-making, processes that are not reducible to physical mechanisms. Carpenter is aware that in saying this he has immediately put himself in opposition with the mainstream approach, but he does not directly engage in philosophical polemics or with polemicists from the mainstream. Section IV examines and attempts to countervail opposition psi, and Section V discuss some real-world applications of first sight.

Section VI, Chapter 22 provides a helpful overview of some recent work in parapsychology that supports his first sight theory. This chapter would have been the most interesting chapter to me, since it would directly root the more theoretical aspects of the book in contemporary research, but I felt the author could have put more time into detailing and critically evaluating the referenced studies. This highlights my major concern with the book: it is highly theoretical, but not composed in an argumentative or "defensive" style. Although learned and systematic, it does not read like a philosophical defense of a mental theory. It may, then, be more relevant to practising psychologists (which I am not) and the larger parapsychological community rather than those working in philosophy of mind (which I am).

Carpenter's central thesis – that the unconscious and typically considered paranormal aspects of human cognition – should be and can be studied to help us better understand our ordinary thoughts and experiences is both simple and complex, obvious and often ignored, and I think he is to be complimented for bringing it into further discussion with this book.

Jonathan B. Edelmann is an Assistant Professor of Religion at Mississippi State University, Department of Philosophy and Religion. His book **Hindu Theology & Biology** (OUP '12) explores the relationship of traditional Hindu thought with that of contemporary scientific theories of mind and knowledge. He has published in the *Journal of Consciousness Studies*, the *Journal of the American Academy of Religion* and the *Journal of Vaishnava Studies*.

ecology-futures studies

A Wider View of Globalisation

David Lorimer

CAPITALISING ON CHANGE IN A GLOBALISING WORLD – the view from Hamburg

Wolfgang Michalski

Murmann, 2011, 550 pp., €36, h/b – ISBN 978-3867-74135

Wolfgang Michalski has been a Professor of Economics at Hamburg University and was a long-time Director of OECD in the Futures Unit. He is also an Ambassador of the Free and Hanseatic City of Hamburg, where he was born and brought up. In addition, he is a colleague in the International Futures Forum with whom I have been associated since 2001. This wide-ranging and extraordinarily informative book draws on the author's very broad experience and extensive reading and, as the subtitle suggests, with a view from the city of Hamburg, with its 1,000 year history of innovation and resilience in continuing to play a key role in the global economy. The book is very clearly laid out, with beautiful photographs illustrating various historical epochs in the history of Hamburg. There are six main sections covering the history of globalisation to the present day with perceptive comments on potential future trends.

Even though the term globalisation may be a recent one, Wolfgang makes it very clear that the process has been going on for much longer and has involved historic shifts in economic power over the centuries, with the centre of financial activity in the Middle Ages on moving from Venice to Antwerp to Amsterdam to London and to New York. Of course, at an earlier period, affairs were centred on Athens then Rome. He sees the principal historic motives for the globalisation process as conquest, the effort to become rich, missionary activity and sheer curiosity and thirst for adventure. The role of cities is especially important and relative naval power was a key factor in relation to the development of trade. Even in the first chapter, Wolfgang remarks that economic and social adaptability are central to continuing prosperity.

Five of the chapters are devoted to Hamburg itself. The first deals with its development as a major Hanseatic city, and the port remains important throughout. At this early stage, Hamburg was the European beer capital at a time when beer was considered almost a staple food accounting for around 8% of daily diet in terms of calories. Already in the 14th century, there were

over 453 brewhouses, with 70% of beer being exported, representing 30% of Hamburg's exports. Sugar became important in the 18th century, as it became clear that it was better to refine the product in Europe. In the 19th century, the port became even more important as the Industrial Revolution and international trade continued to develop. By the early 1900s, it was one of the richest cities in Europe, which made the impact of the First World War all the more serious. The Germans also thought, mistakenly, that the war would be a short one. The sea blockade had an enormous impact, with the throughput of goods dropping from 25.5 million tonnes in 1913 to 1.3 million tonnes in 1915, resulting in huge unemployment among dockworkers. The city also lost 35,000 men in the war. Hamburg suffered during the 1930s from the decline in trade, and was devastated by 128 air raids between 1940 and 1942. The impact on ordinary people can be seen from the fact that 62% of homes were either destroyed or rendered uninhabitable, resulting in nearly 1,000,000 people being homeless. The final chapter on Hamburg situates the metropolitan region as a vibrant economic centre in northern Europe with clusters of activity in port and logistics, aviation, media and IT, health economy, life sciences, medical technology and renewable energy. Wolfgang sees the future of the city as bright, both in economic and cultural terms.

The broader narrative proceeds through history with many colonial rivalries arising between different European powers. I was particularly interested to read about the maritime history of Holland and its dominance of trade routes. Trade was the beginning of an interconnected world, but it was also responsible for the huge forced migration of slaves to the New World. The figures for Portugal to Brazil alone are quite staggering: 100,000 in the 16th century, 600,000 in the 17th century, 1.3 million during the 18th century (mining) and 1.6 million from the coffee boom in the 19th century. The first recognisable credit crises with international dimensions occurred in 1763, 1772/73 and between 1781 1783. Much more serious was the first global financial crisis of 1857, then the better-known ones of 1929 and 2008 – the last three all originated in New York. It is interesting to reflect that the extent of globalisation at the end of the 19th century was arguably greater than that 100 years later, partly due to de-globalisation process of the interwar years (p. 179).

There is a detailed chapter on the post-war period up to 2008, covering the main economic and political issues around the world, including the impact of the first oil crisis and the end of the Bretton Woods international financial arrangements. Wolfgang also gives a

very good analysis of the impact of the Internet as well as the sub-prime crisis in the USA representing the bursting of the latest speculative bubble. However, the derivatives bubble is still in the system and has yet to burst; nor have governments moved to limit the risks of this kind of activity. In the US, at least, there are close ties between the financial sector and the Treasury Department.

The last two chapters consider the move from US hegemony towards a multipolar power structure and the future of global governance. The main players are the US, China, the European Union, India and Japan. Wolfgang points out that the European Union is an economic giant on the one hand, but has little geopolitical clout on the other. Throughout the book, he considers alternative scenarios and their implications for the countries involved. His reflections on the future of global governance envisage three potential scenarios: managed globalisation with its conflict between efficiency and legitimacy, muddling through, highlighting the difficulties of performing global governing institutions, and the temptation of large powers to impose their own interests. He is very aware that the increasing degree of global interdependence makes the future different from the past, then there is the growing influence of NGOs where much pioneering work is being carried out. This includes the International Features Forum, where a central concern is how best to act in an uncertain world in terms of developing resilience, flexibility and the capacity to innovate. It is a moot point whether these capacities will in fact enable sufficiently radical reform of global institutions without an intervening crisis. Nor is it the responsibility of particular countries to put the global interest first, whether politically or environmentally (it would have been interesting to have more analysis of the potentially disruptive economic effects of environmental disruption, as discussed by the Stern Review). Overall, this impressive book gives the reader a comprehensive analysis of the history of globalisation, enabling us better to understand where we are now and where we might collectively go in the future, given sufficient vision and political will.

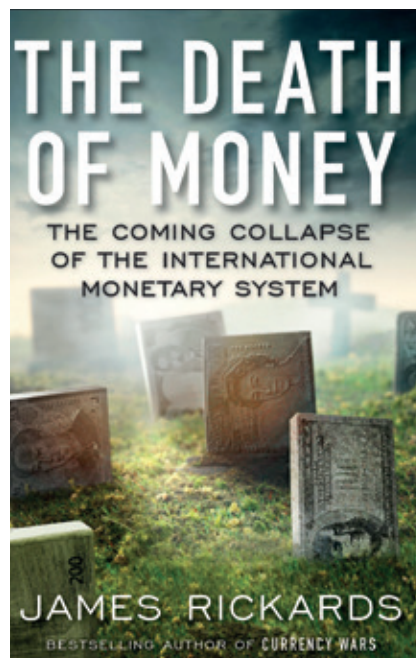
Imminent Collapse?

David Lorimer

THE DEATH OF MONEY

James Rickards

Portfolio Penguin, 2014, 356 pp., £14.99, p/b – ISBN 978-0-670-92369-4



The author of this authoritative study building on his previous book *Currency Wars* is an adviser on international economics and financial threats to the Department of Defence and the US intelligence community. As such, he is better informed than most analysts on the inside track. The international monetary system has collapsed three times in the last hundred years: 1914, 1939 and 1971. The issue in question is whether we are in imminent danger of a further collapse, in this case of the dollar, which underpins the entire international monetary system. Rickards shows how money and wealth have become detached from each other, the former being transitory while the latter is permanent and tangible. The situation has been hugely exacerbated since the 2008 meltdown as the Federal Reserve has sought to keep the show on the road by printing vast amounts of money, a policy also followed by other central banks. One should note in parentheses that the Federal Reserve is privately owned, unlike other central banks.

Since 2008, the Fed has increased the US money supply by 400%, from \$800 billion to over \$4 trillion. At the same time, the velocity of money has been in decline while this quantity has skyrocketed at a time of zero interest rates. This has propped up asset prices and stock markets, but the real danger is that this is in fact another asset bubble made all the more precarious by the staggering amount of derivatives in the market – some \$650 trillion

or more than nine times the global GDP. A collapse of confidence in these instruments will make 2008 look like a picnic. Amazingly but perhaps predictably, there had been no moves to regulate the creation of derivatives, largely because of the power the banking lobby. If and when a market collapse arrives, the Fed not be in the position to print a further \$3 trillion, which means the IMF will have to step in – see further discussion below. In the meantime, it is important to note that capital markets exhibit the four characteristics of complex systems: diversity of agents, connectedness, interdependence and adaptive behaviour.

The three parts of the book discuss money and geopolitics, money and markets, and money and wealth. The first chapter discloses insider trading in airline stocks in the run-up to 9/11 and explains a sophisticated instrument for detecting this within the wider context of financial wars. The purpose here would be to degrade and enemy's capabilities while at the same time seeking further geopolitical advantage. We already know that China, Russia and the Middle East have a great interest in ending US monetary hegemony and the advantages that it has brought. China is not without its own problems with over \$3 trillion of investments denominated in US dollars, an asset bubble in property and a demographic peak of working people approaching as the one child policy feeds fully into the system.

An important underlying theme is the tension between inflation and deflation. Rickards feels that the Fed cannot stop its easing policy while fundamental deflationary forces are in place, which puts them in a position of balancing on a tightrope without any net below. He comments that the Fed must promote inflation and inflate asset prices without causing the bubble to burst: 'it must exude confidence while having no idea whether its policies will work or when they might end.' (Another potential bubble is the \$1 trillion of student loans). He is bullish about the euro and realises the powerful role that Germany is playing in the European economic and political landscape. When it comes to the nature of money, he observes that the US dollar is in fact a non-interest-bearing note that constitutes debt but also depends for its stability on trust and confidence.

This is where the IMF comes in as the de facto central bank of the world. They can issue Special Drawing Rights (SDRs), which can be seen as world money in disguise, being a store of value, a unit of account and a medium of exchange. The exact way in which these might be used and their relation to gold is not yet clear. Rickards also analyses in detail the nature of gold and its potential role in any financial system. It is very interesting to see the extent to which China has been increasing its reserves.

Rickards draws an important distinction between quantifiable risk and uncertainty, which is endemic in complex systems. We cannot know exactly how the dynamics of feedback loops may lead to a state of criticality and consequent collapse. His conclusion sums up the thesis of the book. He begins by pointing out that the printing of money is in fact an irreversible process and the crux of the current problem is not so much money but debt: money creation is being used to deal with defaulted debt and between 2009 and 2012, the US Treasury ran a \$5 trillion cumulative deficit while derivatives creation by banks has continued unabated. He thinks that a new system will be required in order to regain confidence in the new store of value. The demise of the dollar could take three paths: SDRs, a new gold standard or social disorder, and the circumstances are likely to involve a crash that will wipe out the assets of ordinary people. He gives seven possible signs of potential collapse including sharp movements in price of gold, IMF governance reform to give more power to China, and the failure of regulatory reform. He finishes by recommending five investments for the individual to protect their position: 20% gold, 20% land, 10% fine art, 20% alternative funds and 30% cash, commenting that it is best to be among those who have braced for the storm. This is a sobering and well-informed read - one can only wonder if pre-emptive action is in fact possible at this stage, even with the best intentions.

Risk Blindness and Institutional Denial

David Lorimer

THE ENERGY OF NATIONS

Jeremy Leggett

Earthscan, 2014, 252 pp., \$35.95, p/b
- ISBN 978-0-415-85782-6

Jeremy Leggett is an international expert on energy matters as well as an entrepreneur - chairman of the renewable energy company Solarcentury. He is also chair of the financial think tank CarbonTracker, a consultant and speaker at conferences and meetings around the world, on which he draws in the course of his narrative. Most of the book is devoted to a historical analysis of energy trends and financial markets since 2004, with a shorter section on the future at the end of the book. Throughout, we drop in on reports from various meetings in which Leggett has been involved, often expressing a minority and unpopular view so far as the industry is concerned.

His analysis focuses on five potential shocks. The first is a crash resulting from oil depletion where supply is unable to meet global demand; this includes the debate about peak oil and the exact role of and prospects for

fracking. The second risk is a further financial shock, where Leggett takes the view that 'systemic financial risk marches on almost unreconstructed in the financial services industry, despite everything we have learned about our collective ability to believe comforting narratives and ignore uncomfortable views.' The third risk is a crash related to climate change, while the fourth involves a carbon asset bubble in the capital markets due to the fact that there is far more carbon in fossil fuels than we can collectively afford to burn if we wish to keep global warming below 2°C (this means that energy companies may be overvalued). The fifth and final risk relates to a shale gas and tight oil crisis, heralded by many as a game changer. In this respect, the recent fall in oil prices, on which more below, changes the economics. In addition, a 2013 analysis of 65,000 shale gas wells in Canada showed quite sharp decline rates, meaning that \$42 billion of capital had been invested to produce \$32.5 billion in sales in 2012. And in North Dakota, 1,500 new wells are required each year to offset declines.

One of the most important questions is the prospect for oil and gas supply and demand up to 2030 and beyond. In 2008, the International Energy Agency conducted an oil-field by oil-field study of the world's existing oil reserves. They found that the average depletion rate of 580 of the world's largest fields, all past their peak production, is 6.7% (compound) a year. 2008 production was around 82.3 million barrels a day, while the forecast increased demand would require 106 million barrels a day by 2030. This would require 'oil from gas to expand almost to 20 million barrels a day, unconventional production to expand almost 9 million barrels a day, and on top of that more than 45 million barrels a day of crude oil capacity yet to be developed and yet to be found. All this adds up to 64 million barrels a day of totally new production capacity within 22 years.' This is six times the current production rate of Saudi Arabia. Leggett adds that much of this development would be uneconomic at oil prices below \$70 a barrel. In addition, for these targets to be met, investment of at least \$4 trillion would be necessary upfront. A similar analysis in 2012, however, projected a production of nearly 100 million barrels a day by 2035 with the shale gas boom spilling over into tight oil production so that the US could expect to become almost self-sufficient in oil and gas by 2035. However, only a tiny fraction of this projected oil reserve is recoverable. Moreover, new wells cost \$10 million each and their production rates drop rapidly; and tight oil drilling between 1995 and 2011 has produced only 2 million barrels a day of extra capacity - so there is something missing in the official analysis here.

At the time of writing, Leggett was predicting an oil supply crash for 2015, partly on the basis of depleting easy to access crude oil by 4 million barrels a day each year. Then there is the continuing possibility of a financial crash. Germany is the country where renewables have been taken most seriously, showing that, with the right incentives, capacity can rapidly be increased. This should be considered in relation to action on climate change. Leggett's possible Road to Renaissance is based on the readiness of clean energy for explosive growth, along with its intrinsic pro-social attributes, increasing evidence of people power allied to pro-social tendencies in the human mind, and the power of political and economic context of a post crash situation. More radically, he believes that capitalism is killing our economies and threatening our children with an unliveable world - hence it needs to be re-engineered, root and branch, which could only happen after a sufficiently fundamental crisis.

It may look in the short term as if Leggett's forecast is too pessimistic. However, I was interested to receive this week a fascinating analysis of the fall in oil prices from the Intelligence Unit of the Asymmetric Threat Contingency Alliance (ATCA - see members' articles for a link to the full piece) where the most significant factor turns out to be the \$8 trillion Carry Trade largely resulting from the liquidity created by Central Bank quantitative easing, especially in the US. This means that investors can borrow currency from a low interest rate country like the US, converting it into a currency with higher interest rates and invest in higher yielding assets, thus effectively shorting the US dollar. This is fine so long as the QE process continues, but since the Federal Reserve has decided to stop this and possibly to raise interest rates for the first time in seven years, the dollar has started rising, putting these same investors under pressure as their loans become more expensive to service. The rising dollar then has a negative effect on the oil price and indeed on other assets. This puts political pressure on those countries, like Russia, reliant on buoyant energy prices. The strengthening of the US dollar is an ironic development given the overall level of debt in the US economy. The report forecasts a general decline in assets and potential deflation during 2015 and beyond. Time will tell whether ATCA is right, but they certainly shed new light on the overall situation.

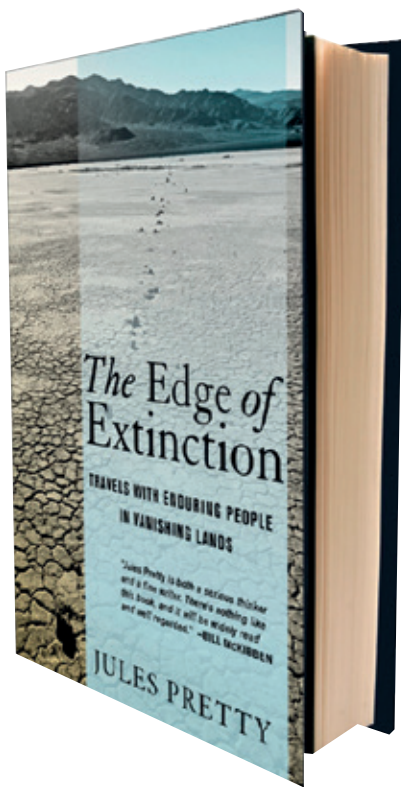
Stories of Embattled Communities

Nicholas Colloff

THE EDGE OF EXTINCTION: Travels with Enduring People in Vanishing Lands

Jules Pretty

Cornell University Press, 2014, 220 pp., £17.50, p/b - ISBN 978-0-8014-5330-4



The Anglo-Welsh painter and poet, David Jones, knew that a landscape only becomes real to us when it is, "actually loved and known", when we inhabit it not only physically but in the histories and stories that it carries as part of a living community and tradition.

It is a lesson that Jules Pretty, Professor of Environment and Society at the University of Essex, exemplifies in this fine book, "The Edges of Extinction" that takes us on a journey through twelve particular places from New Zealand to the desert landscape of the United States and allows those places, and their people, to speak of what they 'actually love and know'.

In doing so, he invites us to consider how these communities, many fragile, embattled yet always courageous in the face of the march of 'progress', have deeply valuable stories to tell of how we might re-envision our own relationship to place, and the place that is our earthly home.

The stories, beautifully unfolded, slowly accumulate into helpful lessons

for living of which I would like to identify four.

The first is the importance of inviting conversation and of listening to what emerges. So often these are communities that have been deliberately marginalised and yet no one is better equipped to understand the realities of their place. You have the image of the Corps of Engineers spending billions of dollars trying to overawe the ecosystems of Louisiana, to render them 'safe' for human living (or perhaps commerce) without ever once consulting the long accumulation of local knowledge, embedded in indigenous occupants and long time resident alike. Repeated failure does not appear to imbue any humility in the engineers! Yet, as the example, of Tuva shows, when an indigenous community are in power there is, at least, the restored possibility of a sensible pattern of land use after the depredations of 'Soviet scientific agriculture'.

The second is that conservation can only be fully achieved if we allow ourselves to live within and be bounded by natural limits - extracting ourselves is always a failure. The most common form of extraction is, of course, our current consumerist trajectory, living as if neither local nor planetary boundaries truly mattered. But there are others - the conceit, for example, that many of the so called wilderness areas should be depleted of humans to make for their long term viability, not recognising that indigenous people have been an essential part of the landscape's life for generations. This practice has resulted in the creation of 'conservation refugees' - like the San Bushman in Botswana expelled so that tourists can enjoy the illusion of 'pristine nature'. Or where we force populations to become sedentary so they can be fully 'civilised', deeply wounding them in the process, like the Inuit in Canada, forced into dispirited settlements so they can be educated like us, depriving them of the nomadic patterns that allow for wholeness.

There is a beautifully moving section of the chapter from Labrador where a young Inuit reestablishes the tradition of long distance journeys through the landscape and invites people, young especially, to join him, each winter: a modern enabling of a long tradition. One that reminds us of recent studies on the importance of being in nature for the preservation and deepening of our own well-being; for example, in studies relating to the reduction of attention deficit disorders in children that comes with exposure to play in nature.

The third is that this pattern of embodied listening to and living in a particular place gives rise to forms of knowledge that we may be tempted within our materialist frames to dismiss; and, yet, these forms arise, and complement, more mainstream, scientific manners of knowing. What does it mean, for

example, when a traditional fisherman in Finland says that it is a tradition in his family that they dream where fish are located and he does not mean it metaphorically? What does it mean, as a Polynesian sailor, to navigate great distances over open bodies of water, with striking accuracy, using a range of sensory and intuited knowledge that extends the boundaries of what it would be normally imagined we can pay attention to? It is to Jules' credit that he reports these occasions with an open-minded phenomenology that allow them to stand pondering in our own minds without rush to any conclusions.

The fourth is that we are only likely to preserve what we first learn to love; and, that here are a continuous series of images of what can and is loved, embodied in real people, living fulfilled lives, that are happy. Time and again in Jules' chapters, people speak of their love for the world in this their particular places whether it be of the nomadism of Tuvan herders or traditional fisherman in Finland or the Amish renewing the possibilities of agriculture on their highly productive small farms in Ohio. The Amish are a powerful example of the possibility of love of community, of the valuing of social capital, as a filter through which to judge change. Is it good for the community is their key test for any proposed innovation - the Amish are not 'archaic' but their movement through time moves at a different pace, one more attuned to what makes for long term sustainability. As a result, they weathered the 2008 crisis with merely a ripple of its recognition. The key to a long term sustainable future is an appeal to a loving care of beauty and the vibrant communities it gives rise to, rather than either the instilling of fear of catastrophe or utilitarian calculation.

It is, finally, this recurring testimony that makes the book not only a thoughtful exploration of the lives of others, genuinely other, tracking different paths to the mainstream, but a tracing of the patterns of what it might mean to love a place and be at home in it.

The homes themselves are all strikingly different but bound by being places that first and foremost are genuinely listened to - its possibilities and the stories it can give rise to.

The invitation is to truly listen to where we are and build a renewing life out of that shared landscape of hearing.

Nicholas Colloff is the executive director of the Argidius Foundation that supports inclusive and sustainable enterprise solutions to help reduce poverty.

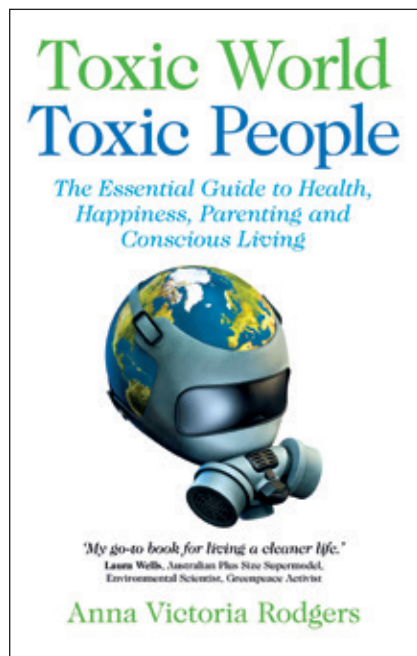
A Wake-Up Call

David Lorimer

TOXIC WORLD, TOXIC PEOPLE

Anna Victoria Rodgers

Soul Rocks (John Hunt Publishing)
2014, 809 pp., £21.99, p/b – ISBN
978-1-78099-471-0



As you can see from the number of pages, this book – ‘the essential guide to health, happiness, parenting and conscious living’ – is in fact three books in one and arises directly from the author’s own life experience, initially with lead poisoning but also many other toxic substances. In our time we are exposed to unprecedented levels of (mainly chemical) toxicity, and these gradually accumulate in our systems to produce an overload manifesting in a variety of unpleasant conditions. The book is divided into four parts and 54 chapters: toxins and the world we live in, the path to health and happiness, rethinking the way we parent and living green in our toxic world. It is full of facts, figures and sensible recommendations for life and living.

Anna begins with a catalogue of common deadly environmental toxins such as lead, aluminium, mercury and cadmium, detailing their effects. She then moves on to poisons in beauty products, the lack of regulation of chemicals, the deadly effect of microwaves, ‘cookware that kills’ (Teflon), toxic scented candles and the hazards of air fresheners – in each case she provides a safe alternative. Then we get on to a chapter on excess stuff cramping your mind as well as your house. The New Year is always a good time for a clear-out of clutter. As many readers will know, there are all sorts of nasties in our water supply, as Anna spells out in graphic sections (backed with

references) on the effects of chlorine and fluoride. A ten-minute shower gives you the equivalent amount of chlorine to drinking 10 litres of water! Next comes food, one of the biggest poisons of all, for instance high fructose corn syrup, MSG, the unpublicised side effects of GMO foods and toxic accumulation in fish. Prescription drugs come next; here Anna summarises the deceptive practices of big pharma and the many fines entailed as a result. Legal drugs like alcohol, coffee and tobacco come under scrutiny next. Logically, the final chapter of the first part is on the vital importance of detoxing, with many sensible recommendations.

The second part changes gear to deal with happiness, an element of which can be related to toxic overload in the brain and lack of sunlight. Anna exposes the dangers of psychiatric drugs – happiness in a pill – and has chapters on nature and exercise, before moving on to spirituality and the importance of kindness and forgiveness. This involves exploring one’s sense of purpose, finding contentment and realising that we can change our lives by changing our thoughts. Nor should we neglect the quality of our relationships and the possibilities of healing. There is an excellent chapter on natural alternatives, supplements and healing tips. Not all supplements can be recommended in terms of their content and Anna considers Touchstone one of the best. This section concludes with inspiring stories from those who have turned their lives around by following some of the principles outlined.

In 1914, Henry Lindlahr first published *Nature Cure*, some extracts of which appear here, including in this next section on parenting. Soaring mental health issues make this a vital topic, not to mention the lowering of immunity and increased susceptibility to infections. Here we have chapters on attachment parenting, breastfeeding, safe home environment, building self-esteem, immersing kids in nature, creativity and education, the lack of quality time, the importance of discipline and learning one’s child’s love language (the work of Gary Chapman). The chapter on vaccinations extends to 100 pages – almost a book in itself. As readers will be aware, this is a highly controversial area and highly profitable for the pharmaceutical industry. Vaccines contain toxic additives to stabilise the virus and the recommended schedule for children has increased from 10 in 1984 to a staggering 36-38 as of 2010; and some of these are 3 in 1 or even 5 in 1. On p 551 there is a one-page list of the most common ingredients including aluminium hydroxide and phosphate, ammonium sulphate and phenoxyethanol (antifreeze).

Anna includes a number of case histories, but the most interesting part of this chapter is the story of Dr Jayne Donegan, who set out to undertake

independent research on the efficacy of vaccines. She found out that even children who had received two doses of measles vaccine might need a third when the epidemic came! She set off to the Office of National Statistics to establish for herself the shape of graphs of deaths from vaccinated conditions and in every case found sharp declines *before* the vaccination was introduced – for example, deaths from measles fell by nearly 100% in under 15-year olds between 1905 and 1965, three years before the vaccine was introduced. Vaccination rates are maintained by fear mongering, and we misunderstand the nature of many infections as periodic clean-outs. Donegan then became involved in a lengthy court case on the side of a parent who did not want their child vaccinated. As a result, she was hauled up before the General Medical Council and told in court that her evidence was ‘junk science’ and that her unprofessional behaviour was likely to bring the medical profession into disrepute. In the end, she was completely exonerated by the GMC on all charges, and the story should have been headline news – which it was when she was originally accused!

The final part gives a wide range of practical advice on how to live green in our toxic world with a variety of living examples about growing food, making your own cleaning materials and establishing congenial communities. There is also a further extensive list of resources in addition to those mentioned in specific sections. The sheer length of the book makes it a daunting read, but it is well signposted in short sections, although there is no index. Another minor issue is the lack of copy editing, which means that there are occasional glitches and some unusual spelling – exhorbatant for exorbitant. As a whole, though, the book lives up to its subtitle as an essential guide to health, happiness, parenting in conscious living and I will certainly be consulting it frequently in the future.

And Man created the plastic bag and the tin and the aluminium can and the cellophane rapper and the paper plate, and this was good because Man could then take his automobile and buy all his food in one place and he could save that which was good to eat in the refrigerator and throw away that which had no further use. And soon the Earth was covered with plastic bags and aluminium cans and paper plates and disposable bottles and there was nowhere to sit down or walk, and Man shook his head and cried: ‘Look at this Godawful mess.’ Art Buchwald, 1970, quoted on page 722