

book reviews

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science-philosophy of science

The Spices of Life

Martin Lockley

FIFTY PLANTS THAT CHANGED THE COURSE OF HISTORY

Bill Laws

Firefly Books, Buffalo, New York, 2012,
224 pp., \$29.95, h/b - ISBN 978-
55407-798-4

In *Network 1081* reviewed Eric Chaline's pleasingly-illustrated book *Fifty Animals that Changed the Course of History*, and suggested the obvious, "surely one could write an interesting exposition on 'Fifty Plants that Changed the Course of History.'" This was in fact done, by Bill Laws. Moreover, Firefly Books has also published *Fifty Minerals that Changed the Course of History*, by Eric Chaline (reviewed below). All three books are beautifully produced and illustrated in matching, tasteful, hardback format with a ribbon book mark bound in – a nice touch for book lovers, and perfectly designed to assemble your very own box set!

This consistent format is worth comment. The importance of each plant and animal species is discussed in reference to their edible, medicinal, commercial and practical properties, although for minerals the categories are industrial, cultural, commercial and scientific. In all cases the authors and editors have cogently identified the historical importance of species, and the individuals, cultures and surprise circumstances that helped alter or influence the course of history, both positively and negatively. One can judge the importance of a species by the length of the entry. In relation to the standard 4-page exposition, tea, sugarcane, potato, wheat and wine grape each earn 8 pages, while cotton, rubber, apple, barley, hop, opium poppy, cacao and corn are worth 6 each. Other species are no less familiar or interesting. For example, although Darwin claimed that there is no difference between tears shed in sorrow, or joy, and those induced by onions, biochemist William Frey proved otherwise. Emotional tears contain additional proteins that help rid the body of stress-related chemicals.

Bamboo is not merely a fast growing

source of versatile construction material (scaffolding) but also a food. In his *Manual of the Bamboo Shoot* Zan Ning a 10th century Buddhist Monk offers 98 recipes. Ling Lun, court musician to the "Yellow Emperor" Huang Ti used bamboo to make a 12-note flute "to accurately reproduced the six female and six male voice notes." Hemp, (the name has Anglo-Saxon origins), described as a "versatile narcotic," has great utility as a fibre, without which alternatives would have been necessary to rig ships or hang unfortunates throughout the centuries, going back some 4,500 years. Herodotus noted that the Scythians were prone to "shout for joy" after inhaling the vapors of cooked hemp seeds. Marijuana, a word of Mexican derivation, and a strain with more psychoactive ingredient (THC) than the hemp strain, and now legal in some western states, most recently played a transformative role, as the most accessible drug of choice, in the consciousness generation and its artistic creations.

Tea is just one of many "plantation" products that altered the history and fortunes of empires and every caste of citizen from the captains of industry to the merchant, servant and slave. Thanks to geography, and politics we associate tea with Brits, and coffee, and the Boston tea party, with Americans. As is well-known, the history of our beloved tea is complexly intertwined with opium in defining Anglo-Indian and Anglo-Chinese relations in the 19th Century, whereas its relationship with sugar and coffee helped determine the course of Anglo-American relations. Opium has been known and used for 6,000 years and, as a source of morphine, has been far more valuable in medicine than its other derivative, heroin, which caused addiction in up to 15% of US Army servicemen in Vietnam, and an even larger percentage of Russian soldiers serving in Afghanistan. The British, French and Americans were the biggest drug-dealing cartels in the opium wars of the early 1800s when Indian opium was forced on the Chinese by underhanded and cynical legalisation strategies promulgated under the guise of official trade concessions.

The German pharmaceutical company Bayer at one time marketed heroine as a non-addictive cough remedy. For the collector of medical antiques a vintage bottle, overtly labeled with the word heroin, is probably worth its weight in – well, heroin. Likewise cocaine was

an ingredient in Coca Cola and other remedies, and the early bottles and signs are also vintage collectibles worth their weight in – well you know. Sigmund Freud used cocaine regularly for three years, quitting only when he saw it kill a colleague. In the 1990s 31% of New York murder victims showed traces of cocaine. Tobacco has even more than opium or cocaine to answer for when it comes to ruining human health. The plant was named Nicotiana after Jean Nicot, French ambassador to Timbuktu, and was once considered valuable protection against the plague. In fact, for this reason, smoking was at one time compulsory at Eton! Today, however, 10 million cigarettes are sold every minute and tobacco kills someone every eight seconds.

Many, non-drug plant products are, or have been worth their weight in gold as the profit-driven spice trade informs us. In the case of capture, a sailor's pepper pouch was more likely more valuable than his gold ear ring in buying his freedom. The crocus relative Saffron, grown, among other places, around Saffron Walden, requires 150,000 blooms to make a kilo and was measured in "scruples" (each = 20 grains, or 1.3 grams). So, 50 *Plants* is a Pot Pourri of information. Gregor Mendel made the Sweet Pea famous. Van Gogh did the same for sunflowers, and Renoir devoted years to painting Olive trees. Manchester was at one time dubbed "Cottonopolis" and the French Monk Don Pérignon learned how to cork wide bottles using the bark of an Iberian relative of the mighty English oak. Incidentally 5,000 of the English species gave their lives in the construction of Nelson's flagship.

Sugar came from India some 2,500 years ago, not from the Americas. It has been labeled "white death" although, ironically, it was the cause of countless black deaths during the euphemistically named "middle passage" so lucrative for slave traders. In a weapon against the British sugar trade Napoleon successfully undercut the price by planting 70,000 acres of sugar beet.

Although we know in a general way that these plants have changed the course of history 50 *Plants* emphasises just how influential they have been. In this, and in the companion books on animals and minerals, we are reminded that despite the medicinal, nutrition, convenience and economic benefits obtained from

these species, they have been ruthlessly and often criminally exploited to the detriment of other species, natural ecologies and our own best long term interests. Just as there is a fine line between obvious drug-producing plants, those producing undesirable toxins, and those with beneficial qualities, there is also, or can be, a fine line between drug cartels, robber barons, corporations and agribusiness. The land grabbing tradition of plantation owners of previous centuries continues today, with some modification, especially in Africa where various fast developing nations, especially in Asia are buying up or leasing large tracts of land for questionable agricultural purposes such as growing more corn and palm oil. This is to say nothing of the sacrifice of rainforest for soy and other monoculture plantations.

Let us hope that growing awareness of our various addictions to sugar, tea coffee, alcohol, tobacco, chocolate and other refined and concentrated agricultural products will help us rethink the benefits of a more varied and healthy diet of organic, locally grown produce. A little thought may help us to appreciate the old adage that "variety is the spice of life" and the key to sustaining a diverse, flourishing and self-sustaining biosphere, rather than one that is driven by industrial agribusiness. As a famous Chinese proverb reminds us you plant rice for a year, trees for a decade and educate for a lifetime.

Animal, Vegetable, Mineral

Martin Lockley

FIFTY MINERALS THAT CHANGED THE COURSE OF HISTORY

Eric Chaline

Firefly Books, Buffalo, New York, 2012, 224 pp., \$29.95, h/b - ISBN-13: 978-1-55407-984-1

mining the earth's crust for its minerals. Having reviewed the animal and vegetable volumes (respectively in *Network 108* and this issue) it remains to follow Eric Chaline as he forges his list of mostly familiar minerals and the impact they've had on our history.

Proving that there is something of a blurred line between the organic and inorganic worlds – animals for example secrete mineral shells, bones enamel etc., – Chaline includes the following organic minerals Ivory, Nacre, Amber, Coal, Asphalt and Petroleum. Most space (8 pages) is devoted to gold, iron and petroleum, with 6 pages reserved for silver, ivory, natron, salt, sand, steel, jade, saltpeter, coal, obsidian, bronze, flint and uranium.

As is the case with the *50 Plants and 50 Animals* that have most influenced the course of history, various nations have benefited from the fortuitous location of minerals deposits, such as coal, oil and, iron to name but a few. Unlike animals and plants that can be transplanted, one cannot move around mineral belts, ore deposits, and chunks of the lithosphere. So nations that sit on mineral resources – coal for example in the case of Britain and parts of the USA – had a historical head start in the industrial revolution. Chaline argues that Greek silver wealth may have been a critical factor in the rise of western civilisation that directly and indirectly prevented the conquest of the Mediterranean region by the Persians. But wealth is not always a blessing. The Spanish exploitation of Central and South American gold was destined for trouble because it created a false economy based on a finite resource and not one based on development of natural resources, trade and manufacture. Incidentally some geologists and astronomers believe that the concentration of gold in the Earth's crust is several orders of magnitude higher than expected. This is because, although, during the formation of the earth most of the gold sank deep enough to gold plate the iron core, it was not until a half billion years later that a phase of meteorite bombardment, evidence of which is still seen on the cratered moon, introduced more gold into to our crust. It is not only these gifts from on high that owe their distribution to geological processes, our coal fields reflect the distribution of ancient forests and well-vegetated swamp lands, and our oil and gas fields reflect the distribution and accumulation of all manner of organic remains in various ocean basins.

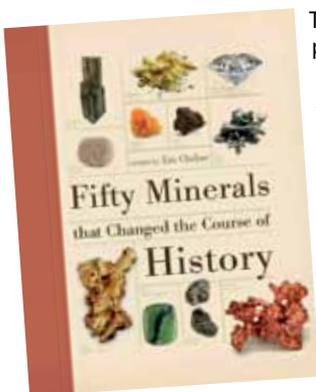
Traditionally, archaeology recognises the stone, copper, bronze and iron ages. Flint and obsidian are particularly important 'stone' species that were mined, worked and traded earlier and for longer than any other rock types. They continued in use long after the

first metals were forged around 7,000 BP. Thus the Spanish Iron Age clashed with the Aztec and Inca stone ages. The famous Iceman Ötzi discovered in 1991 on the Austrian-Italian border provides the most complete record of an individual, including his clothing, copper axe, herb pouch and tattoos associated with what we would today recognise as acupuncture pressure points. Ötzi dates from the dawn of the Bronze age, around 5,200 BP, but it appears he was killed by a stone arrow head. Around 3,200 BP we enter the period known as the Bronze Age collapse, possibly brought on by the introduction of iron weapons and technology. The Iron Age in turn didn't become the Steel age until the 19th century, even though steel swords were produced in Syria, Spain and Japan by late medieval times. Somewhere along the way bronze or iron technology helped in the production of glass, which was widely manufactured by Roman times. It has been argued that these western developments, particularly from the 16th century onwards led to the "great divergence" between China and the west that lasted until the 10th century. Did the development of glass windows and optical interest really give the west the enlightenment advantage of which modern western science is so proud?

It is not only metal weapons that have been the cause of countless deaths. Many metals are toxic and can be administered directly or inadvertently as poisons. Arsenic was a favorite poison with the Borgias and has even been implicated in the death of Napoleon and Charles Darwin. In the latter case the famous naturalist was evidently addicted to Fowler's Solution a remedy known to contain arsenic. Beer inadvertently laced with arsenic killed some 6,000 people in Manchester in 1900. The dangers of lead poisoning are well-known and likely led to the early decline of the Roman empire and the madness of several emperors, long before its use in petrol, paint and other products was shown to be an environmental hazard especially for children. The toxicity of Mercury is equally well known from the history of mining and the accumulation of the metal in fish and other animals high on the food chain. As further proof that smoking is dangerous pipes were at one time made from asbestos, and the workers making the matches used to light them were subjected to a nasty disease called "phossy jaw." An equally nasty poisoning broke out among the girls working for the Radium Corporation during World War II, as they painted phosphorescent paint known as *Undark* on wrist watches, in some cases deliberately painting their lips, nails and eyebrows with the novel radioactive substance.

The well-known phrase *Animal, Vegetable, Mineral*, useful in categorising a l m o s t everything, especially in quiz games, m i g h t suggest evolution in reverse. However,

in terms of the evolution of culture, one might argue that epochs of hunting and cave art, then agriculture, followed by bronze and iron ages meant that we humans first identified with the animal world, then with plants we could domesticate, before eventually



The dangers of exposure to Uranium and Plutonium need hardly be enumerated.

Thankfully, amber, jade, coral, marble and other non-toxic 'minerals,' gems and ornamental stones, have provided the raw material for artistic creations and craft traditions that help to define and showcase our cultural identities in positive ways. Unlike coal, oil and gas which cause problems because of their abundance and abundant use, ivory is an increasingly scarce resource. As the piano took over from the harpsichord in popularity an average of 31 kilos of ivory was necessary to furnish the keys for each instrument. Today, long after the Mediterranean elephant was hunted to extinction in antiquity, the African elephant faces a similar plight. Despite the invention of an artificial celluloid plastic used to make billiard balls and other fake ivory products, and the more recent (1989) United Nations moratorium on Ivory sales, the poaching of ivory continues at an alarming pace. This has caused an artificial selection process whereby the proportion of tusk-less elephants has increased from a mere 1% at the start of the 20th century to ~30% at the start of the 21st

Chaline's section on Petroleum is quite a diatribe against the industry and its "blind self-interest...ideological motivations...political power...[and] willful denial." Many nineteenth century scientists would have said that animal, vegetable and mineral products such as coal, and later oil and gas, were fortuitously distributed and placed at our disposal in the Earth's crust by a benevolent creator, who looked favorably on human activity and enterprise. The reader may wish to judge for him/herself the extent to which we have used these gifts wisely. We may also wish to ponder the extent to which human selfishness, or naivety and ignorance, have been culpable for mismanagement of mineral resources, and failure to correct such errors of judgment once the downside and side effects of the extractive industries have been recognised. Put another way, are we always destined to create problems and make mistakes before we learn to rectify them? Whatever our individual verdicts, it seems clear that the use and misuse of minerals as well as plants and animals follows cycles that are inextricably linked to our cultural, technological and socio-economic evolution. Hopefully, shifts in our awareness of what it is we do will lessen our misuse of these resources, and increase our capacity to nurture a sustainable lithosphere and biosphere.

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A Culture War

David Lorimer

THE SCIENCE MYTH

Dominique Chu

iff Books, 2013, 427 pp., £18.99, p/b
– ISBN 978-1-78279-047-1

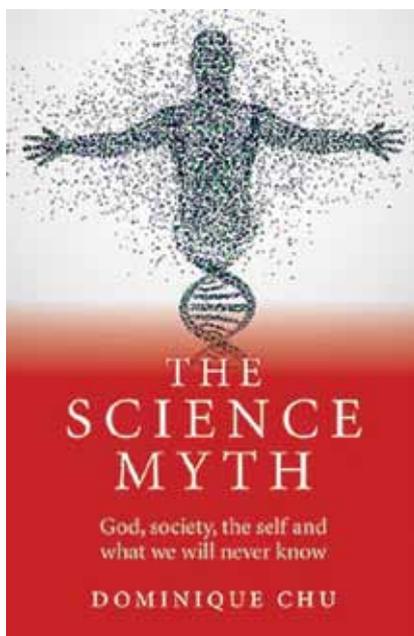
Subtitled 'God, society, the self and what we will never know', this lucid and highly intelligent book is a sophisticated take on the culture war between science and religion. The author is a lecturer in computer science whose research focuses on computational models of living systems and biocomplexity. He is also exceptionally well-informed about physics, biology, neuroscience and philosophy of science and religion. The book is a valuable contribution to the debate about science and religion, contending that the real cause of the culture war is not that science is slowly supplanting the need for religion, but rather that science, especially in its ultra-rationalist form, becomes more like a religion and religion more like science. Chu is critical of the belief in eternal scientific progress, especially of what he calls the WFY argument maintaining that within five years, outstanding problems will be resolved and science will continue its inexorable onward march. This is similar to what Eccles and Popper called promissory materialism.

The first part of the book is a detailed exposition about the foundations of science with specific examples from physics, biology and complexity theory including discussions on the measurement of time, the knowledge revolution brought about by Jacques Monod in molecular biology and the gaps in biological knowledge revealed by complexity theory.

The second part will be of greater interest to many readers in discussing the nature of science, the exaggerations of scientific rationalism and the status of neuroscientific research in the quest for a full understanding of consciousness.

Chu begins with some lectures on Newton's laws of motion by Walter Lewin from MIT, asking whether they can be proven. His answer is no, but we have every reason to believe that they are correct. It is just that, surprisingly, there is no direct evidence that proves this correctness beyond any doubt. He moves onto a discussion of falsification in Popper in relation to the status of scientific knowledge of various kinds. At one level, science is what scientists do. If one looks at clinical trials, then the assumption that the physical and biochemical effect of the treatment is separable from the therapist patient relationship is questionable, as is the assumption that the placebo effect is in fact a non-effect. In complementary medicine especially, the relationship between practitioner and patient is critical. Chu cites some interesting research showing how important ritual is in all medical situations, whether scientific or not. Another area is climate modelling, where modellers have to choose what to take into account and what to leave out. Climate models that prove to be wrong do not necessarily falsify any theory, they just show that the model was wrong. Chu also exposes the myth that science is value free and disinterested; it is in itself a social activity, 'a competitive economy of ideas and arguments.' He concludes that there are many examples of science that produce reliable and reproducible predictions, yet none of these features is universal across science, hence there is no clear criterion setting science apart from non-science, as most scientists implicitly believe. He argues that it is impossible to give a noncircular definition of science.

There follows an excellent chapter on the excesses of scientific rationalism, or the omniscience of science as Peter Atkins says. Chu defines scientific rationalism as the idea that all there is can be described by science, if not by present science, then by future science. He points out that there are many reasonable and rational types of knowledge that are not scientific and that there are occasions where non-scientific reasoning should be applied because of the inherent limitations of science itself. As we know, the rise of SR is related to the new atheism, which is often an evangelical belief in the non-existence of God. It is pictured as the battle between the force of rationalism and science against the superstitious armies of religion. The zealous advocates of SR are every bit as dogmatic as their religious



counterparts; indeed dogmatism and intolerance are actually built into SR. An insistence on the exclusivity of science is the reverse side of intolerance of the validity of any other approach. It is easy to see how this is related to the WFY argument explained above. In addition, the basic contention of SR cannot itself be scientifically justified - it is a philosophical assumption. The social authority of science is invoked as part of the argument. Chu examines the debate about the existence of God, observing that not every atheist is a proponent of SR, but nearly every proponent of SR is an atheist. All this is fully and subtly explained, and he argues that science ultimately has nothing to say about the existence or non-existence of God or gods.

The last main chapter addresses consciousness, postulating a distinction between consciousness as such and the fundamental essence of a person (FUDESS) represented in our individual experience of subjectivity. He takes the view that FUDESS is entirely dependent on working brain processes, so that when we die, we cease to exist. Needless to say, he does not cite any evidence against this hypothesis, and may indeed never have read any. Having said that, he is highly critical of philosophers who explain the problem away, even to the extent of contradicting themselves by writing about the ways in which they themselves do not exist. For him, science can never explain the mystery of first-person experience, although it can discover a great deal about the neural correlates. However, 'the neural correlates of X is only a partial explanation of X and not the phenomenon itself.' At best, it can only be a description. He goes on to discuss the brain as a computer and Turing machines, pointing out some limitations of these ways of thinking.

The epilogue revisits the turf war between science and religion. Each provides a narrative about the world and meaning, and science can add the prospect of control, although I myself am suspicious of this metaphor. The tension is between two metaphysical superstructures and corresponding types of salvation. However, fundamentalism of any kind is not the answer, and we need a more nuanced symbolic interpretation of Scripture as well as realising the inherent limitations of science. Chu does not think that religion in any form can be eradicated, observing wryly that evangelical atheists who religiously fight religion only serve to prove his hypothesis. Readers of this second part of the book will find their understanding of these complex issues considerably enhanced by the penetrating discussions of all the key issues in this continuing debate.

A Science of the Invisible

David Lorimer

THE BASIC CODE OF THE UNIVERSE

Massimo Citro

Park Street Press, 2011, £21, h/b - ISBN 978-159477391-4

We are often encouraged to think of the world in terms of vibration, and this seminal book explains how this is true in terms of physics, biology and communication. It reports groundbreaking research validating the work of the late Jacques Benveniste and providing a coherent theoretical explanation for homoeopathy while shedding light on animal and plant intelligence, the power of thought and intention, emotional fields and the special properties of water. It links the work of Ervin Laszlo's Akashic Field, Rupert Sheldrake's morphic fields, the vibrational medicine of Richard Gerber and the research by Masaru Emoto on water.

The starting point is pure matter, an idea that goes back to the Greeks - Parmenides, Plato, Aristotle and Heraclitus - with their distinction between being and becoming, unmanifest and manifest, invisible and visible. Pure matter is a continuum, while mass is the rhythmical manifestation of this matter in particular forms with their own signature or vibration. This is what we perceive with the senses, which construct and represent our apprehension of waveforms. This pure matter is also an information field, a continuum linking everything and enabling nonlocal communication. The field or vibration is primary, and informs matter; as Aristotle put it, the soul is the form of the body. The basic code of the title 'is a set of essential data that define the field of substance, then the form.' It regulates homoeostasis in the body and gives matter a rhythm, 'making the space around it vibrate' and sending out a corresponding vibration that can communicate with other cellular organisms. The function of the code is to form the shape, organise, regulate and control the system, and communicate by exchanging information between fields.

Since the 1990s, the memory of water has become a popular hypothesis, although not among molecular biologists or critics of homoeopathy who dismiss experimental results on the basis that there is no adequate explanatory model. This is no longer true. The work of Del Giudice and Preparata proposes that the molecular rhythms of the solute are impressed on the water, after which they begin to fluctuate in phase in accordance with the coherence of water's fundamental state, which then

enables it to convey information. The Nobel prize winner Luc Montagnier demonstrated in a 2009 paper that water in homoeopathic dilutions not only keeps the memory of the solute, but also emits specific low-frequency electromagnetic signals that are both recordable and reproducible. His experiments show that homoeopathic dilutions emit frequencies that do not exist either in the initial undiluted solutions or in low dilutions. This is an extraordinary finding that reinforces the work of earlier scientists such as Sir Jagadish Chandra Bose, Harold Saxton Burr and Fritz Albert Popp. This kind of explanation gives priority to formative fields rather than molecular substance.

Citro then describes some of his own experiments on Transfer Pharmacological Frequency (TFF) based on information transmitted on electromagnetic waves propagating variations in the field. It is fascinating to discover that medicines can be transmitted either through molecules or through the signals they send to the cells 'since the chemistry and physics and the molecular signals follow parallel paths.' The result is informational rather than biochemical medicine; and because the organising system of the cell is able to discriminate among the range of frequencies, it seems to resonate only with useful ones, hence the lack of an unpleasant side-effects found in the molecular equivalent of this informational medicine. TFF is likened to recording the singing of molecules onto the magnetic recording tape of water.

Citro describes the work of Per Luigi Lghina, who as a young man worked with Marconi and discovered what he called magnetic atoms. He found experimentally that by varying the vibration of one kind of matter it could be transformed into another. In one experiment he discovered the vibrations of the atoms of an apple tree and of a peach tree, then he exposed a peach tree to the vibrations of an apple tree for 16 days, gradually observing the peach tree transformed into an apple. In another experiment with a rabbit, he found that healthy bone had a different vibration to the part affected by osteomyelitis. By exposing the infected area to the healthy vibration, he was able to heal the bone, and the vibration of that part went back to normal. This has astonishing implications for healing, some of which were explored by Georges Lakhovsky in the 1930s. The implication is that a transfer of code leads to the transformation of matter through field interaction. These codes set the rhythms by which things are differentiated.

This model also has profound implications for communication. Work on psychometry shows that it is not only water that can retain information, but

also places and objects through what is called a transgressing interaction. A sensitive person is then able to read information out of these objects through field interaction, translating the impressions into mental images. Research has shown that thoughts and emotions also have signatures and field effects, for instance on plants and animals; again, much of this research has been dismissed owing to a lack of a coherent theoretical framework that Citro provides here. It looks like the experimenter effect in parapsychology is another instance of unacknowledged field interaction. The same applies to placebos and the power of belief to alter physical conditions, including the appearance of stigmata. Telepathic communication is mediated through the nonlocal continuum of pure matter (parallel to what David Bohm called the implicate order) and strong morphic fields that operate on affinity rather than distance. This framework can also account for radionics.

Many readers will be familiar with research in some of these areas, but the brilliant aspect of this book is that its theory of pure matter provides an underlying link and matrix for understanding subtle aspects of reality and consciousness that are currently dismissed or ignored by scientific models based on molecular action to the exclusion of field interaction. This provides a new slant on the history of science and the way forward to a more comprehensive understanding based on the fundamental role of a universal information field.

Form vs. Function

David Lorimer

THE INTUITIVE WAY OF KNOWING –

A Tribute to Brian Goodwin

Floris Books, 2012, 224 pp., £20, p/b
– ISBN 978-086315-965-7

As many readers will already know, Brian Goodwin was a visionary biologist, mathematician and philosopher who was professor of biology at the Open University, a founding fellow of Schumacher College where he taught holistic science, and a vice-president of the Network. This book consists of some personal recollections and a major interview with Stephan Harding, a section on evolutionary biology and philosophy, and another on theoretical biology. Among the recollections, pride of place goes to Stuart Kauffman, his friend and colleague from the Santa Fe Institute's work seeks to incorporate Darwin in a larger framework combining self-organisation with selection. Even those who disagreed with Brian, like Lewis Wolpert and Michael Ruse, write with respect for his contribution.

And his colleague Claudio Stern gives a vivid account of Brian's laboratory at Sussex in the 1970s.

The three-part interview gives a great insight into Brian's background and the development of his ideas. He always felt at home in nature, camping a lot as a boy, and his initial ambition was to become a forester to look after the great Canadian forests. However, he soon became fascinated by the nature of life, but his vision was widened by the poetry and music of his mother. He recalls a particular rock on which he used to lie down for what he called a mystical immersion. He then felt drawn to mathematics and physics because he felt that biology had no principles in the same sense. Another major encounter was Goethe, which influenced his development of the science of qualities and informed the methodology of his holistic science MSc. A further important influence was Whitehead with his emphasis on process. This helped him realise that the serious gaps in biology were 'the coherence, the organisation and the capacity for creative transformation in organisms.'

The second part begins with a paper by Brian himself 'Biology without Darwinian Spectacles' in which he analyses the limitations of the neo-Darwinist approach to problems with biological form. Darwinian spectacles are good for empirical details, but less so for perceiving deeper questions of order and organisation. He treats his central theme of form, transformation and order, postulating the need for a field theory in biology as in physics. He argues that genes may

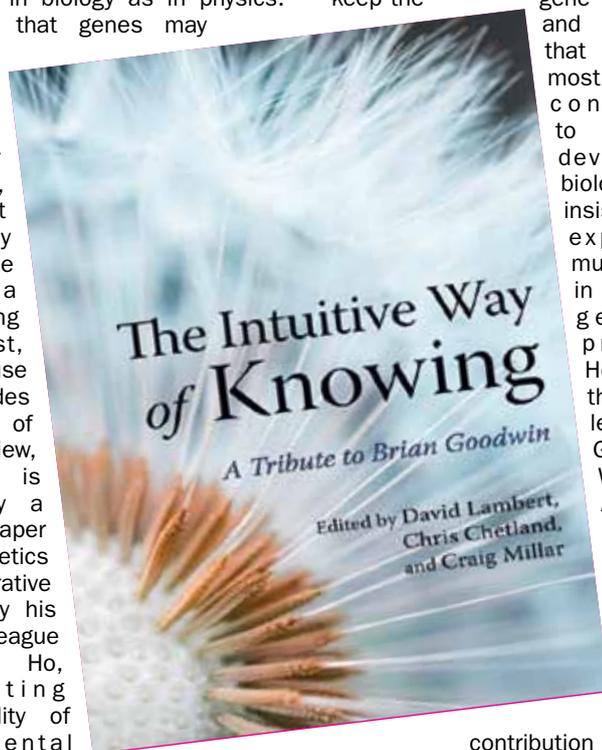
contribute to the internal selection of particular solutions, but do not actually generate form. As a card-carrying functionalist, Michael Ruse then provides a critique of Brian's view, and this is followed by a technical paper on epigenetics and generative dynamics by his former colleague Mae-Wan Ho, highlighting the centrality of developmental flexibility of organisms and fluidity of the genome in epigenetic theories. Many dualistic

distinctions cannot in fact be upheld, such as those between interaction, variation and selection, and indeed between organism and environment, which means that there is no genuine separation between development and evolution 'as the organism actively participates in shaping its own development as well as the evolution of its ecological and social community. All this articulates a participatory worldview.

The next paper situates Brian historically in developmental biology, citing key figures like Sir D'Arcy Wentworth Thompson, Hans Driesch and Conrad Waddington, as well as some of his successors. Margaret Boden contributes an essay connecting Goethe with Brian's structuralist biology.

The final part on theoretical biology opens with a brilliant essay by Fritjof Capra on the complexity in life, outlining systems thinking in terms of relationships, patterns, processes and context, all of which has developed within complexity theory over the last 25 years. He explains the nature of nonlinear dynamics with its vocabulary of chaos, attractors, fractals and dissipative structures emerging at the same time. Indeed the concept of emergence itself has played an important role, and within this context, Capra argues that genes stabilise the emergence of biological form as a continuous unfolding. Philip Franses writes about the language of living processes within a holistic philosophy, while Johannes Jaeger and Nick Monk keep the

gene in its place and conclude that Brian's most important contribution to cell and developmental biology is his insistence that explanations must be given in terms of generative processes. Here one sees the dynamic legacy of Goethe and Whitehead. Although the book is technical in parts, it provides an excellent overview of the significant contribution that Brian made to evolutionary biology and reminds the reader of his remarkable qualities as a man and a teacher.



medicine-health

The Bliss Point

David Lorimer

SALT, SUGAR, FAT How the Food Giants Hooked us

Michael Moss

WH Allen, 2013, 449 pp., £20, h/b – ISBN 978-0-75-354145-6

One of the books I read when I was researching *The Protein Crunch* was entitled *Let Them Eat Junk* which was, like this book, and eye-opener on the agricultural and food industries. Michael Moss is a Pulitzer prize-winning journalist who spent years behind the scenes speaking to key figures, researching the history, development, research and marketing tactics employed in the US food industry. The industry is dominated by a few enormous corporations, for instance Cargill on the supply side and Kraft, which for a number of years was owned by the tobacco company Philip Morris. Competition is intense, with regular scrutiny from Wall Street analysts as they look for continuous increases 'stomach share' and therefore in quarterly profits. One Coca-Cola executive put it bluntly, saying that the main question is how they can drive more ounces into more bodies more often. The book also includes some fascinating background about the history of Kraft and Kellogg. The three parts correspond exactly to the title.

The book begins with a report on a secret conference held in 1999 by the chief executives of the top food companies. The topic was the emerging obesity epidemic and how to deal with it. Telling people to be more physically active and that they are entirely responsible for their choices is insufficient. Figures show that obesity has steadily developed since the early 1980s, and has now become one of the principal health concerns of governments in developed countries. It is clear to me and to many others that these food companies have played a central role in creating this crisis and that their continued profitability depends upon expanding sales that undermine the health of the population, especially young people. Jeffrey Dunn, former CEO of Coca-Cola, admitted as much by saying that the roots of the obesity trend are tied to the expansion of fast food, junk food and soft drink consumption. The main ingredients of their products are salt, sugar and fat in various proportions; their challenge is that reducing levels of these ingredients will also lead to a drop in sales and therefore share price: 'no sugar, no fat, no sales.' In this case as

in many others, social costs in terms of health are externalised and even then were calculated at up to 100 billion dollars a year.

Moss shows how companies systematically study the effects of salt, sugar and fat so as to create the maximum allure by identifying the bliss point that will bring people back and keep heavy users addicted. 20% of heavy users account for 80% of sales, and these are the very people most at risk from their addiction. Company scientists carefully study the brain mechanisms underlying the desire for high-fat and high sugar foods, using focus groups to identify 'optimisation' to generate the biggest craving. Some sweetened drinks actually made rats more hungry and regular soda consumption has been identified as a key component of weight gain. The average American teenager drinks over 800 cans a year with up to 12 teaspoons of sugar in each can. The result of this research means that companies are able to 'manipulate and exploit the biology of the child' with a concomitant impact on child health. The key elements of their products are taste, aroma, appearance and texture, all backed by massive advertising campaigns.

Next comes fat, which gives smooth texture and mouth feel to many bestselling snacks. An interesting historical trend identified here is the transition from milk to cheese, partly driven by federal subsidies and a resulting overproduction of milk. Companies are dangerous commercial ground if they reduce by too much the proportions of the three principal ingredients, although there is clearly a market for healthier versions of their products; however, these never outsell the main item. And if health concerns are raised in one market, then you can move to another. An example here is the launch by Kraft in 2011 of the Oreo, with its Twist, Lick and Dunk ritual into India. This was done through Cadbury, which Kraft had recently acquired in a hostile takeover. Sales of Cadbury Dairy Milk were also up by 30% in India as a result of visi-coolers expanding into remote villages and able to keep the chocolate at the right temperature. It will not be long, however, before the health authorities of these new countries also begin to sound the alarm as their populations gain weight and the diseases of civilisation take hold.

Salt has a lot to do with the taste of processed foods and is present in a vast range of products. It also keeps people eating popcorn until the bag is empty. Moss reports on tasting familiar products without any salt, finding that they now tasted of very little. The epilogue laments the extent to which we are hooked on inexpensive food, and Moss does not

think it possible for the companies to come up with a solution to the obesity crisis themselves, especially as they are all competing ferociously against each other and trying to keep their costs to a minimum. These companies are designed to make a profit for shareholders, so health concerns have to be secondary in the absence of a significant backlash. In the end, the former CEO of Philip Morris, Geoffrey Bible, felt that regulation may well be the best way forward, compelling companies to set maximum limits of salt, sugar and fat. These could be reduced by a small percentage annually so that consumers and companies would have time to adjust. However, given the current lobbying power of food giants, politicians will not be keen to pass this kind of legislation so it may come back to consumers making different choices. Although this book is written for US audience, most of it applies to the UK as well, and there is a special afterword for this edition. After reading this epic journey, readers will be in no doubt that these companies have successfully engineered cravings and will continue trying to expand their sales at the expense of the health of their customers.

philosophy-religion

The Dynamics of Life

David Lorimer

THE SECRET OF LIGHT

Walter Russell

University of Science and Philosophy, Third edition 1941, 288 pp., no price given – see www.philosophy.org for details

Last year, I reviewed a book about Walter Russell (1871-1963) called *The Man who Tapped the Secrets of the Universe* by Glenn Clark. This is a portrait of an extraordinary man and his multifarious talents as a scientist, philosopher, visual artist, sculptor, architect, skater and horseman who famously said that genius is self-bestowed and mediocrity is self-inflicted. The main source of his insights originated in a three-week mystical experience in the early 1920s in which he experienced identity with the Universal Mind and hence with its knowledge. This remarkable book repays close study and in some ways builds on the understanding of Goethe about the dynamics of natural processes applying at all levels of life. It contains many diagrams that help readers to grasp some unfamiliar concepts. Here I can only outline a few of the most important ones.

Life is Spirit and Spirit is still at the centre of things. The body does not originate life, but manifests it. God is Light, Universal Mind. Mind is Light and

Mind knows. There is One Mind, One Self, One Life, One Soul. It is God who is conscious, who thinks and imagines through us. The Mind Universe is one of Knowing, and human beings live in the two worlds of knowing and sensing in the rhythmic wave universe of polarities. The positive is represented by the balanced stillness, stability and unity of the Divine, while the negative is unbalanced motion in terms of instability, multiplicity, separateness and a sensation. The rhythm of life is to unfold from the One, the unmanifest, the invisible into the Many, the manifest, the visible and then to re-fold back into the One. This is birth, awakening, emergence, creation, individualisation followed by a return in terms of sleep, decay, disintegration and death. The Creating Universe grows out of the One in a radial fashion, ultimately disappearing back into the One.

Cosmic Consciousness is seen as the goal of human development, whereby we as individuals become aware of our oneness with the Universal Mind and can manifest genius. These individuals know the Light of God in themselves. In the divine stillness, we can know the causes of things, while their effects can be comprehended in the visible world. The brain is understood as the storehouse of recorded sensations, and desire as the cause of all movement. The Universal One is within all things centring them and we are capable of apprehending this Centre within ourselves.

The process and desire of unfolding and refolding, also used as a principal metaphor by David Bohm, represents the dynamics of the two aspects of life, 'by dividing wholeness into parts, stillness into motion, unchanging into changing, unconditioned into conditioned, void into form, infinity into measure, eternity into time and immortality into mortality.' All expressions of energy spring from rest, seek a point of rest and return to a condition of rest. The underlying law of Creation is Rhythmic Balanced Interchange between polarities in all transactions in Nature. It is therefore important for us to understand this process and how it applies to ourselves: as we give, so we receive. Some of the main polarities are represented by male and female, gravity and radiativity, positive and negative, charge and discharge, plus and minus, growth and decay. Each of these principles is preponderant in one half of the cycle, so that opposites are born of each other like expansion from compression and compression from expansion (Yin from Yang and Yang from Yin). We can see in the example of water how expansion corresponds to the process leading from solid to liquid to gaseous while compression reverses the process.

Electricity is defined as the strain

or tension set up by the two opposing desires of universal Mind thinking: the desire for balanced action and the desire for rest. The first is the separation from Oneness into unbalanced multiplicity and the other the voidance of multiplicity into balanced Oneness. All life seeks action and rest alternately. What Russell calls radiation is the female principle of creation unfolding from the seed while gravitation is the male principle refolding towards the seed; this is also present in the outbreath and the inbreath as two halves of one cycle. The Person or Being within us is immortal while bodies manifest the sequence of life-death-resurrection (or appearance and disappearance leading to reappearance, fulfilling Nature's law of repetition). Russell explains that the 'constant refolding process which man calls death is recorded as it refolds for repetition in his next life-cycle' - a subtle formulation of karma as we evolve towards knowing the Light of Self within us. In the process, we gradually lose our individuality and become more that Universal Self. The Bulgarian sage Beinsa Douno (Peter Deunov) did not want his name on his gravestone, but only Love, Wisdom, Truth, Virtue, Justice.

The last part of the book explains the postulates of this philosophy with many helpful diagrams elaborating on this central unfolding-refolding principle: actions unfold formlessness into form, while reactions move in the opposite direction. The incandescent sphere is the other end of the polarity of the cold cube, the first representing expansion into solid form, followed by melting back in the direction of incandescent: 'bodies are formed by freezing and voided by melting.' All motion is spiralling outwards and back again, the thrust of radiation followed by the pull of gravitation, or extension followed by retraction, integration by disintegration.

I hope that I have managed to convey some of the brilliance of this formulation, applying as it does to all manifestations of life. Readers will find that there is a whole series of books by Russell for those wishing to study this philosophy in more detail. I would recommend beginning with the Glenn Clark book and moving on to this one if you have the stamina. I shall certainly be returning to it on a regular basis. There is an anecdote about Bertrand (Earl) Russell and Lord Russell of Liverpool in which the former suggested that, since they were often being mistaken for each other, they should write to the Times along these lines: Sir, neither of us is the other. It is ironic that Bertrand Russell and Walter Russell are almost exact contemporaries but with such hugely contrasting philosophies. Ultimately, I suspect that Walter will long outlast Bertrand, but perhaps not in our leading universities.

Common and Uncommon Philosophies

Martin Lockley

AMERICAN PHILOSOPHY AND RUDOLPH STEINER

edited by Robert McDermott

Lindisfarne Books 2012, \$17.90, £8.95, p/b - ISBN: 978-1-58420-137-3

George Bernard Shaw, an Irishman, supposedly said that the British and Americans are divided by a common language. In *American Philosophy and Rudolph Steiner* we encounter a



variant of this theme as we investigate a European and Americans divided, or in some cases brought together, by common and uncommon philosophies. On adding this title to my book review list I braced myself for another, potentially-challenging foray into Steiner's ever-complex and profound cosmology, fearing I would remain divided from his philosophy by the language used to express it. Fortunately, my apprehension was mostly allayed as I began to realize that contributors to this volume had done a commendable job in comparing Steiner's philosophy with that of his American contemporaries in relatively plain, or at least understandable, language. Thus, most of the contributors make Steiner's world, or should I say "cosmic," view of human spiritual and intellectual reality surprisingly clear, or at least as clear as that of the philosophers with whom he is compared. Perhaps, one learns to appreciate Steiner more through repeated exposure and approaches from different angles.

These angles are circumscribed by the seven contributors to this volume who ruminate on the intersections between the philosophy of Steiner and that of Ralph W. Emerson, Henry Thoreau, C. S. Pierce, William James, Josiah Royce, A. N. Whitehead, John Dewey, and feminist thought. A significant theme of American Philosophy is that Steiner has mostly been ignored by modern, mainstream philosophers despite his profound contributions. I also detected awareness among many of the contributors, some relative newcomers to Steiner's work, that it was time to address this omission, as the volume aims to do. Steiner in such seminal works as *Philosophy of Freedom* and *Riddles of Philosophy*, sees the intellectual history of philosophy as a manifestation of the evolution

of consciousness with all its many implications for spiritual growth and awareness of that intangible “something more” that brings meaning and morality to existence and fosters the desire to search for deeper realities. In this regard, Robert McDermott, the volume’s editor, and one of the contributors, points out that “the difficulty with Steiner’s disclosures from the perspective of a more conventional philosophical position is simply that he bequeathed too much information...that runs against, or falls outside, our usual way of knowing.” Likewise “the dominant schools of American philosophical and religious thought have continued to generate analyses and arguments on the same level of thinking as gave rise to the general poverty of contemporary western thought.”

The chapter on Emerson is particularly succinct and interesting, perhaps because his view of intuition as the “indwelling divinity of each human being” was so convergent with Steiner’s view that “truth that comes to us from without always bears with it the stamp of uncertainty. We want to believe only what appears to each of us inwardly as truth.” Such inner knowing satisfies the spirit. As Emerson said, it was an “amazing revelation” that God dwelt in his own heart.

These themes are continued in the chapter on Thoreau where we are reminded that Steiner wrote a book on *Intuitive Thinking as a Spiritual Path* and that he was a “modernist...committed to the search for universal principles and ideas, rather than a postmodernist who questions the very notion of a universal and unifying truth...” Like Thoreau, Steiner held that “there are multiple spiritual lessons to be gained through paying attention to the natural world.” Likewise both were, or could be labeled, Unitarian-leaning, “post-Christians” which I take as subscribing to a philosophy akin to what William Irwin Thompson called “post-religious spirituality.” Paralleling the concept of “something more” Steiner spoke of student-teacher “heart connections” and “the activity of hidden forces” which again recognises the importance of intuition. The chapter concludes that Steiner’s habit of “providing total accessibility and tireless response to all who asked something of him” would have crushed the reclusive Thoreau.

In comparing Steiner with James and his famous *Varieties of Religious Experience*, there are important differences. James wrote as an observer, whereas Steiner held “experience as authoritative.” Steiner also stressed the transformative, evolution of consciousness implications of experience. In this regard Steiner held that mystical/spiritual experience was nearly ordinary in pre-Christian times, and is only considered extraordinary today due to the “radical transformation of consciousness wrought by modern Western rational and scientific consciousness.” Nevertheless,

James coined the notion of the “wider self” and “something more” and believed that empirical investigation might penetrate such intangibles and so expose the limits of conventional science.

Skipping the long and [for me] slightly turgid chapters on Pierce and Royce we come to comparisons of Whitehead and Steiner both of whom “saw as central the task of reconciling science and religion... by developing a scheme of thought in which one can see the harmony of both types of truth.” Whitehead also regarded subjective experience as authoritative and affirmed a kind of monism, “a pluralistic panexperientialism” although Whitehead did not use this term explicitly. For both, “divine influence in the world” was necessary to account for novelty. Importantly like Steiner, Whitehead recognized the reality of supersensory perception: i.e., for sensory perception to occur, the mind must prehend the body... in order to receive the data it transmits from the outer world.” “This prehension of the body is not itself sensory perception” [rather, say I, a species of self awareness]. Whitehead’s “scheme of thought” allows support for some of Steiner’s “occult” notions. Including “conscious telepathic or clairvoyant perception” whereby “conscious perceptions” are given directly, that is received “apart from the sense organs.” *Contra* Descartes, Whitehead denies the solipsistic subjectivist principle that “we have no knowledge of the existence of other actualities” [implying that no other actual entities exist!!]. Whitehead wryly notes that “Philosophy is the self conscious correction by consciousness of its own initial excess of subjectivity.” In other words philosophy can overcome this subjectivist illusion. Like Steiner, Whitehead held that “the soul as a whole knows, and this means that knowing [or thought] is not divorced from feeling.” An outcome of such philosophy is, in Steiner’s words, that “a soul that harbors feelings of reverence and devotion...receives intelligence of facts in its environment of which it had hitherto no idea.”

Dewey learned the notion of organic unity from reading Huxley and sought to overcome the knowledge-value, quantities-qualities or objectivity-subjectivity split. He held that regarding “all experience of worth” as inherently cognitive was an “intellectualist fallacy” which implies that science could only understand “the outside of nature” not the inside, accessible to experience. In short he “set himself against the materialistic, deterministic science” of the 19th century, regarding reductive analysis as “abstractions from the whole” and cultures that tear them from context as “insane.” For all his concerns about scientism, Dewey’s, concepts of knowledge v. value were rather simplistic in comparison with Steiner’s view that deeper knowledge comes from a non-dual integration of these realms. This view is

brought into focus in the final chapter on feminist thought which addresses Steiner’s distinction between dualism and the unity of “dynamic monism” where “subjectivity and objectivity cohere in spiritual perception.” Steiner’s concepts of thought are central to his philosophy and hopefully to philosophy in general. He saw thought, not as Kant did, as a means to record reality, but as a way to create or complete it, a spiritual activity that he equated with freedom. Such paths may lead to the conscious transformation of common into uncommon spirituality, and common into uncommon philosophy. If indeed the west is suffering from a poverty of thought in too many intellectual circles, the world may benefit from such transformations and come to regard them as desirable shifts in the evolution of consciousness.

A Second Humanism

David Lorimer

ON LOVE

Luc Ferry

Wiley, 2013, 180 pp., £16.99, h/b – ISBN 978-0-7456-7017-1

Luc Ferry is a French philosopher who has also served as Minister for Youth, National Education and Research in the French government. His collaborator Claude Capelier makes frequent dialogical appearances in this book, adding to the sharpness of debate. Ferry was originally inspired by a book of the same title by Stendhal – *De l’Amour* - which I read some 40 years ago. As frequently happens between different European cultures, there are omissions in the literature, the most striking being the work of Pitirim Sorokin with his great work *The Ways and Power of Love*. Sorokin had a very different metaphysical picture: he acknowledged the validity of mystical experience and the evolution of human consciousness towards the universality of the Divine Mind, while Ferry remains firmly within an existentialist and atheist framework, articulating a secular spirituality. Both, however, are concerned with the crisis of meaning.

Ferry argues that we have lost faith in the great ideals of the past, including God, the nation, revolution, freedom and democracy. Instead, he proposes love as a central value, a new principle of meaning and a new definition of the good life that has always been sought by philosophers. In an earlier book he coined the term revolution of love, referring to the decline of arranged marriages and the rise of marriages based on love, with an accompanying increase in divorce rates. Under previous regimes, mistresses and lovers were part of the equation and distinguished from wives and husbands, unless the former became in due course the latter.

A further interesting implication of this revolution is that we take more care of our children and of each other than in any previous historical epoch. The environmental movement represents the interests of future generations, which are now in the forefront of public awareness. The book not only discusses the revolution of love, but also its implications for politics, art and education.

In the introduction, Ferry analyses four previous principles of meaning, beginning with the cosmological principle of the Greeks travelling from initial chaos to reconciliation with the harmony of the cosmos. This is followed by the Christian theological principle as a result of which philosophy lost its autonomy, then the humanist principle implying an earthly salvation, and finally the principle of deconstruction arising out of 19th-century thought, especially Nietzsche. This principle of deconstruction has been particularly manifest in modern art, but also in modernism more generally. Ferry sees the overall dynamic as moving towards something more human, containing more human experience and liberating hidden dimensions. For him, this is also the elimination of transcendence: salvation is here and now, building on the great European culture of autonomy. The sacred is what one will sacrifice oneself for, in this case love.

In terms of politics, the ideas of the nation and revolution are in decline. Ferry characterises the first humanism as one of law and reason, the Enlightenment, the rights of man, French Republicans and Kant. The second humanism is based on feelings of fraternity and sympathy, embodied in the welfare state and our concern for future generations. Passions are arguably now more powerful than interests. In the first humanism, he writes of the violent disparity between ideals and the reality of their application - liberty and terror. The republican idea was trapped in nationalism and colonialism, but it also expressed itself in the idea of progress while traditional societies are rooted in the past. Progress means constant innovation and a corresponding emphasis on youth rather than wisdom. Ferry highlights the contribution of Claude Levi-Strauss with his critique of hierarchical ethnocentrism giving rise to a radical relativism that has permeated society at every level. On the one hand, this is valuable in considering other civilisations solely in our own terms, but on the other hand it leads to a philosophy that anything goes and is equal to anything else, thus evacuating the content of moral judgements and leading to a *reductio ad absurdum*.

On a different tack, the next chapter moves on to questions of art and education. Ferry makes an important

distinction between upbringing as the business of parents, and education as that of teachers. He identifies three dimensions of European upbringing in love, law and works. The child who has been loved will be more self-confident and able to overcome obstacles. Children also need to know about law, in the sense of treating everyone equally despite personal preferences. Then works concern handing on our heritage of fundamental knowledge to our children. He sees the danger of love as imperilling respect for law and the knowledge of works. One is not expected to emulate the 90-page essay written by Nietzsche in Greek on the comparative merits of Sophocles and Euripides, but there has nevertheless been a decline in standards of literacy, aided and abetted by those who think that spelling is a matter of personal preference. Ferry advocates a training in effort, civility, listening to others, calmness, hard work and concentration, suggesting that this should be sorted out even before children start school. This sounds a little too precocious and French to me, even if I admire the sentiment. In France at any rate there has been a rise in illiteracy, and 150,000 young people emerge from the school system every year without any certificates or qualifications. Of even greater concern is the fact that 80,000 serious incidents are reported every year in French schools, such as violence, drug and weapons trafficking and sexual attacks. This is not so much a reflection of the school as of our society more generally. Ferry lays the main responsibility at the feet of parents who have not given children the kind of upbringing that prepares them to receive an education worthy of the name.

Turning now to art in an age of deconstruction and radical innovation, Ferry insists on the primacy of beauty and is highly sceptical of innovation for its own sake: 'without a relationship to beauty, why, quite simply, should art exist?' Using beauty as a criterion, much contemporary art is 'extraordinarily unsatisfying' and full of dubious innovations like heaps of coal or pianos on top of refrigerators. He interprets this as a conformist desire to provoke, while giving examples of beauty in modern art such as Boulez's *Le Marteau sans maître*.

Ferry ends by considering two key questions: the contradiction between love and death, and the accusation that a philosophy of love is simply naive in the face of rampant greed, jealousy and egotism. As one would expect, he defends his position, observing that the modern individual is more exposed to grief without any religious relief provided by faith. He advocates learning to accept absolute mortality without succumbing to the temptation

of religion. As for the second question, he maintains that an ethics and politics of love make formulated as a new categorical imperative: 'Act in such a way that you can desire to see the decisions you can be applied also to the people you love most.' This new categorical imperative represents a shift from law to love and is linked to our sense of fraternity and sympathy. At this point, one might have expected a reference to Jeremy Rifkin's work on empathy, as Ferry is not alone in the direction of his thought. Even though I don't share Ferry's metaphysical perspective, I find it encouraging that this thought-provoking book articulates this new form of humanism.

A Living Light

David Lorimer

HILDEGARD OF BINGEN – a Saint for our Times

Matthew Fox

Namaste Publishing, 2012, 158 pp., \$17.95, p/b – ISBN 978-1-897238-73-8

It is ironic that Hildegard of Bingen (1098-1179) was canonised as a saint in October last year by Pope Benedict XVI, who, as Cardinal Ratzinger, fought against so many of the views put forward by Hildegard. Moreover, she becomes one of only four women doctors of the church, joining Catherine of Siena, St Teresa of Avila and St Therese of Lisieux. As many readers will be aware, Matthew Fox has had his own run-ins with Cardinal Ratzinger and the Vatican, and his passion for radical renewal is evident in this highly informative book. He has in fact taking up many of the causes espoused by Hildegard herself in her lifetime. She was an extraordinary figure by any standards: abbess, artist, musician, poet, architect, theologian, feminist. Her music has only recently become popular, sometimes illustrated with her own mandala paintings. We have 300 letters still extant, many written as an adviser to leading personages of the time. Her tone is direct and uncompromising, reflecting the formidable spiritual warrior that she was.

The book takes the form of encounters with corresponding modern figures representing her various concerns: the poet Mary Oliver and the cosmic Christ, Howard Thurman and a God of love and light rather than religion, creation spirituality and the Rhineland mystic movement, Clarissa Pinkola Estes and the wild woman proclaiming wisdom and creativity, Dorothee Soelle and Hildegard as a herald of the Divine Feminine. In the final chapter, Matthew likens Hildegard to a Trojan horse entering the gates of the Vatican. His deep scholarship

and love of Hildegard's work is evident in every chapter, giving the reader her own powerful words and conveying her indomitable spirit.

Joan Chittister contributes the introduction, contrasting Shelley's message in *Ozymandias* that everything passes away and nothing remains with the message of the essayist Rosten where he says that the purpose of life is not to be happy, but rather to matter: 'to have it make a difference that you lived at all.' The book shows how the message of Hildegard resonates down the generations and is particularly relevant to our time in terms of the emergence of the Divine Feminine, the need to care for the Earth, criticism of patriarchal mentality reflected in emphasis on war, continuing marginalisation of the poor and excoriating analysis of corruption or lack of integrity in the church. Writing to the Dean and clergy of Cologne, she says 'in your sermons there are no lights in the firmament of God's justice, just as when the stars are not shining in the sky. You are night, a night which exhales darkness. And you are like a people that does no work and out of inertia fails to walk in the light. You are like a naked snake that creeps into its hole... So now, what do you have to say for yourselves? With your empty and silly behaviour, you might well be good for nothing more than to scare away some flies in the summer.' One can only imagine what the Dean felt on receiving such a missive. To Abbot Hellinger she was no less forthright: 'listen and learn, so that you blush with shame when you taste in your soul what I now say. Sometimes you have the style of a bear, often grumbling to itself in secret. Sometimes you have the style of an ass, for you aren't solicitous in your duties but are glum and in many ways bungling as well.'

The spirit here is one of prophecy and moral outrage. Matthew suggests that prophets are meant to interfere, to denounce, to put themselves on the line for justice even if this means unpopularity and excommunication. Hildegard would have agreed with Bonhoeffer when he wrote from his prison cell that God calls us not to a new religion but to life, and that Christianity stands or falls with its revolutionary protest against violence, arbitrariness, and pride of power and with its pleas for the weak.' This kind of spirit is more apparent in the new Pope Francis than in his predecessor. According to Hildegard, prophets are a living, penetrating clarity. In illuminating darkness they speak out. Their virtues are like gleams of divine light.

Another important aspect of Hildegard is her delight in creation, her insistence on praise and gratitude, which also corresponds to her writing on creativity and greening - the real sin is to dry up, no longer to have

the sap flowing through one's being. She is an early proponent of the Divine Feminine, using very interesting imagery not only of God as Mother but also inclusive images such as 'Divinity is like wheel, a circle, a whole, that can neither be understood nor divided, nor begun, nor ended; God is round as a wheel.' Correspondingly, 'just as a circle embraces all that is within it, so does the Godhead embrace all.' This represents the power of a circle rather than the power of a hierarchical ladder.

Hildegard invites us to wake up, to stand in our truth, to express our creativity, to transform ourselves and the world. Matthew's life embodies the same stance, but it is also a healing message, not simply a confrontation with the establishment. As he puts it, Hildegard also reminds us to sing, to dance, to be creative, and to celebrate life. It is a passionate clarion call for our time, but also for all time.

psychology-consciousness studies

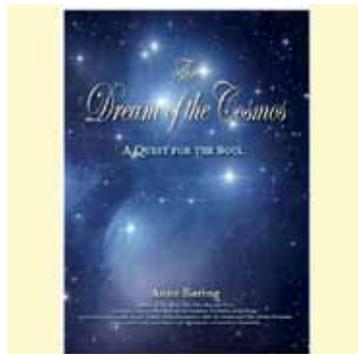
A Quest for the Soul

David Lorimer

THE DREAM OF THE COSMOS

Anne Baring (SMN)

Archive Publishing, 2013, 548 + lx pp., no price given, h/b - ISBN 978-1-906289-23-2



Twenty years in the making and distilling a lifetime of experience and reading, Anne Baring's *magnum opus* is one of the most important books of the decade - brilliant, profound, passionate, magisterial in its scope. Elsewhere in these pages is my review of Al Gore's book on the future, to which this study provides a wonderful complement in terms of depth and history, articulating a feminine and spiritual outlook on the crisis of our time in its many dimensions - spiritual, psychological, ecological, social, political and economic. Needless to say, these are all interlinked at the level of worldview and reflect much

deeper patterns than most people are aware of. Anne draws on her own extensive background as a historian of culture and healer of the psyche to convey an extraordinary synthesis of essential ideas. These are accompanied by her husband Robin Baring's beautiful images.

A diagram on page 488 outlines the scheme of the book, beginning with the lunar phase of original participation and identity with the Great Mother. This is followed by the advent of solar mythology bringing separation of mind and soul as well as of mind and nature. The Cosmos, God and the world are objectified. She called the third phase 'stellar', bringing the sacred marriage and conscious participation in an ensouled cosmos. The book is then structured into six parts: the beginning of Anne's quest, the lunar era of the original participation, the dissociated psyche and the pathology of separation and loss, recovering the connection to the soul, a new vision of reality, and transformation leading to final participation (a phrase from Owen Barfield). There are two interludes about the significance of the Sleeping Beauty as a fairy tale for our time, and the Way of the Tao as a feminine symbol.

Anne writes lyrically about her early life, especially visits to her grandmother's house in the south of France and her discovery of Moorish Spain, Italy and India. The reader comes to understand the trajectory of the journey her life has taken and her passion to rediscover the ancient image of the soul as an all-embracing cosmic web of life in which we live, move and have our being. At the age of 11, she had a life changing experience in which another order of reality broke into the physical and set her off on her quest, on which her mother had already embarked. What she calls her awakening dream was the most awesome of her life, a vision of the goddess as *Anima Mundi* with an immense revolving wheel at the centre of her abdomen. Anne notices that she also has such a wheel, but that it is not centred. The figure indicates that her task is to centre that wheel. It is a wonderful image and so representative of personal and cultural imbalance. The dream represents an important step in her quest leading to the philosophy and psychology of Carl Jung, who was undoubtedly one of the most significant thinkers of the 20th century, but too profound and threatening to be included in university psychology courses.

Twenty years ago, Anne published *The Myth of the Goddess* with Jules Cashford in which they explored the implications of our cultural separation from nature and the goddess. This present book builds on their findings and her subsequent exploration of

the Divine Feminine. A recurrent and central theme is the oneness of life and energy, but the rational mind can only see separation and thinks itself superior to the unconscious and the instinctual. In a chapter on the tree of life, Anne explores the significance of the Shekinah as a symbol of divine immanence that is also named womb, palace, enclosure, fountain, apple orchard and mystical Garden of Eden. Further imagery emerges in Gnosticism and the Holy Spirit as Presence. The image of the Great Mother implies a sense of participation in a Sacred Cosmic Order, which Anne explores extensively across a number of cultures, explaining the deep symbolism of the phases of the moon in terms of death and rebirth. She identifies a number of key themes of lunar mythology that are transmitted to later cultures in terms of the feminine qualities relationships and connection, including the shamanic vision of kinship with all creation. She shows how this sense was lost in Greek culture between Parmenides and Plato, also referring to the seminal work of the end of Iain McGilchrist, which will be familiar to many readers.

The next part explains the advent of the solar era leading to a separation from nature and the battle between good and evil, the archetype of which is very much still with us. The solar myth refers to a cosmic battle between light and darkness that was to have a profound political impact in the idea of the holy war and the formation of a warrior class associated with a quest for power and omnipotence; also with the development of utopian ideologies and their negative projection of evil on the other. The Great Mother gives way to the Great Father: good is identified with spirit, light, order and the rational mind, while the feminine aspect of life is frequently identified with evil in terms of nature, darkness, chaos and the body (p. 122). This polarisation continues into our own time and is reflected in the Christian myth of the Fall and its associated doctrine of original sin, to which Anne devotes a separate chapter. The literal interpretation of this myth 'bequeathed to generations of Christians a legacy of sexual guilt, misogyny and fear of God's anger', the indications of which are examined in great detail through the writings of church fathers, especially St Augustine of Hippo. The obsession with sexuality sin and guilt is still with us. Other scholars have interpreted the story of Adam and Eve as the birth of self-awareness and the consequent loss of an unconscious participatory state, while the Celtic priest Pelagius provided a much more humane theology. In her work as a therapist, Anne came to understand the harm inflicted by a deep sense of self-rejection.

The next chapter examines the

history of misogyny and the effects of the oppression of women throughout history. Even in our own day, women are still being raped, trafficked and brutalised by domestic abuse, especially in war zones. Anne expresses her deep outrage on behalf of women to this history of oppression, which makes especially sobering reading for men. Within the Christian tradition, the three figures of Eve, the Virgin Mary and Mary Magdalene carry different archetypes, and many readers will be familiar with recent reinterpretations of the role of Mary Magdalene. Eve stands for the contamination of original sin leading men to regard themselves as superior and women as defective. Anne examines episodes such as the witch trials and the continuing oppression of women in Muslim societies, concluding that the millennia-long oppression of women is unfinished, with men still trying to exert patriarchal control.

Current Western culture is based on a one-eyed rational consciousness already criticised by Blake in the 18th century. Modern science embraces a secular materialist philosophy with no vertical axis, but this view is being undermined in some quarters by a new science of consciousness and an understanding of how the brain has evolved. A different worldview is emerging, which is explored later in the book: there has been a resurgence of the feminine and a corresponding awakening of the soul with its emphasis on care, connection and feeling values. We are developing a sense of relationship with the Earth, as reflected in environmentalism, holistic science and the Gaia hypothesis demonstrating the interconnectedness of life. The role of women is being gradually affirmed, and the feminine challenges us to develop compassion for life on Earth, to meet the deepest needs of the human heart and to relinquish damaging beliefs and patterns of behaviour. Carl Jung played a pioneering role in this process of rediscovering the soul with his profound exploration of alchemy. He was not afraid to plumb the depths of his own psyche and uncover collective patterns of which we must become more aware. He pointed out the dangers of one-sidedness seeking power and supremacy over others and projecting evil outwards - his work on the shadow could not be more important and it is essential that this should be widely understood in our culture, especially by politicians. As it is, only those familiar with Jung's work are aware of its profound implications. Instinct and the shadow, represented by the Dragon, cannot be conquered, 'because it is the creative power of life itself.' One of our grave dangers, as also pointed out by Joseph Chilton Pearce, is the predominance of survival instincts activated by the reptilian brain and the

consequent division between predator and prey. This is projected on a large scale with our development of ever-more sophisticated forms of weaponry and destruction, rendered all the more lethal by pressures to conform to and obey authority.

This malignant aggression is also marketed as entertainment in terms of sadism and violence, to which we expose our young people - what Anne appropriately calls vicarious visual terrorism, which many defend in terms of freedom of expression. She rightly maintains that the real issue is the creation and protection of a civilised society. The shadow is equally present in terms of religious atrocities and politically endemic militarism to which science has also become beholden. She writes a truly searing chapter on war as the rape of the soul with its archaic roots in the reptilian and mammalian brains. We do not often reflect on the implications of nuclear and chemical (and now electromagnetic) weapons, which are simply an outrage against the sanctity of life and a fundamental betrayal of our humanity. Militarism and the arms trade continue to drive the world economy, at huge opportunity cost to other humanitarian and environmental budgets. The challenge here is that 'no pattern of behaviour is more resistant to change than the survival instincts that are triggered by fear.' Moreover, the mass of humanity continues to follow outdated social customs and religious beliefs, so new leaders will have to be highly advanced in their thinking and genuinely grounded in the oneness of life.

The next part articulates a new vision of reality as indicated by emerging sciences and new understandings of consciousness as the ground of being. Anne brings together the findings of physics and biology with parallel metaphors in spiritual traditions - holographic thinking with the net of Indra. Sacred places such as Chartres with its rose windows reflect a multilayered understanding of reality. Reconnecting with the soul also entails overcoming the split between mind and body and respecting the role of instinct and the perceptions of the heart. Fundamental to this new vision is a new image of God, to which Anne devotes a whole chapter. Contemporary spiritual awakening arises from a direct connection with a transcendent dimension involving the transformation or illumination of consciousness rather than redemption through faith. The influence of the East has given us a different image of spirit along with an understanding of karma and reincarnation. In addition, Nature is now being understood in terms of theophany as in Celtic Christianity, opening up the possibility of healing the split between spirit and Nature.

The final part explains stellar consciousness, taking the reader through the transmutational process of alchemy, rediscovered in the 20th century by Jung. Anne elaborates on the principal themes and processes that are also reflected in many myths. This represents a return journey to the unseen dimension that attunes our awareness to a hidden order of reality. She then marshals the evidence for the survival of the soul beyond death, deriving from this material an understanding of our three bodies and the kinds of world that we will enter after having made our own transition. Reflecting the profound insights of this research, the last chapter explains how Light and Love are the pulse of the cosmos, as all mystics such as Ruysbroeck and Eckhart have maintained. Anne also explains how her book has been written with love: love of life, love of beauty, love of family and friends, love of humanity. She finishes with a vision of humanity aligning to the evolutionary intention of the cosmos and 'no longer driven by the quest for power, conquest and control and the appropriation of the Earth's resources for the benefit of the few.' In doing so, she believes, 'our minds will serve the deepest longings of our heart, the deepest wisdom of our soul.' This is a profound message of hope and renewal calling forth the feminine principle of care, compassion and connection, principles that we can all choose to embody and articulate to serve as midwives of a new culture. The book is an absolute *tour de force* and the crowning achievement of a life well lived in the service of the inner life.

The Lost Knowledge that Women must Remember

Annie Davison

BODY OF WISDOM Women's Spiritual Power and How it Serves

Hilary Hart

O Books 2012. pp 304. £11.99.
ISBN 978-1-78099-696-7

Over thousands of years of patriarchal power, men - with women's help - have developed our global culture. But at what cost to our living systems, including our physical and mental health? We have gone crazy: over-consuming and acquisitive, bent on dominating people and nature. Yet we feel un nourished and dissociated from source.

According to Hilary Hart we have reached a crisis point. The whole of life needs regeneration and renewal, nourishment and love and it is women who are needed to take responsibility, to restore balance to an unbalanced world.

For it is women who are naturally

connected to the earth and nourishment. It is they who carry the bloodline of the mother. Women's bodies are in sync with the physical world in ways men's bodies aren't; the blood flow itself is at one with the life force energy flow of the body of earth, and carries the spiritual as well as the physical.

Drawing on interviews with the world's most visionary spiritual teachers, Hilary Hart's book becomes more profound with every page. Sections, for example on Purification, Earth, Wholeness, Receiving, Community, persuade us that there is a potential source of power in all women; that we are by nature shamanistic.

Presenting us the evidence through the stories of myth, the customs of native communities and images of feminine power from all cultures - as well as through the dreams and experiences of ordinary women - she explains how it is that through giving birth we have a template in our bodies and hearts to replicate the mysterious female nature of Earth's generative powers, to bring light into life in order to revitalise and heal the earth.

Women's bodies are alive, says Dr Guan-Cheng Sun, Taoist and Chi Gong teacher. A woman's heart is connected to the heart of the Earth, our planet's seat of consciousness. *Body of Wisdom* tells us that the body and its organs are spiritual vehicles with many, many hidden and mysterious processes. Through the attunement of the organs to earth and the seasonal cycles, we are part of a vast system of inter-relationships affecting the whole web of life.

For example, when parts of the body like the breasts are sexualised and objectivised, as they are today, we 'cover like a veil' our spiritual power. In fact, says Dr Sun, an energy point in a woman's chest works with the breast to provide spiritual as well as physical nourishment to a child. If this chakra is active, a woman constantly emits nourishing light through the breast into life.

And when a woman purifies the uterus through menstruation, it mirrors her capacity to purify multi-dimensionally; to clear space, release the toxic, and allow the new to enter - not only for herself but for others too.

As Sufi Llewellyn Vaughan-Lee says "the substance in a woman's spiritual being can directly interact with the sacred substance, or light, in creation. It is a substance that men don't have".

Powers that are natural for women are often simple, so much part of life that we do not honour them. In a chapter on *Nourishment* Dr Sun sees the prevalence of diseases such as multiple sclerosis, lupus and other auto-immune disorders - more common in women - as a sign of how women deplete themselves by giving too much. Women need to become conscious of energy exchange

and be more responsible for nourishing ourselves through the most basic aspects of life. Maintaining healthy relationships, being careful of who we make love to, where we spend our time, what we eat, influences the energy we can emit back into life.

A particularly powerful chapter on *Longing* - which, says Hilary Hart, is a spiritual gift and another mystery of wholeness - describes a woman's longing as a living sign of unification, a state of vulnerability and a deep need for the soul to be part of life. She longs to know that life is sacred and to experience the creative power running through the core of life; to know that God is not only Transcendent - located in heaven beyond earth - but is also Immanent. The Divine Feminine is the experience of God in creation.

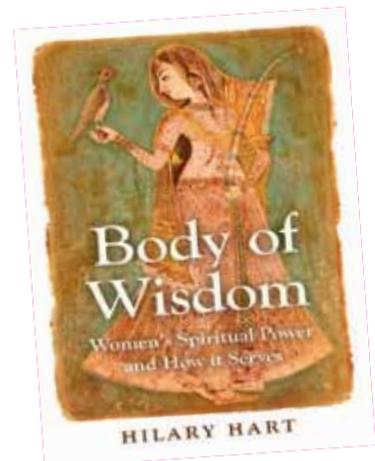
The journey requires restoring the sacred feminine, healing wounds that dominate our consciousness and our unconscious. But sometimes it is more challenging to think what is already available to us.

Hilary Hart, author of three books on women's spirituality and its role in collective evolution, says we need to explore the gift of deep listening and attunement, for life to enter us and circulate more deeply; We need to belong to life itself, 'where longing and pain are part of civilisation trying to awaken'.

She points out that this is not a rejection of men or men's power and she concedes that these generalities about earth and gender are not absolute: that some men identify more with earth elements, while some woman might orientate towards the heavenly realms.

But, concluding with exercises to illustrate her themes, she suggests that it is now imperative for women to take responsibility for a spiritual work that only women can do. As she says "It is not for women to become powerful but to wake up to their power."

Annie Davison's books include: *The Wise Virgin*, on the Feminine Principle, and currently: *Time to Change: a guide to life after greed*. www.guidelines.uk.com. Her personal website is www.anniedavison.uk.com



Psyche and Cosmos

David Lorimer

SONGLINES OF THE SOUL

Veronica Goodchild

Nicolas-Hays, 2012, 394 pp., £19.99, p/b – ISBN 978-089254-168-3

Veronica Goodchild is a Professor of Jungian Psychotherapy and Imaginal Psychology at Pacifica Graduate Institute. The title of this book comes from the ancient Aboriginal concept of 'songlines' defined as 'pathways to another world reached through dreamtime and visionary insight, and encounters with the unknown realm of experience.' She draws on a vast range of literature as well as her own extensive experiences of dreams, synchronicities and even a UFO encounter. Her basic contention is that we are individually and collectively emerging into a new worldview where the distinction between spirit and matter, inner and outer will be overcome as we realise how each reflects the other.

Like many contemporary writers, she sees our time as one of suffering and strife, but also with huge potential for change and transformation, which she regards as essential for our common future. The new understanding is that we live in a conscious and interconnected universe in which we are all co-creators, which in turn implies that we can be participants in the unfolding of a new reality, enabling the invisible to become visible and manifest. The author aims to remind us of who we really are at a deeper level so that we can 'become the midwives for this evolution in the eros consciousness' and achieve the necessary course correction in western culture.

The book is divided into four parts: an introduction to the subtle body and subtle worlds, synchronicity as a doorway to the deep mysteries of the psyche, UFOs and crop circles as a new emerging myth, and mystical cities and healing sanctuaries. Modern science insists on a material interpretation of the universe, thus denying the existence of subtle realms or dismissing them as illusions or hallucinations. Veronica takes a very different view, referring to the possibility of tuning in to other octaves of experience and the work of Henry Corbin on imaginal worlds (*mundus imaginalis* or the Other world) beyond empirical perception. This opens up an altogether deeper vision and understanding of reality as we begin to realise 'how we are each the expression of the cosmic mind coming to know itself.' There are interesting parallels here with the *unus mundus* of the alchemists – the psychophysical background unitary world. Entry into other worlds is a common feature of

the death-rebirth pattern of initiation, which gives the initiate first-hand experience of the subtle. Jung's own NDE in 1944 was an important initiation marking a new phase of his work, and Veronica also discusses his Ravenna vision of 1913 and his alchemical vision of a green-gold Christ. These were not taken seriously by his contemporaries, stuck as they were in a materialistic outlook. This is also why Jung is excluded from contemporary psychology undergraduate courses that would threaten the paradigm and challenge lecturers to undergo a personal process of transformation and individuation.

Synchronicity draws our attention to the nature of consciousness and the relationship between inner and outer, which Veronica links up with alchemy. She discusses some of Jung's own experiences and identifies four essential features, including meaningful acausal connection, direct experience of another world, openness to thoughts we did not know about, and transformative power. She explains a significant experience of her own, commenting that synchronicity is movements of epiphany where another dimension impinges on the present, reminding us of what many traditional cultures were aware of all the time. At the very least, synchronicity shows that we all participate in one mind.

The third part discusses UFOs and crop circles, commenting on their relationship where one might regard crop circles as material manifestations of UFOs, and UFOs as psychospiritual manifestations of crop circles, both 'heralding a new age where spirit and matter are one.' Veronica draws on the experiences of Steven Greer and others, arguing that these encounters are part of a transition to this new age where nonhuman intelligence will also be acknowledged. She also sees crop circles as a sign of an emerging shift in consciousness, analysing the symbolism of some of the best-known and most complex examples. Here one is on shakier ground, as it is unclear to me, at least, how one distinguishes between the genuine article and man-made equivalents. Some of the rectangular shapes seem intuitively less convincing, while others are known to have appeared in a short space of time with such complexity and precision as to make them impossible to hoax.

The last part moves into the even more esoteric territory of mystical cities, including Shambhala, Avalon and Grail Castles characterised by extraordinary beauty and luminosity. Some of these are experienced in the NDEs, and may exhibit the phenomenon of missing time. Here again there is an element of death and rebirth, of expansion and freedom suggesting a world of light behind and beyond the physical.

All this represents what Veronica calls 'direct experience of another world while living in this one.' It is a shift from the psychology of images to one of encounters and 'a consciousness that extends self interest and awareness to one of compassion for others, for nature, and a commitment of care for the liberation of all beings.' This is a higher differentiation of consciousness beyond conflicting opposites where 'cosmic wholeness and self-actualisation go hand-in-hand.' It is the Age of Aquarius heralding the recovery of the divine self through a deeper gnosis that also brings about a profound healing also found on ancient sites in Greece with their practice of incubation. As in the work of her friend Anne Baring, this is soul work more strongly identified with the feminine, but we are all a part of it. Veronica's book gives a new context for a great variety of numinous and transcendent experiences and helps define a transformed understanding of life and its journey.

Which came first – the Emotion or the Thought?

Gunnel Minett

THE ARCHAEOLOGY OF MIND, NEUROEVOLUTIONARY ORIGINS OF HUMAN EMOTIONS

Jaak Panksepp & Lucy Diven

W.W.Norton & Company, London 2012, 562 pp, illustrated, £35.20, h/b – ISBN

For most of human history people have tried to explain the human mind. Why are we conscious? Where do our thoughts come from? Where do our emotions come from? What makes us happy? What makes us sad? What fills us with; enthusiasm, lust, anger, fear, or tenderness?

The main consensus has been that it is our thoughts that come first, that they trigger our emotions and motivation. Rene Descartes who still has a clear influence on Western science, was crystal clear that our thoughts were predominant. By stating "I think therefore I am" he even questioned everything but his thoughts.

In the last century discussion about mind and consciousness expanded greatly. There are now many views but very little consensus. It is like a giant jigsaw puzzle where people are trying to link up pieces here and there but where a number of pieces still are the wrong way up and need to be dealt with before they can contribute to the overall picture.

I would say that the authors of this book are contributing largely to clarifying the overall picture. By reporting on their findings in animal research they are

able to show that human behaviour has a lot in common with other mammals. Even if we still know next to nothing about animal consciousness we can see that much of our emotional life is shared with other mammals.

The authors identify seven emotional systems that explain how we live and behave. These systems originate in deep areas of the brain that are remarkably similar across all mammalian species. These systems draw on information both from within and from the environment and act like a type of driving force for all emotions and behaviour. It is when they are disrupted, that we find the origins of emotional (and psychological) disorders. The systems are:

- SEEKING/EXPECTANCY: how the brain generates a euphoric and expectant response
- FEAR: how the brain responds to the threat of physical danger and death
- RAGE: sources of irritation and fury in the brain
- LUST: how sexual desire and attachments are elaborated in the brain
- CARE: sources of maternal nurturance
- GRIEF/PANIC: sources of non-sexual attachments
- PLAY: how the brain generates joyous, rough-and-tumble interactions
- SELF: a hypothesis explaining how affects might be elaborated in the brain

Because these systems are rooted in older parts of the brain they can be described as a type of emotional intelligence that influences the thoughts as much as the other way around. This is a very different approach to understanding human consciousness than most of the current debate where some still dismiss emotions as irrelevant or just a by-product of the conscious brain. For psychology in particular, a large part of the last century was heavily influenced by the behaviourist attitude that understanding emotions were of no consequence when it came to dealing with human behaviour.

Panksepp and Diven make it clear beyond any doubt that this is not the right way forward. On the contrary, they argue that the best way forward for helping people with psychological and behavioural problems is to learn from their type of research. This means to learn from studying what exactly happens, for example, when the chemistry of the brain changes and to hopefully also develop drugs that will help us change the brain's chemistry in positive ways. Combined with psychotherapy, this approach has been shown to produce very good results.

In their own words: "It has long

been known that the most effective psychotherapy occurs when clinicians know how to approach clients with unconditional acceptance, empathic sensitivity, and a full concern for their emotional lives. In a word, effective psychotherapists share their ability for CARE, along with the ability to recruit their healing power of positive emotions. And this lesson is not just for those whose professional focus is to help heal the mind, but also for those harried clinicians who are more involved with bodily than mental health, and who, all too often, do not have sufficient time for the emotional concerns of their clients (Goleman, 2006). Of course, the loving touch does not need much time. But it does need consistency." P 310

They also point to the fact that by understanding how the emotional systems work, we can understand what they need to develop, i.e. what kind of environment children need to develop fully functional emotional reactions. This can help to reverse some of the negative trends in today's childcare. For instance it may help explain the growing number of autistic children and how to best help them. The authors also point to the number of children with ADHD who are treated with powerful drugs which numb their minds (and in particular their PLAY system) to some extent. By understanding the PLAY system and its role it is possible that ADHD-children can be helped simply by letting them have more time for play on a regular basis.

The authors also point to the importance of understanding the role of emotions in all forms of human interaction. In their words: "Whatever the reason, we do not really understand much more about how the higher brain functions can weave together our cognitions than we do about how the lower brain generates emotions. We do know that the personality characteristics of therapists – no doubt especially their capacities for affective attunement – are typically more important than the specific procedures they use. It is well known that when one is feeling bad, the attention of caring others can rapidly reduce negative affect. Twelve-step programs are probably so remarkably effective, because they provide the social concern and affirmations that are needed to become reconnected to one's potential for positive feelings. The social-affective power of other minds can help people deal effectively with negative affects, and thereby the affective terrain of the brain may provide a clearer description of the psychological forces that lie at the heart of most human psychological problems, and the intra- and inter-personal mental dynamics that need to be recruited for optimal therapeutic effects." P 455

Their conclusion is that understanding the role of emotions and

how they are expressed in the brain and body will lead to great changes: "In any event, it is clear that psychotherapy is in the midst of an emotional revolution. The primal affective aspects of mind are no longer marginalized, but, rather, are recognized as the very engines of the psyche.....But the bottom line is that further progress with such novel approaches must be grounded in understanding the nature of the underlying pathogenic factors." P 457

It will be very exciting to see what such a change will lead to and if it will be enough for us to change the world for the better. Given that the future may require a total change in global cooperation for us to survive as a planet with a variety of life forms, we will certainly need all the knowledge there is to succeed.

*Gunnel Minett is the author of **Breath and Spirit**.*

Measuring Well-Being

David Lorimer

WORLD HAPPINESS REPORT

Edited by John Helliwell, Richard Layard and Jeffrey Sachs

Earth Institute, 2012, 166 pp., no price given, no ISBN

Richard Layard's book on happiness came out in 2005, and since that time there has been an increasing influence of this way of thinking along with the emergence of positive psychology as a serious academic discipline and the longitudinal finding that increase in GNP beyond a certain point is not correlated with an increase in happiness and well-being. Layard's thinking comes out of welfare economics, while Jeffrey Sachs is director of the Earth Institute at Columbia University and well-known for his radical and farsighted views expressed in a series of Reith lectures. The direction



of travel is the eventual replacement of GNP as the leading economic and political indicator, thus opening up the possibility of reframing political debate and aspirations.

This report is, as far as I know, the first of its kind and is as such a landmark publication. After the introduction, the first part looks at the state of world happiness, causes of happiness and misery, and some important policy implications. The second part is mainly taken up with a case study of Bhutan with their well-known framework of Gross National Happiness. There are then short methodological sections from the Office of National statistics and OECD. The report opens with a commentary on the state of the world with stark contradictions between technical sophistication and the fact that nearly one billion people do not have enough to eat; moreover, we are destroying the environmental resource base on which economic growth ultimately depends, and population is expected to reach more than 9 billion by 2050, with most of the increase coming in developing countries. Affluence creates its own problems in terms of health, addictions and anxiety. Western economics, which supports the logic of pursuing ever-higher GNP, assumes an understanding of humanity that is at variance with the wisdom of the ages as well as the research of psychologists. We do not live by bread alone, but thrive on cooperation, trust and community.

The science of happiness distinguishes between two measurements: affective happiness representing daily emotions and mood, and evaluative happiness as an indication of overall life satisfaction. The editors point out that the context of the current quest for happiness is one of growing environmental risks, when we may need increased resilience in order to thrive. This means that policies will also take account of environmental sustainability, social inclusion and good governance. The case for taking happiness seriously is based on the conviction that it can provide a range of possibilities for creating a better world; overall evaluations seem to take into account both pleasure and purpose represented respectively in the hedonistic and eudaemonistic lives, the latter focused on achieving excellence.

The international charts make fascinating reading and give some indication of the relative quality of individual and community life within a particular geographic zone. The overall indicators on the scale of 0 to 10 are evenly distributed, but skewed towards the upper end in more developed countries, peaking at 8/10. Although there are some variations depending on the particular study in question, similar countries appear at the top of the scale,

such as Denmark, Costa Rica, Finland, Norway, the Netherlands, Canada, Switzerland, Sweden and New Zealand. It is interesting that Ireland appears at the top of the chart for average affective happiness yesterday and average positive affect, while Sweden and Norway are much further down that particular chart. This suggests variations in national temperament.

The analysis of the causes of happiness and misery takes into account genes and environment, external features such as income, work, values and religion, and more personal features including mental and physical health, family experience, education gender and age. Notable by its absence is attitude, which is surely a key personal factor. Abraham Lincoln famously said that most folks are about as happy as they make up their minds to be. There are analyses of individual happiness and income, the role of work, social capital in terms of trust, freedom and equality, values and religion including altruism and consumerism; then considerations involving mental and physical health, family, education, gender and age as mentioned above. The conclusion is that happiness depends on a huge range of factors, and that many of these can be influenced by government policy, which is considered in the next section. This falls under the headings referred to above and provides a different lens for thinking through social implications.

The bulk of the second part covers Bhutan and its experience over the last 40 years of a gross national happiness index. About 40% of the population consider themselves happy, of whom 8.3% are 'deeply happy' and 32.6% 'extensively happy.' Only 10.4% report themselves as unhappy, leaving 48.7% as 'narrowly happy.' The philosophical basis of GNH is that beneficial development of human society takes place when material and spiritual development occurs concurrently. There are nine domains of GNH with a total of 33 indicators with relative weightings; the domains are psychological well-being, health, time use, education, cultural diversity and resilience, good governance, community vitality, ecological diversity and resilience and living standards. This is all explained in considerable detail, which gives the reader an in-depth understanding of the sophistication of the scheme and points up the biggest deprivations, which currently relate to education, living standards and time use. The King himself describes GNH as development with values, and there is much to be learned from this experience. Readers of this important report will realise that the issues and policy implications are very real and deserve to be applied more widely.

Evolution through Creation

David Lorimer

THE HEART-MIND MATRIX

Joseph Chilton Pearce

Park Street Press, 2012, 205 pp., £14.99, p/b – ISBN 978-159477488-1

Many contemporary writers are engaging with the theme of imbalance in Western society between the intuitive and the rational, heart and mind, right and left hemisphere thinking. Joseph Pearce is concerned not only with rebalancing but also with reordering priorities so that we can function with the lowest in service to the highest rather than the other way round where we find the reptilian brain calling the shots in terms of fear and survival. He feels that our innate system of emotional-mental coherence was lost many generations ago with the breakdown of a nurturing culture represented by Abraham's many-breasted female God, El Shaddai.

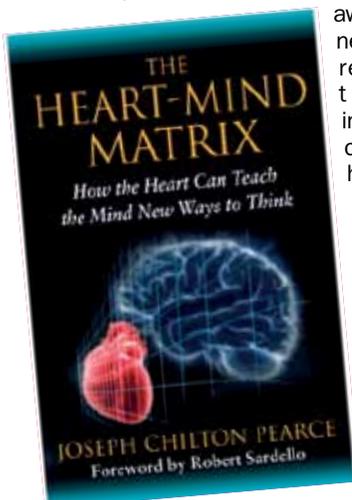
Pearce defines evolution as the transcendent movement to go beyond limitation and constraint. This means that evolution is the transcendent aspect of creation, and creation the response to evolution. This is happening on a cosmic and personal scale as a mirroring loop of potential in the process of realising itself. We are always seeking out a level beyond our present state, which for contemporary humanity is an evolutionary imperative. It is interesting to learn that stochasm is not simply randomness, but randomness with purpose, a process of rigorous selection from Nature's profusion and overproduction. In what he calls the Darwin II, the evolutionary process moves to another octave through the emergence of love and altruism mediated by the creation of mind-fields with which we can resonate and to which we can contribute. These may also be a source of new creative insights for the unfolding of a musical idea into a symphony as with Mozart. Pearce also argues that in order to escape the constrictions of the reptilian brain and ancient survival instincts, we need to embrace death and move into the very unknown that our instincts guard us against.

The evolution of the brain predisposes us towards governing our instincts through the prefrontal cortex. In order for this to function optimally, we need to recover the lost heart-mind matrix of nurturing. This also means tuning into Spirit beyond mind-fields, as Jesus himself and George Fox did. Pearce cites some other interesting examples like Judith von Halle, a modern mystic who reproduced the stigmata and found herself physically unable to eat. Examples of people like this invite the reader consider the power of spiritual mind-fields and the transcendence of normal bodily

functions. If evolution and life are work in progress, then where do we go next? One example is the work of Robert Monroe in which subjects are able to leave their bodies and enter into post-mortem states where they can reconnect with their loved ones. This indicates the continuity of life and consciousness, literally beyond the brain.

Nothing could be more important for our future than reconnecting with the compassionate intelligence of the heart and reconfiguring the separative thinking of the brain in the process, thus overcoming our destructive and self-reinforcing behaviour loops. Here forgiveness can play a crucial role, as we saw in South Africa; otherwise revenge keeps the old patterns going. Pearce reports on the work of the Heart-Math Institute exploring coherence in heart fields in the form of a torus. A peaceful and heart-centred person embodies a healing presence that helps bring coherence into their surroundings. The intelligence of the heart is concerned with well-being. While the brain asks whether something is possible, the heart questions whether it is appropriate, an important caveat in the light of the speed of potential technological development, especially when applied to weaponry. In terms of education, it is important that our young people spend at least as much time in Nature as they do in front of the screen, otherwise brain development will be warped with an overload of stimuli leading potentially to boredom and anxiety. Constant distraction makes it hard to concentrate and develop any sense of inner stillness. Children are also subject to contradictory imperatives to explore while remaining in contact with the nurturer. The difficulty arises when that same nurturer threatens them and activates the survival response to release adrenal cortisol into the young brain, the results of which are also discussed by Paul Gilbert in his work on compassion. This etches fear and doubt into the growing character and drives them to seek constant approval in order to regain a sense of worthiness. This rich book expands one's sense of potential and creativity and makes one acutely aware of the

necessity of recovering the intelligence of the heart.



economics-futures studies

Earth Inc. vs. the Global Mind

David Lorimer

THE FUTURE

Al Gore

WH Allen, 2013, 558 pp., £25, h/b – ISBN 978-0-75354-048-0

I remember reviewing Al Gore's earlier book *Earth in the Balance* nearly 20 years ago. This is much more than an update over the intervening period since it is more comprehensive in its scope and extremely well researched with over 140 pages of notes and references. It is hard to disagree with Sir Tim Berners-Lee when he says that 'if you are concerned about the massive changes the world is just heading into, then you should read this book. If you aren't, then you *must* read it!' The book is Gore's answer to the question: what are the drivers of global change? He identifies six principal drivers, which form the structure of his analysis: the emergence of a deeply interconnected global economy creating new and different relationships between capital, labour, markets and government; the emergence of a planet wide electronic communications grid connecting the thoughts and feelings of billions of people; the emergence of a completely new balance of political, economic and military power; the emergence of rapid and unsustainable growth in population, cities, resource consumption and pollution flows; the emergence of a revolutionary new set of biological, biochemical, genetic and materials science technologies; and finally the emergence of a radically new relationship between the aggregate power and impact of human civilisation and the Earth's ecological systems, especially the atmosphere. Readers will notice the use of the word emergence in each case, reflecting the development of complexity theory and nonlinear dynamics creating new forms of self-organisation.

Each chapter begins with a complex flow diagram illustrating the main factors and issues at stake. This enables readers to understand the argument in both a graphic and a linear fashion, allowing them to review the contents at a glance. Needless to say, the interaction between these flows is as complex as the analysis, which simply reflects the corresponding complexity of our modern world. Earth Inc. is the name Gore gives to globally interconnected capitalism, which he feels has undermined the democratic process, especially in the United States. Politicians now represent

these interests rather than those of their constituents, since they are beholden to them for their campaign funds. In turn, this is driven by the fact that senior voters watch TV for on average seven hours a day and political campaigning therefore gravitates towards TV adverts, which are incredibly expensive. One of the major trends identified by Gore is outsourcing and robosourcing, which dramatically reduces the ratio of capital to labour inputs. Thus a decline in employment can be associated with an increase in productivity, as has happened in the US over the last 10 years. These trends are set to accelerate and may well result in insufficient aggregate demand to drive the global economy through consumption. This is exacerbated by rising inequalities of wealth, as those at the very top end do not spend as much as their middle-class counterparts. We have also seen a financialisation of the economy and the development of high-speed automated electronic trading as well as new financial products like derivatives that are traded in volumes far greater than the notional value of the world GDP. In an attempt to contain the acceleration of this process, a law was proposed to delay resolution of these transactions by one second, but this was resolutely refused by the industry. Another trend is self-sourcing, where we make our travel bookings and purchases through the Internet. As we know, this has already had a huge effect on industries such as newspapers, travel agencies, bookstores, music and photography.

The Global Mind was prefigured by thinkers such as HG Wells and Teilhard de Chardin. The Internet and smartphones are tending to replace memory, acting as an extension of the brain. It is astonishing to learn that 500 million people play games on the Internet for at least one hour a day. A much more serious issue is the tracking of our every movement on the Internet, principally driven by commercial considerations of targeted advertising. As we have seen, this also gives governments access to a huge amount of data so that we have less and less privacy. The positive side of these developments is that they can enable political revolutions at least to get off the ground, but on the negative side, as Gore points out, it means that all the apparatus of a police state is in place in the US. Cyber security is clearly a real issue, but it can also be misused as a way of increasing levels of surveillance not only on hackers and terrorists, but also on members of the general public.

One of Gore's principal concerns is the emasculation of democracy manifesting as a deficit of governance. He gives an interesting historical overview of the emergence of

democracies in various phases, but his real anxiety is the seemingly unstoppable power of corporations. Even 100 years ago, Theodore Roosevelt was trying to put in place measures to prevent special business interests gaining an undue influence. He broke up a number of conglomerates and passionately argued for the maintenance of Lincoln's progressive ideals of the Republican Party. He pointed out that the Constitution does not give the right of suffrage to any corporation, but since that time the reforms have been rolled back and massive deregulation has occurred. Through the immense influence of Lewis Powell, the US Supreme Court has been packed with conservatives using such phrases as corporate persons and removing barriers to corporations providing political funds. Corporations make decisions on narrow financial self-interest, while individuals are capable of reflecting other factors as well. More recently, there has been a rapidly revolving door between lobbies and Washington; more than 50% of retiring senators and 40% of retiring House members become lobbyists, compared with 3% in the 1970. This is systematic corruption, not to put too fine a point on it. Freedom of individuals and freedom of corporations should be sharply distinguished, but they tend to be elided.

At the halfway point of his argument, Gore comes to his central assertion that we face a critical choice: we can either allow ourselves to be swept along by these powerful currents of technology and economics represented by Earth Inc or we can rally to build the capacity for collective decision-making on a global scale that enables us to shape the future to reflect our common aspirations, rather than those of the elite.

The next chapter, *Outgrowth*, documents the effects of rising consumption and population. There will be 3 billion more people in the middle-class by 2030, all of whom have Western aspirations resulting in greater growth per capita consumption than population growth, which will put further pressure on our natural resource base. The number of cars and lorries is expected to double in the next 30 years. Gore provides a comprehensive catalogue of trends and figures not only in terms of agriculture, soil and water, but also the growth of cities, the challenge of hunger and obesity, the implications of population increase in Africa, the effects of longevity, changes in family structure, movement of refugees, land grabs in Africa and much more. He also describes the origins of mass marketing and the shift of the US from a needs to a desires culture, which has driven the phenomenal rise in consumption. We need an

extra 15,000,000 ha of agricultural land a year to provide increased food production, but at the same time we are destroying 10,000,000 ha per year.

Gore now moves on to what he calls the reinvention of life and death with convergent revolutions in genetics, epigenetics, genomics, regenerative medicine, neuroscience, nanotechnology, materials science, cybernetics, supercomputers and bioinformatics, all of which are extending our technical capacity without necessarily providing us with the wisdom to make wise choices. Moreover, the reductionist thinking prevalent in science becomes dangerous when applied to unpredictable complex systems. For instance, we are now coming up against increasing antibiotic resistance and escalating risk of the outbreak of pandemics due to livestock practices designed to cut costs. It is easy in the light of all this technology to forget the importance of a healthy lifestyle, which does not in fact depend on it; this makes it more likely that we will enjoy a longer 'healthspan' in relation to our lifespan. As with many other discussions of technology, the emphasis is on enhancing intellectual and computational capacity rather than considering the development of the heart and sensitivity.

This brings us to what Gore calls the Edge in the next chapter. Human civilisation is colliding with the natural world, spewing out 90 million extra tonnes of global warming pollution every 24 hours, 25% of which will remain in the atmosphere for 10,000 years. Increased incidence of natural disasters and food shortages is bound to lead to political and economic instability. Ironically, the drought of 2012 reduced the water flow so much that the dead zone at the mouth of the Mississippi began to clear up. Gore advocates pursuing both mitigation and adaptation policies in the light of current environmental challenges and climate instability. He outlines the efforts of what he calls the counter reform movement in creating uncertainty about the scope and impact of environmental challenges, listing some of their arguments that he regards as bogus. He also discusses the impact of fracking, topical both in the US and the UK. Each well requires 5,000,000 gallons of water, which subsequently has to be disposed of as toxic waste. Even if we are no longer so immediately concerned about peak oil, we cannot afford to continue pumping CO₂ into the atmosphere at the current rate by increasing our use of fossil fuels.

The path forward is bound to include various forms of tax, subsidy, renewable energy mandates and perhaps cap and trade schemes. The US has still not woken up to the urgency of this situation as the economic crisis is still at the forefront, but it is interesting to note that there were eight climate related disasters in 2011 costing more than \$1 billion.

In his conclusion, Gore asks whether 'the requisite force of truth necessary to bring about a shift in consciousness powerful enough to change the current course of civilisation will emerge in time.' The outcome of the struggle to shape our future will be in his view the determined by a contest between the Global Mind and Earth Inc. He feels that democracy and capitalism have both been hacked and argues that the best chance of success is the re-establishment of the global leadership capacity of the United States. The current leadership is beholden to the influence of corporations and the financial elite so a revolution in democracy will be an essential prerequisite. Many other detailed questions are posed, but the complexity and speed of these changes is almost overwhelming and may make us feel that there is little we can do.

Our best chance is self-organisation through the Internet, which is already happening with campaign groups, but needs to go much further so as to bring people of goodwill together to promote the common good on the basis of deep human values. I would take issue with a few of Gore's assertions, but would concur with the overall content and structure of his case. He does not specifically mention the need to reform the financial system and he seems unaware of some of the content of the Thrive Movement, for instance attempts at geoengineering to contain climate change and suppression of new energy technologies and natural medicine approaches. His grasp of a very wide range of issues is truly impressive, and the book is essential reading for those wishing to think deeply about where we are and where we might go. It does propose solutions in many areas, but the politics of implementation nevertheless remain very challenging.



Can Economics be a Science?

Mike King

THE SCIENCE OF ECONOMICS: THE ECONOMIC TEACHING OF LEON MACLAREN

Raymond Makewell (Editor),

Shepherd-Walwyn, 2013, 284 pp., £14.95, p/b – ISBN 978-0-85683291-8

As a Londoner I have an impression going back decades of posters on the London Underground for meditation courses run by The School of Economic Science. If, like me, you saw them and were a little unsure of how meditation and economic science came together, or what 'practical philosophy' meant, then this new book answers at least some of those questions. I did in fact attend several classes on Plato at the School, while more recent contact with members revealed that the Advaita tradition of spiritual teaching is also important to it. *The Science of Economics: The Economic Teachings of Leon MacLaren* focuses mostly on economics however. It also pursues an issue close to my heart: that of economic justice.

The book is essentially an update for the 21st century of Leon MacLaren's course on economics constructed in the 1960s. MacLaren founded the Henry George School of Economics in 1937, running courses on classical theories of economics and the challenge to them laid down by the American economist Henry George. In a break with George's ideas MacLaren developed his own teachings and renamed the school in 1942 as The School of Economic Science. Since then its name has reflected the conviction that economics as a discipline needs to be more scientific in its approach. As far as I can work out the spiritual side of the School came out of a conviction that economic activity should have an ethical basis, and that required the spiritual development of mankind.

The editor of *The Science of Economics*, Raymond Makewell, has done a wonderful job of making MacLaren's thinking relevant to our times, pointing out at the beginning that the Credit Crunch has forced economists to look back to the early masters including John Maynard Keynes and Henry George. MacLaren has important ideas on economic justice that we also need to reflect on in the wake of banking scandals and

growing economic inequality.

The book has a good introduction to MacLaren's original inspiration and creation of the School, followed by chapters that cover the staple items of economic theory, including the division of wealth, value, price, banking, inflation, trade and taxation. The last part of the book focuses on ethical issues and develops a hierarchy from Production through Credit and Trade to Justice and finally Goodness. It is here that we see the ultimate link to spiritual values, and also to the ethics of Plato.

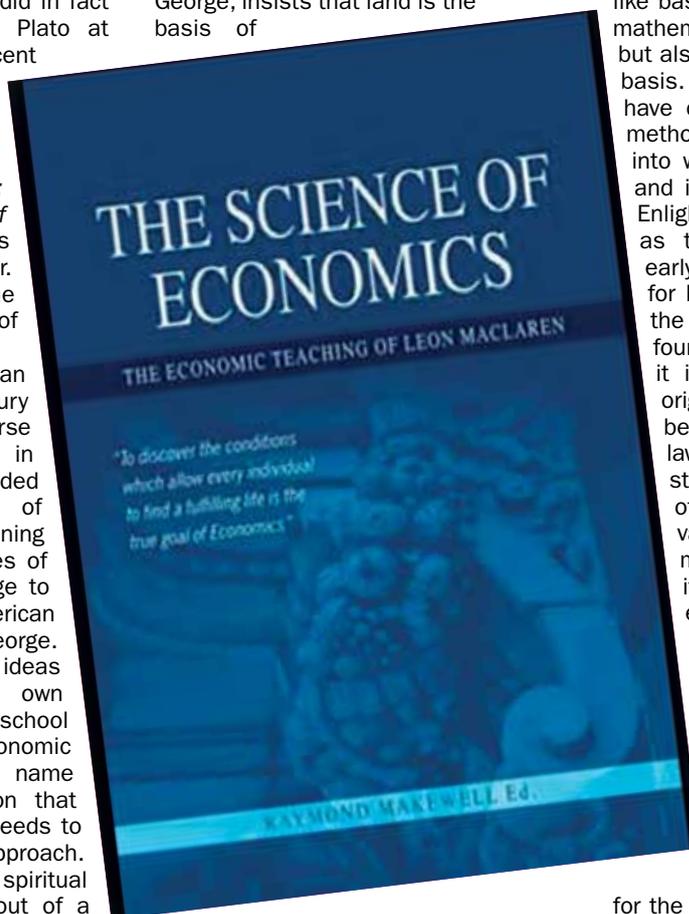
Although MacLaren made his thought independent of its original inspiration in the work of Henry George, there is no doubt that George's influence runs right through this book. George was an 19th century American political economist, a rival to Marx, and a vigorous proponent of land value tax (LVT). MacLaren, like George, insists that land is the basis of

traditional socialism, with its call to the nationalisation of all production, is simply an unworkable response. MacLaren provokes more subtle thinking on the subject, though one has to buy his basic premise that 'enclosure' in its greater meaning is the source of all economic wrong. For example he says that 'Money-lending is not natural to the economic organism; it arises when land is enclosed.' This statement also hints at his view that there is a natural order and natural laws which govern human society, and our job is to prevent the drift away from that order. Hence his ultimate interest in drawing on such thinkers as Plato and such traditions as the Advaita.

For those like myself trained in the hard sciences of physics and chemistry the approach to economics is not easy. We see a discipline with both a science-like basis and the ready application of mathematics to many of its theories, but also one with a political and moral basis. Countless economic writers have considered to what extent the methods of physics can be imported into what is really a social science, and indeed the entire legacy of the Enlightenment can be understood as that very impetus. MacLaren, early in the book, establishes what for him is a key law in economics: the law of rent. He expresses it in four paragraphs and tells us that it is a natural law. However the origin and statement of this law bears no resemblance to how laws in physics originate or are stated, and so, as with many other attempts, I wonder just how valid the analogy with physics might be. Putting it another way, if we really pursue a 'science of economics' then what exactly does the term 'science' mean here? It is a debate as old as that of economics itself, and MacLaren's perspective is a good a starting point as any for a survey of this issue.

Whether one agrees that MacLaren's economics is more scientific than any other, or agree with the arguments for the LVT, is not the point here. What matters is to engage with any thinker who is serious about economic justice. It matters because, although it may seem like a deeply refractory problem, not thinking about it is collectively the most likely cause of the economic mess we are in today. This book will be of great interest to anyone concerned with this problem, and also to anyone interested in the history of the School of Economic Science.

Mike King's new book *Quakernomics: An Ethical Capitalism* is due for publication in April 2014. Mike's *Ethical Capitalism Blog* is at www.jnani.org/blog.



economic activity, and that economic injustice begins with the Enclosures and other developments by which ordinary people have been deprived of the means of livelihood. If we imagine a political economy of the Left which is at its most extreme in Marx and at its most moderate in Keynes, then perhaps George's vision sits in the middle. It is certainly the inspiration for the many groups today arguing for the LVT, and, in MacLaren's reworking of it, deeply thought-provoking.

At some level we all wonder, I think, whether capitalism is intrinsically wrong, but may well feel that

A Mature Response*David Lorimer***THE GREAT GROWING UP****John Renesch**

Hohm Press, 2013, 219 pp., \$17.95, p/b – ISBN 978-1-935387-18-3

John Renesch has extensive experience in business and as a futurist, writer and editor. This his 14th book, in which he brings together an integrated understanding of our collective situation and shows how we can move forward to a more responsible society. He shares both the bad news of our closing window of opportunity and the good news of our potential in addressing and transforming our dysfunctional systems in economics, governance, health care, security and education, among others. To many, the situation may seem overwhelming but each of us is responsible for becoming an engaged optimist rather than a resigned pessimist. The founders of the United States were not short of visionary idealism, and we now need to rediscover this same enlightenment spirit of daring and vision. John echoes many of the thoughts of Buckminster Fuller from the 1970s and Willis Harman from the 1990s where they saw the possibility of creating the good society in which they believed. As he demonstrates, this now has to be a conscious process – conscious evolution and conscious leadership based on the insight that consciousness and thought are causal.

Our present reality is based on a number of personal assumptions, which John questions. The reader realises that he shares a number of these, and that they can be dispensed with. In fact, they are signs of dysfunctional thinking and correspondingly dysfunctional societies, as reflected in such factors as the widening wealth gap, the failing war on drugs and cancer, the predominance of economism and, most importantly, a culture of fear, mistrust and separation. He sees complacency and compliance as complicity, calling for massive self-reflection based on an understanding of the power of consciousness. As the Belgian economist Bernard Lietaer observes, we now have to deal with the unprecedented convergence of financial instability, climate change, unemployment and the financial consequences of an ageing society. John draws up a comprehensive list of behaviour patterns that we need to grow out of and analyses a number of different forms of fundamentalism and addiction.

We now need to choose transformation, embracing what John calls the Great Dream of shifting the context of our thinking from separation to unity. The next three chapters

discuss different kinds of forces for transformation. The first consists of ultimately unsustainable attitudes such as fatalism, lack of respect, blame, objectifying others, 'opinionism' and alienation along with the rise in terrorism, environmental degradation, uncontrolled population growth, consumerism, and growing numbers of old people, all of which push us further towards crisis. The second category of external attractors gives us resources to respond to these challenges including a recognition of human rights, the spirituality movement, systems thinking, value shifts, and especially the development of alternative monetary and financial systems. The third category is internal attractors or inspirations such as transformative learning, a growth in collective wisdom, the green and women's movements and the perceived rise of interdependence.

John lists some key movements, discoveries and developments from the 18th century on, and the reader realises how many have occurred in the last 50 years. There are significant gaps during the 19th century, but the overall trajectory is clear.

The next step is to establish a new legitimacy corresponding to a new phase of conscious evolution. Here again he produces a very useful list of existing and new legitimacies, including on the new side that war is unacceptable, that masculine and feminine work in partnership, long-term sustainability, trust, reconciliation and forgiveness. The new legitimacy requires us as individuals to take a stand, realising our personal possibilities of making a contribution and committing to it. We have many inspiring examples to draw on. We have the resources, so it is now up to us to come forward with courage in our particular area of work to embody an aspect of the Great Dream. I found the vision of Kazuo Inamori of a service oriented society inspiring as well as his confidence that we could manifest it. John gives a checklist of things to do and ways to be and guidelines for conscious leadership. The book as a whole sets out the overall challenge to humanity of achieving a world of peace, with everyone's basic needs met and freedom for people to pursue their dreams.

This is the inspired thinking of the creative minority, of what Paul Ray calls the cultural creatives. It is a path towards greater freedom, while the New World Order aims at removing this freedom through manipulation, surveillance and control. This is fundamentally antidemocratic, but does not remove the obligation of conscious people to move in the direction suggested by this highly informed book. It is not only a vision of hope, but a practical guide to creating a viable future.

Powering the Future*Charles Bourne***PROJECT SUNSHINE****Steve McKeivitt and Tony Ryan**

Icon Books, London, 2013, 304pp, £16.99, h/b ISBN 978-184831-513-6

In this engaging and highly readable book Professor Tony Ryan, a chemist and head of the Faculty of Science at the University of Sheffield, and Steve McKeivitt, a communications expert, take a look at the history of energy use and outline how we might meet the energy and food needs of a population of 9 billion. There are chapters covering the link between population growth and energy availability together with the roles of agriculture, oil, nuclear, solar and other renewable energy sources. Much of the material may be familiar but the analysis is good and the authors manage to integrate historical narrative, scientific principles and just the right number of facts and figures to give an enlightening perspective on the current energy situation.

The book begins with a brief history of energy use, identifying moments such as the development of agriculture and domestic animals, which enabled the storage of energy/food in the form of livestock and grain, and the wood crisis of the Elizabethan era which prompted the adoption of coal and kicked off the industrial revolution. There is a good chapter on nuclear power, which contains an in-depth discussion of the different means of nuclear power generation that goes beyond the usual good/bad dichotomy and argues that nuclear will play a necessary role in reducing carbon emissions while the full transition from fossil fuels to renewable energy sources takes place.

The *raison d'être* of the book is to present the case for solar power and the most detailed exposition is reserved for this. "Project Sunshine" is in fact an interdisciplinary group at the University of Sheffield which has been set up to develop new ways to use the sun's energy more efficiently in order to increase food production and provide more renewable energy. Ryan's specialism is in polymer materials and so he is well placed to discuss the latest research and developments in areas such as photovoltaic cells. The subsequent chapter addresses two of the main challenges for solar power: maintaining a consistent power output through day and night and converting solar energy into a fuel that can be readily transported. Various means of doing this are proposed and the pros and cons of batteries, hydrogen, ethanol, methanol and algal biofuels are all discussed.

Given agriculture's current reliance on oil based fertilisers and pesticides

and the conflict of land use between biofuels and food production, the issue of food production is closely related to the energy debate. Unfortunately the sections of the book devoted to this do not match the quality of the other chapters and alternatives to industrial farming and GM crops are not seriously considered. Given industrial farming's devastating impact on the environment over the past 60 years and the overly aggressive stance of the large biotechnology companies that control GM seed production, to say nothing of the possible risks of GM itself, this seems short sighted. The discussion about meat and dairy is better and really drives the point home. Did you know that of the energy consumed in producing a cup of tea 40% went into producing that dash of milk?

Overall the book maintains an optimistic tone throughout and leaves one hopeful that we will develop the technology capable of supplying our energy needs in a sustainable manner. Whether we can develop the political will and international cooperation required to implement this technology is a matter that remains to be answered.

Charles Bourne studied engineering and theology at the University of Cambridge and now works as an acupuncturist and rowing coach.

Socioeconomic Phenomena Explained

Gunnel Minnett

AN ECONOMIC THEORY OF GREED, LOVE, GROUPS, AND NETWORKS

Paul Frijters with Gigi Foster

Cambridge University Press,
www.cambridge.org, 2013,
431 pages, £18.99

In today's economic climate it is perhaps not completely unfair to ask if experts on economics know what they are talking about. And if they do why do we find ourselves in a global financial crisis that seems to go on forever. Perhaps one answer can be found in mainstream economic theory's lack of a nuanced approach to human behaviour. You could say that this book is an attempt to remedy this problem.

The main author, Paul Frijters, is a Professor of Economics at the University of Queensland. He has specialised in happiness, health economics and econometrics and is particularly interested in how socio-economic variables affect people's life experience and the 'unanswerable' economic mysteries in life. In this book he presents a unified theory of human behaviour. He incorporates definitions of love,

friendship, loyalty, power, coalitions, ideals, joy and compassion and the dynamics of groups and networks, into the traditional mainstream economic view to answer fundamental questions about our socioeconomic system.

From a psychologist's point of view, I would argue that only with a nuanced view of concepts such as love, greed and power will human interaction and behaviour be understood sufficiently to contribute to economic theory. To assume that human behaviour is black and white and that we all behave in a unified way is not sufficient. We may all have the same basic emotional reactions, but we express them in widely different ways - some more predictable and comprehensible than others.

The book has been welcomed as a remarkable breakthrough by other economists who recognise the limitations of neo-classical economic theory. Again, from a psychologist's viewpoint, the hope is that this is only the beginning. Another barrier to break through, I would argue, is to shift focus away from a conception of the world as a competitive place where only the strongest will survive. Not only is this a misinterpretation of Darwin's theory, but it is also a very one-sided and negative view of the world. A focus on synergy, cooperation and nature's tendency to establish a niche for every species, including humans, may open up a more positive approach to economic theory. And with no real sight of a positive end to the current economic climate, most of us would agree that there is an urgent need to come up with theories that can offer a realistic solution to the world's economic problems, given that much bigger environmental problems may be waiting just around the corner.

general

The Joy of Effort

David Lorimer

OLYMPISM – Selected Writings

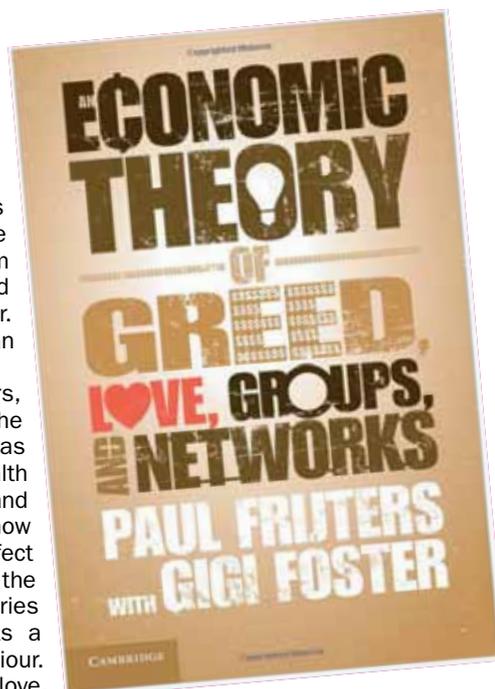
Pierre de Coubertin

IOC, 2000, 862 pp., no price given, h/b
– ISBN 92-91490660

Baron Pierre de Coubertin (1863-1937) was the founder of the modern Olympic Games and dedicated his life to the Olympic movement. He was primarily an educationalist and saw sport in general and the Olympics in particular as a way of promoting physical culture and the development of will and character. He developed this vision as a young man and spent time in England and the United States studying schools and universities and their practice of sport, as well as practising many sports himself. He was hugely influenced by Thomas Arnold and Rugby School, although he visited many of the leading public schools during a tour in the late 1880s. He also found the idea of the Olympic Games being carried out on a small scale in a Shropshire village called Much Wenlock by a Dr Brooke. He remarked on the tremendous contrast to the French educational system, which regarded physical effort as antithetical to the development of the mind, preferring what he called inertia to exertion.

This volume, expertly edited by Professor Norbert Muller of the University of Mainz, is the most comprehensive book of Coubertin's writings and is organised in four main parts: Revelation, including his search for a new education; Olympic dimensions, including historical perspectives on Olympism; philosophical and educational dimensions of Olympism; and the Olympic movement. There is a large number of original documents and letters, but also period photographs and reprints of various programmes. Coubertin was hugely creative and prolific, leaving some 15,000 printed pages of writing. He delighted in ideas, even dedicating a special page to them in 1889, where he writes: 'to think, imagine, invent, devise: what pleasure.'

From the beginning, Olympism was an educational movement referring to a moral attitude of the individual based on the cult of effort and what he called eurythmy (not I think related to Steiner). He even refers to Olympism as a religion, the cultivation of intense will developed through the practice of sport, but surrounded with art and thought. The official definition is: 'Olympism is a philosophy of life, exhorting and combining in a balanced whole the qualities of body, will and mind. Blending sport with culture and



education, Olympism seeks to create a way of life based on the joy found in effort, the educational value of good example and respect for universal fundamental ethical principles.'

As some readers will know, this is the basis of my Olympic and Paralympic values programme, Inspire>Aspire. It is notable that the will is highlighted, and every athlete will recognise the need to develop the will as part of any training regime. This is a missing element in much of modern philosophy of education. Coubertin himself included character as a component of the human being along with body and mind, taking the view that character is not formed by the mind, but above all by the body. I think this is a somewhat one-sided view, but important nevertheless. In addition, the concept of peace and goodwill between nations is emphasised, reflected by respect and friendship as the Olympic values along with excellence - striving for human perfection through high performance. In an article in 1903, Coubertin foreshadows the idea of the Guinness Book of Records eventually developed by the McWhirter twins in the 1950s.

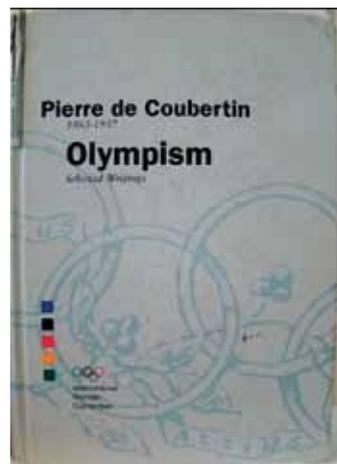
The best-known motto of the Olympics - *citius, altius, fortius* - originates with Fr Didon in Arcueil. Symbolically, this stands for having a quick and vibrant mind, the uplifting of the individual and courage in life. Then, developing the idea of a sound mind and a sound body, the ardent mind in the trained body. The most comprehensive statement of the philosophical foundation of Olympism was a speech by Coubertin in 1935 in which he outlined the various characteristics. This included religion, where the athlete chisels the body through exercise and honours the gods as well as his country, race and flag. Then there is the idea of Olympism as an aristocracy or elite, and even a knighthood of brothers in arms united by a common bond. Truce is also important and finally beauty - the involvement of the arts and the mind in the Games. This is most apparent in the ceremonies, which distinguish the Games from World Championships. Originally, there were competitions in various artistic disciplines, but Coubertin laid great emphasis on the symbolic and ritual aspects of the occasion. These included the Olympic oath from 1920, the flag and the procedure for handing the Games on to the next nation. We saw how movingly this worked at London 2012. The youth of all countries in the world is invited to meet again in four years.

One of the Olympic letters is devoted to Theodore Roosevelt as a model of Olympism as a way of life. I have one of his book of essays entitled *The Strenuous Life*. As a young man, he was a weakling, lacking decisiveness and endurance. A particular incident made

him resolve to toughen himself up, so he started boxing and cow-herding. At the end of a physically demanding day, he would plunge into the reading of the classics in order to strengthen his mind in a comparable fashion. The result was a man of immense physical and mental strength, the emblem of the ardent mind in a trained body. Incidentally, he was also a great nature lover and spent a day with Sir Edward Grey birdwatching in Hampshire, as recorded in Grey's delightful book *Falloon Papers*.

A meeting held in Paris in 1894 resolved to revive the Olympic Games in 1896 in Athens. Coubertin describes the political implications of Greece wanting to retain the Olympics permanently in Athens after the resounding success of the first Games. However, he made it very clear that the Olympics were a worldwide movement and needed to move to different cities every four years. There was great support for the concept, but all sorts of political issues had to be resolved over the years, including the fallout of two world wars. The Berlin Olympics in 1936 were the last witnessed by Coubertin and they were meant to move to Tokyo in 1940. All these developments are described in great detail.

Coubertin wrote five volumes of autobiography, the last of which was entitled *The Unfinished Symphony*. Every human being, he thought, belongs to the great orchestra of mankind: 'most of us, it must be admitted, play a very minor role. Not everyone is able to fit in; some never succeed in finding their place. Very few are favoured by fate to the extent of being allowed to compose pieces themselves. Rarer still of those who are privileged to hear them performed during their lifetime.' Coubertin was one of these, and his Olympic idea lives on. It is inspiring to read about the genesis and manifestation of the Olympic movement and ideal, especially for those of us who share Coubertin's passion for education. However, he demonstrates the power of a vision carried through with persistence, which is something we can all achieve in our own way.



A Quest for Truth at the Heart of Politics

Nicholas Colloff

FUTURE PRIMAL: How Our Wilderness Origins Show Us the Way Forward

Louis G. Herman

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In Ursula Le Guin's parabolic novel, 'The Telling' an alien society has zealously borrowed a one dimensional view of human culture focused on the technical and the consumerist. The traditional culture of Aka is repressed and takes upon itself a counter cultural form in the practice of embodied spiritual practices and in a communal story telling that allows space for a wider, deeper vision of things than that of the monologue of materialism.

Louis Herman's book 'Future Primal' has as its subject the loosening of the binds of a similar imprisoning ideological commitment, whose once impressive value is delivering ever decreasing returns, namely that of 'Classical Liberalism' and by reinstating in new forms a primal culture that places at its heart a quest for truth and an ongoing, enriching conversation about what constitutes the good life against the background of a wider and deeper story of human origin and direction.

Classical Liberalism, built on the foundations of Descartes, Locke and Newton, radically separated truth from any notion that it was grounded in a complex dialogue between subjectivity, our inner life of experience and perspective, and an objective external reality that had its origin in mystery and was evolving, complex and dynamic. What is out there was, for Classical Liberalism, law-like, quantifiable and static, completely malleable to our purposes. These purposes were essentially allowing autonomous individuals, secure in their property rights and the safety of minimalist government, to accumulate and dispense with wealth according to their lights. It is a world view that launched impressive progress (for some) and whose defense of the rights of the individual has meant liberation (for many) from forms of oppression. However, as the engine of growth grinds on, it over reaches itself both in fraying and fracturing a sustainable world and in alienating us from community both with one another and with the wild.

What can be done?

The first step, Herman cogently argues, is an epistemological one in that we grasp what the political philosopher, Eric Voegelin, called the 'paradoxical nature of consciousness'.

We are all born in a particular place and time, in a particular body and culture and in both our inward and external looking our gaze, though illumined, ultimately fades into what we do not know, into mystery. We are born out of a 'story telling us into being', what Voegelin called the 'It-reality', which is ultimately the mystery out of which we emerge, into the 'thing reality' of objects, institutions and relationships that have been made and shaped by humans. We participate 'in-between' both of these and we cannot step out of either to get a whole, clear view that we can grasp hold of with certainty.

All our knowing is an enterprise after the truth and our task is to continually embody in our lives, communities and societies ever more encompassing, more compassionate and just versions of our enterprises, never assuming that we can rest content or that we finally 'have it'!

Since the tendency towards ideological certainty is a hard one to easily surrender, we need a renewing vision of 'politics', of how we organize ourselves, that places the ever renewing quest for truth at its heart. What might keep this quest honest and focused on our flourishing in a sustainable world?

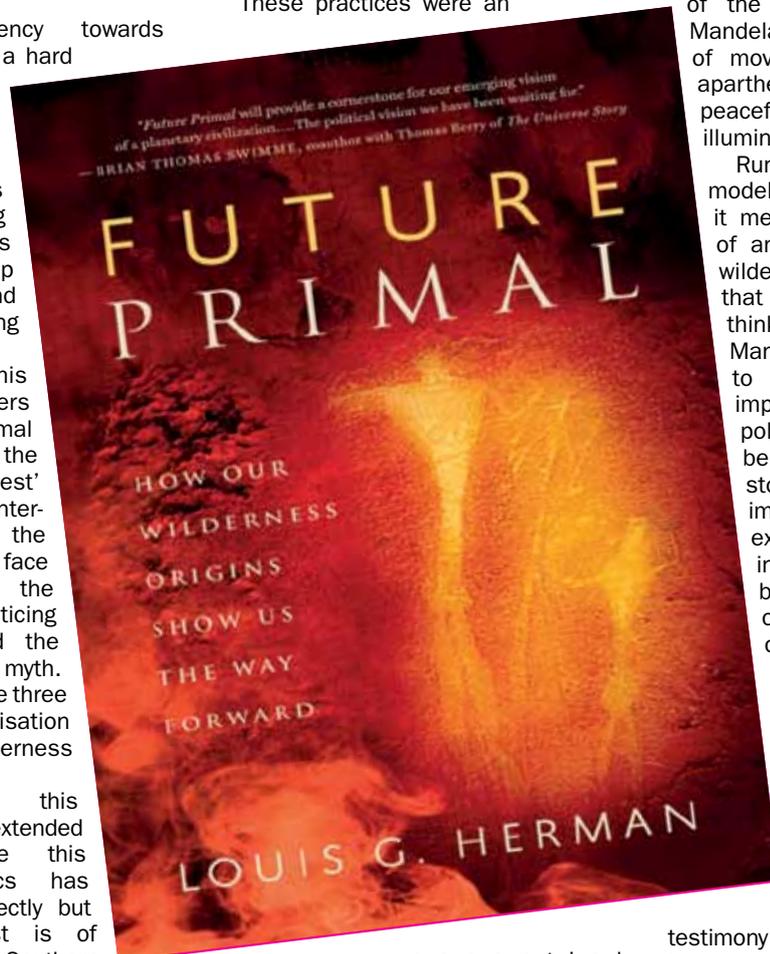
To answer this question, Herman offers us a 'Mandala of Primal Politics'. At the heart of the circle is the 'truth quest' surrounded by four, interweaving quadrants: the whole person; face to face Socratic discussion; the whole community practicing direct democracy and the big picture, story or myth. Outside the quadrant are three concentric circles: civilisation embraced by wilderness resting in the cosmos.

Accompanying this structuring are two extended examples of where this patterning of politics has been lived out imperfectly but compellingly. The first is of the San Bushman of Southern Africa, our closest connection, genetically and culturally, to the first self-conscious humans, who emerging out of Africa, populated the globe. The second is of the Greek polis which gave birth to 'Western' democracy. Herman traces eloquently how, at their best, both cultures exhibited an ability to balance the needs of the individual and of the community and how they utilized both the resources of endlessly talking things through and the boundary crossing potential of individually experiencing the

'big picture' in a renewing experience of wilderness and wholeness.

This shamanic 'boundary crossing' is at the heart of the book. Both cultures used spiritual practices - the trance dance with the San, the Eleusinian mysteries in Greece - to allow people to break down their ego bound identities and experience a transformed and deepened sense of self within a wider, wilder mystery that embraces the unfathomed yet connecting wilderness of mind and nature. The book is worth reading alone for its beautiful account of the relationship in San culture between art, dance, hunting, wilderness and the practice of communal living that marvellously blends first person engagement, multi-disciplinary investigation and a touch of poetry to bring a culture alive as both utterly valuable in itself and as hopeful parable of future possibility.

These practices were an



essential component both of individual and communal healing and of anchoring the practices of truth seeking through discussion and democracy in a context of humility (my descriptor not Herman's). Humility, whose original root, is 'of the earth', of discovering your place, here and now, and speaking from it, recognizing that this is one perspective only, real yet bound. They are experiences that give you both a confirmation of a deeper sense of being and belonging but one too that

anchors you in a recognition that the space that is beyond 'you' is always wider than 'you' can know. They are an education in the 'wisdom of insecurity' and in the importance of a shared quest that continually tests what you know with the wisdom of others and their questing journeys.

Herman then takes these models of a 'primal politics' and asks where we might see it being practiced today whether in individuals or communities, always alert to the fact that the embodiment is always imperfect, and finding it in diverse places from the original impetus that founded the kibbutz movement to intentional ecological and spiritual communities such as Findhorn, as well as in the practice of individuals. One of the most moving parts of the book is when he maps the life of Nelson Mandela from his native South Africa onto the pattern of the mandala and shows how Mandela's remarkable achievement of moving his country away from apartheid and a race war into more peaceful, egalitarian possibilities illuminates his thesis.

Running through all of these models is a re-envisioning of what it means to live within the arms of an evolving cosmos that has wilderness at its centre, a reality that connects us all - and if you think that does not apply to Mandela you only have to refer to his rich reflection on the importance of gardening in his political and spiritual journey to be corrected. It is both an original story and a new one, one whose implications we are invited to explore both cognitively and in our experience as we pass back and forth between our civilised norms and our primal experience as embodied beings in a vast, interwoven, evolving cosmic whole and allow the former to be refreshed by the latter.

Finally, one of the book's essential merits is that it mirrors many of the features of which it speaks. It balances first person subjective testimony with rigorous argument. It expresses the virtues of creating a new synthesis whilst recognising that any account of such a synthesis is going to be an enterprise after the truth of things rather than a declaration of 'the truth'.

In an open ended fashion, it invites further discussion and practicing of its offered model.

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