

Nature & Society

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Editorial

In the early days of the Swine Flu epidemic we chuckled over a cartoon showing pigs packed in a truck with one saying of the passing parade of humans 'they wouldn't get these diseases if they weren't kept in such intensive feedlots'.

Humans packed in cities and animals packed in feedlots really do have a lot in common and are ripe picking for bacteria and viruses.

Infectious diseases would have been virtually unknown in hunter gatherer tribes, but once humans settled down to farming they probably picked up infectious diseases from their herd animals.

Nowadays there is often a race between modern medical scientists and the microbes to see which can get ahead. This job is much harder for the scientists, because microbes evolve so quickly and effectively and because, in our quest to provide ever more food for an ever expanding market, we provide ideal conditions for the microbes in intensive and factory farming.

The world is watching with some interest now the case of swine flu, to find out whether the fears of some infectious disease experts will come true or not. For a long time these scientists have been saying that the next big one will be an influenza that has passed between birds and swine, and is also able to pass readily between people. The current epidemic qualifies on several counts, and it is certainly passing easily between people.

So far it has been quite mild, and although it has produced death, this is usually only in people with underlying serious conditions. However at the time of writing there do seem to have been one or two cases where it has killed otherwise healthy young people. Because the initial warnings seem to have been overblown,

many in the population are not merely not alarmed, they have pooh-poohed the idea that this outbreak is a threat. That seems fair enough at present – at least there is no need for alarm at the moment. However that does not mean that the authorities do not need to be alert: it could mutate and reinvade putting many at risk.

In *Six Modern Plagues and how we are causing them* (2003) the author Mark Jerome Walters detailed the cases of Bovine Spongiform

Encephalopathy (Mad Cow Disease), HIV/AIDS, antibiotic resistant salmonella, Lyme Disease, Hanta Virus, West Nile encephalitis and SARS. Each disease has been caused by human activity, or at least been enhanced by our lifestyle and farming

Human health does not exist apart from the larger natural world we share with other species. AIDS is not only a medical issue but also an ecological one.

Mark Jerome Walters
Six Modern Plagues, 2003 p.49

choices.

The case of Mad Cow Disease is an especially stark warning. Our warped idea of efficiency, and our profit driven motives, drove misguided industrial agriculture to break all its bonds with the natural world.

In nature herbivores eat plants. When any animal dies, microbes break down its tissues into a form suitable for fertilising the soil to grow more plants, which are then eaten by

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herbivores. In our madness (it wasn't just the cows who were mad) someone, some industry, decided to by pass these natural steps, and feed living herbivores on the bodies of their fellows. Apparently feeding animal protein in the form of ground up body parts, whether from other land animals or fish, to cattle was considered an efficient way to produce more protein for human consumption. What it actually was, was a way to produce disease.

No case could illustrate better the need for a greater understanding and appreciation of the natural world. Real biounderstanding will be essential if we are to negotiate with any success our way through the looming crises we are approaching as climate change and other causes of ecological collapse accelerate.

What will happen and how well we will come through it, no one knows. There are people who think we can just moderate our lifestyles a little, maybe by moving right off fossil fuels, but basically continuing with modern high tech medicine and communication, and with our undoubted technological skill and clever brains, come out the other side almost unhindered and unscathed. Others see a totally different future, with starvation and war reducing us to a pitiful state. Most of the population probably cannot imagine that we will not continue much as we are, while relatively few realise the possibility that the future will be unrecognisable from our present position. Cuba's experience (see the report of the June meeting) shows that people can have a very satisfactory lifestyle without oil – and that a large number of today's careers would become obsolete; no gym instructors and no obesity specialists need apply. For another view of the future, see Keith Thomas' review and discussion of the thoughts of Finnish ecologist Pentti Linkola in this issue.

Whatever the future one thing is certain. If we do not take the warnings provided by nature seriously now, but continue on the same track we are on at present, there will be collapse,

and the future will be grim. If, somehow, people and governments can be persuaded that we have to live within the natural limits of this planet, and, informed by biosensitivity rather than human hubris, we quickly take big strides in that direction then the future will not be as grim as it will otherwise be.

Jenny Wanless

More from Mark Jerome Walters

In the case of BSE no one knew for sure what changes had caused the emergence of mad cow disease, but scientists soon began to wonder whether the intensive management practices in the production and husbandry of cows and sheep in the

United Kingdom were responsible. Over the previous few decades, for example, as livestock production had intensified, many relatively small farms had been absorbed into huge industrial enterprises where livestock was treated like oil, natural gas, or any other commodity. The animals' natural needs for space, proper diet, and other comforts had been overshadowed by demands for greater efficiency and profit – but at an unexpected cost.

The main point is that [Salmonella] DT104 is a complex story of animals, their diets, food production and global commerce. The story has many interlocking pieces, but it comes down to people impacting global systems and disrupting the natural ecology of animals through artificial diets and intense husbandry. This, in turn, impacts our health.

Frederick Angulo of the Centers for Disease Control Antimicrobial Resistance Monitoring System quoted in MJ Walters Six Modern Plagues, 2003 p.80

In retrospect, I'm appalled at what I didn't know about my own cows. I didn't know they were being fed other cows and sheep that had been ground into a powder. We've forced these hoofed grazers into cannibalism. On some farms they're fed growth promotants, and that is probably causing other problems. In many places in the world, livestock is kept in deplorable conditions, all for human convenience and profit. We've put cows on an assembly line and we take them off at the other end and butcher them. Did we really think we could just rearrange the world in any way we pleased? Nobody could have wished for or foreseen this awful thing called BSE. But should we be all that surprised?

Peter Stroud on whose farm BSE was first identified.

Quoted by Mark Jerome Walters

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Where we are

Room E-319-A in the old building of the John Curtin School of Medical Research at the Australian National University in Canberra.

From the entrance use the intercom phone to call the NSF office on extension 52526.

By car: There is a two-hour car park in Balmain Lane, 300 metres to the south of the office.

By bus: The route 3 bus from Civic drops you off at the foot of Eggleston Road. Walk 250m south up the hill and turn right; from there the entrance to the building is visible.

By bicycle: Plenty of bicycle parking on the ANU campus.

Locking in our demographic future

Australia is fortunate to be in a position to decide its demographic future. But whatever we choose one thing is clear. The only way to return to the youthful age structure of the past is by having very large families and dying young. We do not want to do this. This means that, just as individuals have to adjust to personal ageing, so do developed societies have to adjust to demographic ageing.

Katherine Betts, *People and Place*, vol 16 no 4, 2008

Intensive agriculture

We frequently spell out the dangers of deliberate genetic engineering even as we maintain what are, in effect, giant genetic engineering laboratories – in the form of intensive agricultural systems that create agents such as the one responsible for mad cow disease, which terrorize in their own way. Mark Jerome Walters, *Six Modern Plagues*, 2003 p.157

Coming NSF meetings

For the latest information visit our website and click on 'What's On'. The venue for all the following meetings will be the CSIRO Discovery Centre; turn up the hill from the roundabout on Clunies Ross Drive.

Wednesday 19 August 2009 - Biounderstanding: a framework for learning, understanding and radical change. 7:30pm

In this talk, which is the first of three over the next 18 months, Stephen Boyden will address the importance of biounderstanding - what its essential features are, and how widespread biounderstanding across the community is an essential precondition for necessary change. Stephen will introduce a 'transition framework' to facilitate thinking about, and planning for, a sustainable biosensitive society.

The following two talks will focus, respectively, on the transition to a biosensitive society and the ethics of biosensitivity.

Wednesday 16 September 2009 - Annual General Meeting of NSF. 7:30 pm

Our AGM will be followed at about 8:15 pm by a showing of the video **How Cuba Survived Peak Oil**. When the Soviet Union collapsed, Cuba's oil imports fell from 13 down to 3 million barrels a year; fertilizers and agricultural chemicals were no longer available as the US maintained its blockade of Cuba. This inspiring movie explains how Cuba not only survived - it thrived. Australian Permacultural advisers were among experts who brought ideas from around the world. Cubans learned about the importance of soil quality, working with nature and noticed their health improving at the same time (something akin to biounderstanding was occurring).

October - date to be advised - a talk on economics by Professor Michael Hudson. Professor Hudson's talks are readily accessible to the non-professional.

The 'What's on' page of our website also includes a summary of NSF events back to 2006 and web links to further information about their topics.

Fostering Australian native plants now and in the future

Ian Anderson's topic for our June meeting was *What to Plant*. The talk covered growing native plants in the Canberra region, but also dealt with growing one's own food. All the points in the talk were illustrated with appropriate photos, largely of his Hughes garden, or of his bush block at Burra.

In the 1970's Ian bought an established suburban house in Hughes. The garden had a close cut lawn, a vegetable patch, standard European flowers such as dahlias, roses and pansies, with a fruit tree or two, including the then almost ubiquitous feijoa, and a Hills hoist. There were no water shortages at the time, nor were any envisaged. This Ian contrasted with the situation today, when water-wise gardens are becoming the thing, lawns are rarer, and some folk grow food trees on their nature strips. Some people are turning to Mediterranean plants such as rosemary and thyme, which are suited to the drying Canberra climate.

Ian is an ardent grower of native plants, largely to provide habitat for native birds and other wildlife, keen on extending the range of species from the bush into the city. But he is not a purist, happy to include ordinary food plants, and to grow natives from areas with similar soils or climate, experimenting to see what does best.

The Burra bush block is part of the Grassy Box Woodland Conservation Management Network of New South Wales. Although it had been grazed in earlier times, it is returning to native species, and such improved pasture species as subterranean clover and phalaris which were present in small amounts, are continuing to decline.

There is a dam on the block, and it used to hold water, but is usually dry these days. To provide water for local animals, Ian has an overflow pond next to his tank, and this pond needs topping up about once a week in dry weather. A native water plant, *Myriophyllum sp*, has established itself in this pond, and a frog likewise, and the tadpoles hide in the

plant. Other native animals also make good use of this water supply.

Because there are plenty of native trees on the block to provide seed, it is not necessary for Ian to replant, but he is experimenting with out-of-area trees and is noting their progress. Some of these may become more important as the climate dries and warms. Ian is also noting which shrubs and trees are particularly attractive to birds and other wildlife.

Some native grasses are very useful as low input but productive pasture plants. To help them re-establish it is important to remove the weed seed bank in the soil. One picture showed members of the Australian Network for Plant Conservation inspecting a paddock in which the top couple of centimetres over the whole area had been removed, before the area was planted with wallaby grass, a useful pasture species.

Observing nature makes us think about how and why things happen as they do... And, very importantly, observing nature exposes our brains and minds to nearly infinite beauty: flowers, trees, forests, lakes, rivers, mountains, oceans, seashells, and all creatures great and small. Our urban and suburban children may be missing out on an opportunity to appreciate and understand the value of life on earth – in all its many forms – because they so rarely see it.

Nancy C Andreasen
*The Creative Brain:
the science of genius, 2005*

Ian himself uses native grasses in his driveway and garden in Hughes. If or when this grass needs cutting, it is cut high. Native grasses tend to grow in tussocks, and be brown most of the time but some forms of *Microlaena* form a sward, and are bright green when they are growing, so could form a lawn. Some *Microlaena* has been planted in the native gardens around New Parliament House.

Growing food at home may be very important in the future as we need to turn away from use

of fossil fuels. Ian's garden contains a range of vegetables and fruit trees, interspersed with native plants. It may be necessary to net them as local wildlife develops a taste for this 'foreign' produce.

There are also native plants with food potential. Aboriginal people ate Kurrajong seeds either raw or toasted; Ian had a recipe for Kurrajong damper. Kurrajongs have other uses too. They are something of a fire retardant, they provide good shade, and they are handy to provide relief fodder for stock during droughts.

Growing imported tree crops may also be very useful now and in the future. They can be an important source of food and control erosion. Nut trees probably need less water than fruit trees, (and nuts can be stored).

The seeds of the local native black cypress pine *Callitris endlicheri* attract gang-gang cockatoos. This tree is attractive and ornamental, but also drought resistant, and its timber can be useful, too.

In short, gardens should be places in which to experiment. They should be beautiful and appeal to the emotions, thereby providing for human health and wellbeing, as well as the health and wellbeing of wildlife.

Ian concluded his talk with reference to the Cuban experience when the collapse of the USSR, combined with the United States trade embargo, forced Cuba to rely on its own resources.

Food had to be produced without oil. Oxen and human muscles provided power. Permaculture became popular. Soils became healthier. People became leaner and healthier, farm sizes shrank, the capital Havana itself became a major food producer.

The Cuban example may show us the way we will need to take in the future (see page 3 above).

Jenny Wanless

**Report of NSF meeting
15 July 2009**

The present and future of environmental activism in Canberra

Cindy Eiritz presented the results of her 18 months of observation of, participation in and thinking about environmental activism in Canberra. She will be writing about this for us in a future edition of *Nature and Society*.

In the animated discussion at this meeting and also following Cindy's talk the following points were made.

- Walter Jehne pointed out that consumerism, affluenza and waste are possible on their present scale because purchasers don't pay the full cost of their products. The cost is borne by the environment of which future generations of humans are a part.

Keith Thomas reminded us that there is a part of the economy in which the externalities *are* paid for by consumers: organic food and clothing. People complain about organic produce being more expensive, but it is only so because the farmers who grow organic food and cotton are preserving their soils (rather than "mining" them unsustainably), and this costs money. The higher price we pay for organic produce pays to preserve the soils and biodiversity on farms. So organic purchases should be an imperative.

- John Sandeman and Dierk von Behrens spoke in favour of changing light bulbs (because it *does* save electricity and it *can* be a beginning of real energy consciousness).
- Cindy Eiritz spoke of the importance of being inclusive in our approach to polluters and other

bio*ins*sensitive institutions and individuals.

- Another participant wanted to get conversations going between the silos to break them down. Stephen's biosensitive approach is that the "silos" are entrenched, but we can circumvent their disadvantages by supporting the 'concerned interested persons' in their application of biounderstanding within the silos.

- In discussion about the diversity of environmental groups, Cindy put it beautifully:

we don't need an over-arching organization – we have an underwriting principle - biosensitivity!

- Cindy also thought that a "fear culture" is disempowering.
- Cindy added that BSF needs to be supported by communicators, enablers and facilitators who can help 'market' its message'.
- Others repeated a common criticism of the Biosensitive Futures project: that people need more than *scientific information* to get them to change their *emotional* minds. We all know this, of course, but perhaps we need to rethink the way we describe the aims of the Biosensitive Futures project, so newcomers don't jump to this easy but erroneous

From human mothers evolution still produces creatures bulging with strength, speed and endurance: untiring sprinters, jumpers, squatters, lifters, twisters and carriers. Now that man has developed an article of faith and trembling house of cards all of his own, material excess, physical performers all the more astounding are born with the help of vitamins, micronutrients and prenatal clinics. The tall and strong muscular and sinewy girls and boys are then seen staggering in our streets, full of wasted energy, apathetic, pale and despairing.

*Pentti Linkola
Can Life Prevail? 2009 p145*

misapprehension. Stephen emphasised the link between information, emotion and action by saying that the more he learns about nature and the human place in nature the more strongly he *feels* about the need for radical change - he would expect this also to apply to other people because there is an essential link between understanding and emotion.

Another participant said we should suggest to groups and individuals who are potential contributors to the Biosensitive Futures program how it is that the principles of biosensitivity lie at the very foundation of the work they are doing. The science serves to emphasise that lives lived in touch with nature and with sensitivity towards the environment, the planet and others are happier, healthier and reflect the essences of wellbeing. The contributors to the BSF website will all help demonstrate how this concern is widespread. They are showing that their actions are soundly based and are leading to unison of purpose and mutual inspiration.

We discussed a slogan for Biosensitive Futures such as "Live better – consume less", but others thought many people wouldn't initially understand what better is, and would define it as bigger everything, keeping a clear step in status ahead of 'the Joneses', new clothes, unsustainable holidays etc: that is, realization of their current aims and ambitions. Many people who are of the materialistic mindset don't have time to ask themselves what "better" really is. Perhaps the slogan could be "Be happy with what you have" or "Live simply" (also difficult to define clearly and attractively to all).

Cindy suggested that the next step is to keep building bridges to bring Biosensitive Futures more into the main stream consciousness. BSF needs to be supported by communicators, enablers and facilitators who can help 'market' the message.

Keith Thomas

Letter to the editor

I always find your editorials thought provoking; may I make a couple of points from the June-July issue.

Coal mining in Australia.

Presumably, the quantity of coal exported from Australia is many times the quantity used domestically? The ratio would be useful and help us to realise how we are being financially propped up – unsustainably of course – by coal exports; and, of course, by a large number of other commodities, such as iron ore, and the very long-established export of rural produce with its insidious drain on soil fertility and diminishing water resources (particularly vital for the well-being of the Murray-Darling Basin).

Why not be more courageous and call for a diminution in the export of all of these resources,

which in reality rape the continent, and/or add mightily to the planet's carbon dioxide burden?

Australia's present population size and continued high growth.

No mention of this parlous situation!

It would be salutary to let the membership realise how ecologically disastrous is the current and projected Australian population, now growing at around 400,000 per year.

Of course, these numbers are the result of the massive use and export of this continent's fossil resources, and degradation of biodiversity, soils and water resources since 1788.

In future editorials you may be able to give us your thoughts

on Australia's long-term human carrying capacity. With such a degraded continent, already, and the prospects of even faster rates of desertification across southern Australia as a result of climate change, my estimate is very low indeed; perhaps much less than the few hundred thousand Aboriginal people prior to the European arrival!

Christopher Watson

However, what kind of connection is the informed person capable of making between the state of the world, his own community, and his personal life? Ultimately, the essential question is whether awareness of this global situation – the distress of the biosphere – affects the individual's actions as a decision maker and citizen. ... there is no apparent difference between the behaviour of the communities and individuals that are part of mankind's unenlightened majority and that of the enlightened, aware minority. Everywhere, man remains a complete lout, a destroyer of the biosphere. the only difference is that among the enlightened portion of mankind there is more chattering to be heard and more rustling of papers thanks to groups like the UN-appointed Brundtland Commission.

*Pentti Linkola
Can Life Prevail, 2009, p 126*

Book review:

Can Life Prevail?

by Pentti Linkola, 2009

Can Life Prevail? is a translation from the Finnish of 35 essays and articles written between 1989 and 2002 with a preface added in 2004. They begin with reflections on nature and the human impact on nature, drawing on the author's 50 years of ornithological travels on foot, horseback, bicycle and rowing boat through Finland. As the book progresses, the author's focus shifts from describing and lamenting the damage to Finland's ecology and humans' separation from nature to advocacy of what he feels his country needs to achieve real sustainability, healthy citizens and a rich biosphere.

In his native Finland, the only country in which his books have been published, Pentti Linkola (b. 1932) is a controversial figure. *Can Life Prevail?* is the first collection of his writing to appear in English.

He tackles ecological problems as a biologist and a "lover of life", not as a politician. He outlines what he believes must be done and leaves it for others more adept in the political sphere to implement a successful transition.

Although all of Pentti Linkola's proposals are fully consistent with the aim of achieving long-term environmental sustainability, few feature in the green manifestos we are familiar with. Above all else, Linkola reveals to us the *ideological* constraints we have imposed on our thinking about more sustainable *biophysical* arrangements.

A program for sustainability in Finland

The following extracts from Linkola's 205-point program bring out the flavour of his plan to reverse human demographic and technological expansion and return to a local, healthier and simpler lifestyle in harmony with the rest of nature's processes.¹ He puts forward his proposals not as a total solution, but in the hope that they will "give nature a little more time".

Population

- The cornerstone of any population platform is the dismantling of the freedom of procreation, the

1. Pages 185-203. Some of Linkola's points extracted here have been edited lightly for this review.

most senseless form of individual freedom. The population will have to be reduced to about ten percent of what it is now.

- Procreation licences would be denied to families deemed genetically inadequate or unsuitable for the raising of children.

Energy

- Fossil fuels, including peat, will be abolished on the first day the program is implemented.
- Bodies will first be warmed by clothing rather than space heating.

Forests

- Reforesting a significant portion of field acreage will be made possible by replacing grain with mostly animal protein ... hunting and fishing will provide a greater proportion of food but within ecologically prescribed limits.

Food production and consumption

- The position of agriculture as the country's primary source of livelihood should be acknowledged: society should strengthen the agricultural sector by all possible means.
- Farming will be organised into small units, agricultural machines will be abolished and a major portion of the population will be made to practise light agricultural work.
- Half a million horses will be reintroduced onto farms to perform heavy duties, and sufficient land turned over to the production of fodder for them.
- Most commodities will be rationed: rationed foodstuff will be allotted according to age, body build and profession, so even the bulkiest performers of heavy work will be guaranteed sufficient nutrition, yet obesity will be unknown.
- Domestic cultivation and gathering of food will not be regulated.

Transport

- Transport use will be radically reduced as people will be required to live and work in their home districts, travelling only by walking, skiing, cycling, rowing and paddling.

The consciousness of ecology has grown, but the Average Joe only increases the load. The bustle is controlled by three words: as long as. As long as we can still travel to the other side of the globe four times a year, we will do it. As long as we can still buy a SUV we will buy it. This is the reality.

Pentti Linkola
Can Life Prevail? 2009, p 15

Technology and manufacturing

- No product will be manufactured unless there is a buyer in real need of its use.
- Since metal, plastic and rubber products will be in little demand, the majority of cars, household appliances etc. will be pressed into blocks and transferred, firstly, to fill mines.
- The construction of new buildings will cease.

Education and culture

- The school system will be cherished as the most precious aspect of society ... foreign languages will be removed from the syllabus of elementary schools, less mathematics will be taught ... civil skills will be taught to adults as well as children (these include responsibility to one's neighbour, nature and mankind), ... every citizen will learn how to mend, patch and handle the common tools, build axe shafts, file saws, gut fish and skin animals.
- Universities will be maintained whatever their cost. However, university buildings and equipment will be modest ... research will focus on the humanities, philosophy and natural sciences ... applied sciences will concentrate on the new economy (repair of buildings, production and preservation of food stuffs).
- Art and music will be widely practised and taught, but buildings specifically devoted to the practice of the arts will be abolished.

Certainly, the pills, intrauterine devices and condoms developed by medicine deserve our praise. But a huge burden of sin falls on the shoulders of a proportion of paediatricians and gynaecologists – and, by extension, the whole medical profession. The deep drop that has been achieved in infant mortality alone should be deeply distressing to the biologist. Besides, every step forward in the pharmaceutical industry or national health system should in the very least have been accompanied by an effective program of education with regard to contraception and family planning. Only as the leaders of a firm policy of population control could doctors have been acclaimed as benefactors of mankind.

*Pentti Linkola
Can Life Prevail? 2009, p 133*

Health

- The opulent excess of fat, even obesity, would be decreased by regulating, controlling and normalising the nutrition, vitamin and hormonal levels of adolescents. A drop of twenty centimetres in the average height could realistically be achieved; the same goes for a drop of twenty kilos in the average weight. This is a very important step to be taken – and among one of the most humane ones – in order to reduce the demographic burden.
- From childhood, citizens will be made to develop immunity to the most common strains of

bacteria. In other ways, too, the medical sciences will leave the path of Pasteur to embrace practices more in accordance with Darwin.

National political and administrative arrangements

These occupy the remainder of this review.

It is not clear if Linkola is serious about all the points in his program or if he is laying out one possible sustainable future and provoking us to come up with a better way to attain – quickly – true sustainability and the preservation of the biosphere – if we can.

Rationale for Linkola's reforms

Justifying this program, Linkola writes: “faith in humanity is the greatest of all follies. If man knew what was good for him, would history be chock-full of wretchedness, war, murder, oppression, torment and misery? ... the sole glimmer of hope lies in a centralised government and the tireless control of citizens ... the underlying error that is leading us astray is a political system based on indulgence. Our society and ways of life are based on what man desires rather than what is best for him. These two things – desire and necessity – are as far from one another as east and west.” Linkola is critical of democracy because leaders must aim first for short-term popularity within the wholly human subset of affairs preoccupying people at election time rather than what is best for the health and well-

being of the entire biosphere over the long term. For Linkola these two are irrevocably and fundamentally irreconcilable. The environmental crisis is now such that a choice *must* be made between nature and society.

How would human affairs change after these reforms?

What we would lose

Looking into the future Linkola says “Besides guaranteeing its main goal, the preservation of life [ie, the health of the Finnish biosphere], the suggested model of society would also secure an incomparably better standard of living. What are the

sweet, cherished traits of the modern world that man would lose? Record suicide rates, exhausting competition, unemployment, stress, job insecurity, alienation, depression, the need for psychological medication, bodily decay, individual arrogance, corruption, crime...”

What we would gain

“What would be left, then, would be: an endless spectrum of arts and hobbies (singing, music, dancing, painting, sculpture, books, games, plays, riddles, shows); numerous museums, the study of history, local customs and dialects, genealogy, the countless pursuits related to biology; handcrafts and gardens, clear waters, virgin forests, marshlands and fells; seasons, trees, flowers, homes, private life – in other words, a genuinely human life.” (p 205)

Why we need an authoritarian government

“Why then, is a strict central government needed? I have already referred to the shameful history of mankind. If ordinary individuals, the people, are given the chance to choose, like magpies they will again and again go for the shiny things, leaping like moths into the flames. A government led by a few wise individuals is necessary to protect the people from

themselves.” (p 205) Linkola assumes that the wise individuals will remain true to their original purpose of protecting life processes; he has no answer to the question *Quis custodiet ipsos custodies?*² or how to replace them if they go off the rails (Mugabe, Mobutu, Stalin et al.).

Contemporary reaction to Linkola’s proposals

Whatever Linkola may see as his message, because his writing is grounded in clear practical illustrations and precepts, others readily take from his writing what their prepared minds select. They do what is intellectually easy: ignoring those aspects that do not resonate with their predispositions. Here are five features of Linkola’s writing that (a) many traditional greens would find unacceptable, yet (b) are welcomed by some from the political far right:

1. Linkola is determinedly anti-democratic.
2. He opposes immigration – not for ethnic or cultural homogeneity, but to reduce the Finnish population to a sustainable level.

2. Who will guard the guardians? (Juvenal)

3. He admires the forest conservation programs and outdoor youth activities of the Nazis in the 1930s.
4. He condones – in language that resembles fascist rhetoric – violence to achieve the ends he advocates “resort to violence against violence: to a tougher, sharper, more astute, massive and determined violence; an iron will ...” (p 174).
5. He praises the 9/11 attackers for the damage they did to the operational heart of the environmentally destructive US.

These features have attracted contemporary fascists and repelled many others, distracting – because of our culture’s prejudices – from Linkola’s environmental message.

How could anyone come up with ideas like these? I can imagine Linkola trekking or rowing for days on

end, observing birds, fishing and living off the land and composing his articles in the open air. That is, he has not tempered his ideas by discussing them with other people – rather he has sharpened his proposals and enriched his observations as he absorbed himself in the natural world.

Piecemeal reforms or revolutionary change

There is also Linkola’s despair that the environmental prospects are so dire that it would be futile to transition incrementally to new societal arrangements. He argues instead for a *tabula rasa* – a clean slate – and leaves open the possibility that this need not be mitigated to avoid violence. Mao Tse-Tung used the Red Guards to impose a cultural revolution on China, but the most thoroughgoing attempt at a *tabula rasa* in recent history has been that by Pol Pot’s regime in Cambodia.

Solutions to the environmental crisis not owned by the left

Linkola has performed a useful service in breaking what is, in effect, an assumption of entitlement to the environmental/green movement, love and wisdom by the left, social democrats, intellectuals and others. Australians and Americans who are already suspicious of the left or offended by its assumption are inclined to be similarly suspicious of the environmental movement – condemned by association. William Lynes, in his history of the Australian conservation movement, *Patriots*, showed that environmental activists were often motivated by

The sturdier a society, the more peaceful it is, the more efficient its economic growth (ie, the ransacking of natural resources), the quicker all other forms of life will be swept aside. Everything that upsets the established order of society, causing chaos and panic, gives extra time to nature and, ultimately, to humans too.

Pentti Linkola
Can Life Prevail? 2009, p172

a feeling for “place” and that this translates politically into a positive feeling for country and nation. By this reckoning, there is potential for strong environmental advocacy by the radical right in Australia. In the UK, the far-right British National Party has a clearer and less equivocal environmental platform than the major parties in that country.

Sustainability in one country?

Perhaps it is typical of a naturalist who sees all life (including human life) through a biologist’s eyes that Linkola fails to put sufficient weight on how human nature will be expressed in politics under his program. If Linkola’s vision of a sustainable Finland came to pass and other nations became environmentally very stressed, can he imagine that the country would not be invaded by environmental refugees or other nations or foreign corporations looking for *lebensraum*, forest timber, hydro power or other resources? A low-tech peasantry scattered through a country of forests would be no match for a determined, well-armed invader. Russia, to which Finland was annexed 1809-1917, might feel it had some right to Finnish resources if its own were seriously depleted. And we could not expect any invasion to be environmentally sensitive: it would, almost certainly, plunder the Finnish environment. Would there be no government in exile? No internal underground? No organised criminal opposition? Linkola makes no mention of “ecological police”, but without such an institution, it is difficult to see how “human nature” could be prevented from continuing in its ecologically-destructive ways.

Is Pentti Linkola’s program fascist?

Is Pentti Linkola a fascist? And if he is, does it matter? It does matter because Linkola’s proposals have been labeled fascist and because of the deep negative emotional resonances associated today with the term “fascist”.

On the evidence of this book, Linkola is not a fascist.

The defining characteristic of fascism³ is nationalism and, although Linkola loves Finland, his affection is for Finland as a country, an ecological entity, rather than Finland as a nation, a political or cultural entity. Furthermore, Linkola does not meet other criteria for fascism: he has no place for national expansion by conquest or population growth, militarism, a mass militarised ruling party, admiration of technology, manufacturing, or finance capitalism, anti-Semitism or racism. Nor is he critical of feminism or communism. On the other hand he shares with fascists a organicist conception of community; yet, unlike the fascists, his view of community is not rooted in national ideology but in biophysical reality. Rather than communities being mobilised to further nationalistic goals, he sees communities operating autonomously: under broad national direction but not mobilised to contribute to national progress or aggrandisement.

Linkola’s personal example

Pentti Linkola stands out not only for his ideas and his total unconcern for political correctness. He has always lived with the simplicity he advocates (he has worked as a fisherman, not a salaried biologist) – and his unremittingly austere lifestyle itself has attracted admirers. Although Linkola’s program is something he says a government must implement, he has adopted the lifestyle he advocates in advance of government action. Furthermore, he is not one of those who seize the environmental imperative to

further their own, unrelated agendas. Linkola explains that our human desire for ease and comfort is both natural and – now that we depend on increasing technological complexity and have an ecological footprint score greater than 1.00 – our undoing:

“Man has been dominating the globe without rivals ever since the invention of the stone axe, and our lives have become unnaturally and hopelessly comfortable” (p 145).

It is often the case that after a municipal assembly or a similar event, when a bad decision has been taken, a member of the assembly will privately admit that he was personally against the decision, but voted in favour all the same because he knew it was a position held by the majority and did not want to shatter the consensus, disturb the easy flow of things and give rise to unnecessary confusion. When the same matter is brought up with another assembly member in private, the same words are heard. In the end it may be that thirty councillors are individually making a decision that is the exact opposite of the one they all voted for.

*Pentti Linkola
Can Life Prevail? 2009, p39*

3. This paragraph draws on *Fascism* by Kevin Passmore, and *The Fascist Tradition* by John Weiss.

Conclusion

Linkola's program puts *biology* first, differing from other approaches to the environmental crisis in his assessment of *the evidence* for both the scope and seriousness of the crisis, the assumptions he makes about *human nature* and his proposed *political and social arrangements* to ensure his program's effectiveness.

A strength of Linkola's proposals is that they do not depend on a change in human nature, our attitudes, our priorities etc. He is reconciled to the fact that the species that brought us the Gulag, Kampuchea, the Rwandan genocide, drug lords, suicide bombings and environmental destruction is us. The same species also brought forth the people you and I admire and hundreds of millions of loving relationships in the world today. Linkola is not in denial about the negatives and he addresses them directly. This puts his program ahead of others with less objectivity and courage.

One weakness in his program is his failure to address the transition and how his proposals might become practical arrangements for everyday living for the Finnish population. A second weakness – shared with most reformers – is faith that the future he imagines will be far more fulfilling, enjoyed and embraced than the present; that is, to make too uncritical a case for both the benefits and the popular acceptance or tolerance of his program.

A third weakness follows on from the second: Linkola does not take human nature sufficiently into account when considering the response of the populace to the *social/psychological* implications of – and responses to – his largely *practical* 205-point plan. That is, he assumes Finns will accept (or, at least acquiesce in – albeit with coercion) sufficient austerity and the implied greater discomfort to preserve the natural environment. Surely Linkola's proposed authoritarian government would face continuing discontent and this would be expressed through insurrection, disruption, fear, false rumour, a host of 'black market' behaviours and incremental concessions to special interests – all of which would, ultimately, be at the expense of the environment.

Recommendation

The book is recommended for anyone who would like to explore alternative *political arrangements* to achieve *biophysical* ends. Such alternatives may have potential to draw new and significant segments of the population into our push for a sustainable future.

Keith Thomas

Climate modelling and human intelligence

James Lovelock is transcribed here from a BBC broadcast, speaking in London earlier this year, at a function in his honour and coinciding with the publication of John Gribbins' *He Knew He Was Right: The Irrepressible Life of James Lovelock and Gaia*.

“... It's a complex story, really; most of one's thinking that's worth anything comes not from reason but from intuition. Many of my scientist friends don't like that – they're still back in the nineteenth and twentieth centuries where you did everything rationally and the word “irrationally” implied loose

or bad thinking. I'm afraid it isn't like that; all the things that really matter are intuitive.

Understanding the Earth's system is one of those things you cannot express formally in mathematical terms easily.

The climate scientists tried to do it – there was a man called Lorenz, many years ago, who discovered that if you try to model a system containing more than two differential equations – and you need hundreds, thousands of them to look at the Earth's system – it goes chaotic, as soon as you put real world data into it.

So what they tend to do, because they have to model it that way, with hundreds of thousands of equations, they either fudge the equations with linearizing modifications, so that the model never goes chaotic, or they never run it beyond what they call equilibrium conditions; that is they never allow it to behave dynamically as a living thing.

Now this is absolutely fatal as far as modelling goes and it applies both to biology and to climate science (geophysiology) and this is why we are finding now

The underlying error that is leading us astray is a political system based on indulgence. Our society and ways of life are based on what man desires rather than what is best for him. The two things – desire and necessity – are as far from one another as east and west.

*Pentti Linkola
Can Life Prevail? 2009, p 204*

that the great gathering of scientists that formed the IPCC – some of the best climate scientists in the world – with the very best of intentions and the most modern and expensive equipment, are failing to predict the climate that is with us today.

The most glaring error is that the sea level is rising nearly twice as fast as they were predicting; now this is a serious matter if you live here in London and you get an error that big.

So to understand the Earth's system, you can't avoid approaching the whole problem to a certain extent intuitively and this is where I think Gaia came in because most of the first part of it was intuitive rather than rational. And I think it has some deeper significance in that one of my reasons for being somewhat pessimistic about the future of the present generation of humans is that I think the problem is right beyond us: we do not have the intellectual capacity to solve the problem of living successfully with our planet.

High-speed trains

In Britain at present politicians of all persuasions are in favour of building a high-speed rail link between London and Scotland.

Professor John Whitelegg, a transport consultant based in Lancaster, begs to differ. In an article in the *Guardian* on 29 April, he argues that high-speed rail is not necessarily A Good Thing.

He points out that it would be mainly high income earners who use such a train, and it would only encourage them to travel more. It would in effect be an £11 billion (and rising) subsidy from the general taxpayer to the wealthy.

It would stimulate the economy, but so would using the same amount of money to benefit local communities. Whitelegg suggests insulating twenty million homes, making every house a mini power station, sorting out local commuter railways, improving inter-regional links and building 10,000 kms of segregated bike paths to connect every school, hospital, employment site and public building to every residential area. Such works would stimulate local economies, and provide big benefits to the majority of the population.

Experience in Germany shows that high speed rail does not necessarily reduce domestic air travel.

Germany has a large high-speed rail network but has also experienced an explosion in domestic air travel. What is more, high-speed rail produces twice as much carbon dioxide per passenger as does ordinary rail. (Also a totally different article I read recently pointed out that trains are only 'green' compared with other forms of transport if they are full.)

The situation in Australia is very different from that in the UK. Whitelegg's argument about reducing dependence on London, by making northern cities strong regional hubs as financial, cultural, media and corporate centres, is really not applicable here. Nor are his arguments for transferring freight from roads to canals and other inland waterways, although we could certainly do with sending more freight by rail and by coastal shipping. However his general thesis is certainly worth considering.

We frequently spell out the dangers of deliberate genetic engineering even as we maintain what are, in effect, giant genetic engineering laboratories – in the form of intensive agricultural systems that create agents such as the one responsible for mad cow disease, which terrorize in their own way.

Mark Jerome Walters, Six Modern Plagues, 2003 p. 157

As he says there is something seductive about speed. It has certainly seduced economists who consider that saving time saves money, and the faster we can travel the better and that this produces an economic bonus from which the whole of society benefits. This is clearly not true. Many people drive their cars rather than travelling on public transport to save time,

and then they go and spend the saved time plonked in front of the television or playing computer games. They may well be better occupied sitting in a bus or train, and learning about human nature and what really matters in life, or ride a bike and improve their own health.

Certainly, at this time when we know we really have to cut down on our consumption we should not put in place policies aimed at increasing the mass of travel.

Jenny Wanless

The world is too much with us, late and soon.
Getting and spending, we lay waste our powers:
Little we see in Nature that is ours.
We have given our hearts away; a sordid boon!

William Wordsworth, 1807

The arts and climate change

Theatre and music affect us primarily through our emotions. If issues are presented to us through theatre and music, we engage with them differently from the way we react to a scientific article or lecture. It is also widely accepted that emotional rather than rational reasons often drive our decisions and our actions.

Glenda Cloughley, a composer and musician, also a Jungian analyst with a longstanding interest and academic qualifications in cultural psychology and social ecology, has used this knowledge to address the problem of climate change. Glenda has made and initiated theatre projects about cultural wellbeing based on mythic themes for more than twenty years. Her productions have been presented in Europe as well as in Australia. She has used her experience to write and produce a marvellously powerful 90-minute story told in poetry, song and music - *'The Gift of the Furies'*.

This production was first performed in Canberra earlier this year, by The Chorus of Women and the Wayfarers Choir, Australia – altogether some forty singers and instrumentalists, including some of Canberra's most accomplished artists.

The story of *The Gift of the Furies* is partly based on an ancient Greek myth – *The Oresteian Trilogy* of Aeschylus, from 458BC. It tells of the catastrophic results of people raising the mortal laws of cities and human society above the immortal laws of nature. Climate change is believed to be caused by similar behaviour. Like the ancient myth (with its happy ending), *The Gift of the Furies* moves from the dark threat of our present situation on a warming Earth towards the possibility of harmony between people and nature.

By using music and theatre to tell the story of the current threat to our environment, the audience is reached and affected in a very multidimensional way. All of us who attended the Canberra performance of *The Gift of the Furies* came away very moved and with a wider appreciation of the nature of the problem and its possible solutions. We become aware that by changing the way we live and act and relate to each other, we can bring about a meaningful change in our environment.

The story has seven movements:

Optimism, that most wretched of all human characteristics, successfully projects the gravity of the population issue both forward in time and geographically away from home, to foreign lands.

*Pentti Linkola
Can Life Prevail? 2009 p128*

1. **The Watchman** – a citizen of the city-state of Argos sees fateful portents as the fleet of the tyrant king sails home from war. He knows catastrophe is on the way but works for the government, and his job is 'just to watch'. The Chorus of Citizens tells of feeling frightened and powerless about the changing climate.
2. **The Songman** – Mr Mythos (Aeschylus) has a personal confrontation with the Furies of Earth and sets out to write a law song to warn the people about the catastrophe ahead.
3. **The Crimes** – Mr Mythos' story about appalling murders within the dysfunctional royal family of Argos unfolds. The Chorus connects these historic crimes against nature to present crimes against the Earth.
4. **The Trial** – Lord Reason (Apollo in the ancient drama) and the Fury of Earth take the place of the protagonists from Argos in the murder trial. The two laws they represent come face-to-face in the court of Ethos/ civilised wisdom (Athena in the ancient drama). Reason wins in spite of the Furies' threats. (The reference to Ethos recognises Tom Bass's sculpture of Ethos outside the ACT Legislative Assembly.)
5. **The Eyes of Love** – Mr Mythos loses his way through terror of the Furies, then recovers from his writer's block after a dramatic encounter with love.
6. **Reconciliation** – The Furies of Earth and civilised wisdom are reconciled through the promise of the people to care for the earth.
7. **And Now?** – the story comes into the present as a question to the audience. Glenda Cloughley reminds us that the ancient Greeks had a notion of the common good, whereas nowadays often far too much power is given to sectional interests in political and economic decision-making.

This story and the ancient myth on which it is based remind us that it is not only high-powered technological fixes that are needed; above all we need to take responsibility for our own ability to influence the common good, and change our behaviour and ourselves.

Well done and congratulations, Glenda, and all who took part!

For more information about the Chorus of Women, visit <http://www.chorusofwomen.org>. There you will also find information about the Chorus' next event: **Science and the creative arts: a potent collaboration for change?**, a community conversation in National Science Week. This will be based on the workshop model that Chorus has been developing in its recent Canberra Conversations, and will be held at CSIRO Discovery Centre on 23 August at 2.30–6.00 pm. It will include informal panel discussion with prominent artists and scientists, small breakout groups, plenary discussions and artistic contributions from the Chorus.

Gerda Mark

Farrago

Tropical fish moving south

The Fish Ecology Group at the University of Technology, Sydney, has been studying the range of tropical fish migrating to southern New South Wales from the Great Barrier Reef. The Eastern Australian Current, that sweeps southward along the coast from the Coral Sea, has warmed by two degrees. This has enabled the survival of larvae and growing fish up to 1700km south of their traditional grounds.

Working from the Sydney Institute of Marine Science in Sydney Harbour, research students and volunteers are monitoring eleven sites from Red Rocks near Nambucca to Bittangabee near Merimbula. Some 70-80 species of tropical fish have been found at Camp Cove in Port Jackson, and at ocean reefs at Clovelly, Long Reef, and Shelly Beach. Damselfish and butterfly fish are relatively common there and even cleaner wrasse have been seen at work cleaning groupers.

The Eastern Australian current breaks up into giant eddies in the vicinity of Sydney; this accounts for the presence of tropical fish as far south as Sydney. Much smaller numbers have been found in the more southerly locations studied, although some do occur as far south as Eden and Merimbula.

Australasian Science, July 2009

We've all heard some of these accounts [of emerging diseases], but our understanding tends to be based on piecemeal news, with little sense of an encompassing story... The larger story is not simply that humans and other animals are falling victim to new diseases; it is that we are causing or exacerbating many of them, not least of all through the radical changes we have made to the natural environment. So closely are many new epidemics linked to ecological change that they might rightfully be called 'ecodemics'.

Mark Jerome Walters, *Six Modern Plagues*, 2003

Climbing fish

In New Zealand someone, somewhere, observed eels and banded kokopu climbing the roots of a tree that was growing through a waterfall.

This led to an idea for helping fish swim up rivers and streams where human structures such as culverts prevent access to the upper reaches. In theory all culverts are negotiable by fish, but in practice erosion on the downstream side of a culvert may leave the pipe hanging in the air well above water level.

Laboratory experiments in which a looped polypropylene rope hung from the 'culvert' to the 'pool' below, showed that juvenile banded kokopu could wriggle up the rope, like rats up a drainpipe. They flattened out their bodies and wriggled up using their head and fins.

The rope ladder is now being tested in the wild. If it enables fish to get past just one obstruction it could open up long stretches of the stream above. This could potentially boost the populations of fish that need to swim up river to breed.

Australasian Science, July 2009

Insulation

A speaker from the University of Otago, Dunedin, made the point that in New Zealand and Australia many people become

ill or even die in winter because of the cold. Death from cold in the home has been recognised in some European countries, where the problem has been tackled by ensuring that homes are well insulated.

There is now a trial running in New Zealand to assess the effect of spending about two thousand dollars per house to insulate the homes of poorer people. If the trial shows that such insulation prevents even one night in hospital for one person per house, it will show that insulation is cost effective, as one night in hospital costs about as much as insulating the home.

One woman whose home had been insulated was quoted as saying that it was the best thing that anyone had ever done for her.

The Science Show, Radio National, 6 June 2009

Cane toad control

Toad-buster groups in Northern Australia have been catching and killing large numbers of Cane Toads. A recent "Stop the Toad" muster killed 68,000 toads in one month, and the Kimberley Toad-Busters have killed 250,000 toads, but the toad invasion is actually gathering speed rather than slowing.

A look at the biology of toads shows why this is the case. A female toad can reach sexual maturity at a few months of age, and can produce up to 30,000 eggs in one clutch. So the big kills by community groups only amount to about ten clutches of eggs. In fact the challenge is more like trying to control insects rather than a vertebrate.

Professor Rick Shine's research group 'Team Bufo' at the University of Sydney is investigating the cane toad's biology to try to find some weak spots to exploit in the struggle to reduce toad numbers. They have found four such weaknesses.

One is the toads' preference for spawning in shallow ponds with gently sloping edges, and with very little vegetation on the banks, quite different from the sort of ponds native frogs prefer. By modifying ponds it would be possible to concentrate toad spawning in a relatively few ponds. As toad tadpoles compete with each other and even eat each other, they could help to control their own species.

Another weak spot is the pheromone communication used by toad tadpoles. In the presence of a predator they release an alarm pheromone that is ignored by native tadpoles. In an experimental study the stress occasioned by consistent alarms killed up to a third of the toad tadpoles, but native tadpoles were unaffected.

Some populations of cane toads in Australia have been weakened by a nematode worm in their lungs. This nematode has not been found in any Australian frogs, and it appears to have come from South America, along with the toads. Trials are currently underway to see if it would harm native frogs. If it does not, then the nematode worm could be introduced to currently worm free populations of cane toads in this country.

Then there is the Australian meat ant. Native frogs know better than to dally around where the meat ants are, but cane toads are naïve in this respect. They are active in the same places where meat ants forage, and if attacked they just sit there and let the ants dismember them. It may be possible to encourage meat ants to be very active around toad spawning ponds, for example, thus helping to control the toads.

An integrated approach using all these weaknesses in the cane toads' lifestyle could reduce the numbers of these pests. Meanwhile researchers are testing all four, to make sure such an approach will not damage native species. Results so far look promising.

Australasian Science, July 2009

Sleep

We have created a world which acts as a drug to keep us partying when really what we want and need to do is just rest. Rest is the basis of creativity. It is the foundation of civilisation. It is the real purpose of religion. The tired mind just keeps rehashing old ideas in ways that might look a little different. Our society is hyped like a kid before bedtime. We use more and more words to say less and less. We run around faster and faster to go places that don't really matter. Meanwhile, our vocabularies are diminishing, our

memories have been handed over to computers, our inner juices are drying up.

Michael McGirr, *The Lost Art of Sleep*,
The Canberra Times, 27 June, 2009

Sichuan earthquake

The Magnitude 7.9 Earthquake that struck Sichuan on 12 May 2008 killed 70,000, made five million homeless, blocked rivers and put more than 300 dams at risk. It was felt as far a way as India, Taiwan and Mongolia. It was caused by the movement of a fault between the Tibetan plateau and the Sichuan basin. There is a suspicion that the earthquake could have been triggered by the filling of the huge Zipingku dam on the Min River. Building dozens of dams in such a tectonically active area could pose a major risk.

AC Grayling, *New Scientist*, 31 January 2009



Contributions for the next edition of *Nature and Society* are invited now from all members. They should be sent to the editor, Jenny Wanless, 22B Jensen St, Hughes ACT 2605, ph 02 6281 3892, or to our office by 25 September 2009.

Contributions may be sent on paper or electronically. This journal was prepared using Microsoft Word and Adobe PageMaker 7.0.2.

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Jenny Wanless and Keith Thomas prepared this edition together with the named contributors; Jenny and Keith also contributed the unattributed items and provided the quotations.

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