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Do We Need Nature?

By David Holmgren

info@holmgren.com.au

www.holmgren.com.au



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Synopsis

It is as though humanity has been climbing a mountain for so long that we believe climbing goes on for ever. One of the conceptual tools we developed on the climb up this energy mountain was the idea that humanity was separate from, and increasingly independent of nature. The most rapid and spectacular final phases of this climb have been punctuated by questioning, doubts and rejection of the whole project. But nothing in the human psyche has done much to stop or even slow the climb. In fact, every culture on the planet, from the most ancient indigenous people to the enduring “middle kingdom” of ancient China and that font of spiritual sages, India, have all been overrun by the power and hubris of fossil fueled materialism and its offspring, consumer hedonism.

The Maximum Power Principle suggests that the systems that collect the most energy and use it effectively for growth tend to prevail by natural selection. But the same laws of nature reinforce the proverb “Don’t throw good money after bad”. As the vast stores of energy begin to decline, and efforts to harvest more energy yield less of real value but generate more dysfunction and evil, then an inevitable reconciliation with nature’s limits is imminent. In this context the answers to the question; Do we need nature? will be very different.

The Energy Mountain

Driven ever upward by hubris, the techno-optimists claim to have seen in the mists the next face of the mountain and are preparing tools and equipment for the assault, to which they look forward with dedicated passion. The pessimists survey the cliffs below and, looking out to the horizon, see gathering storms and shout warnings about needing to secure our position. The traditionalists ignore this confused argument about what is above and beyond. They are disgusted with the fraternising with “the Other” on this crowded mountain and recall the purity of life in the ancestral home. They hold together their replica of that past against the mountain storms.

A smaller band of realists ignores the calls forward, those for retreat and the shouts of alarm. The view from above brings fresh insights as they draw in the mountain air, savouring experiences that none of the ancestors could have known. As they take in the grand designs, their eyes search for the pathways down from the peak - pathways that our descendants will follow to find new homes in the valleys beyond the mountain. The paths down will be rough and uncertain with many false leads, as challenging as the climb up. These realists also survey our collective baggage for useful tools, independent of who happens to be carrying them. The rest they ignore, accepting that most of what we have accumulated on the mountain must be left behind.

The Long View

Although humanity’s climb up the energy mountain may be unmatched in the history of the earth, nothing we have done is unnatural because none of our extraordinary achievements lie outside the laws of nature which govern all self organising systems from single cells to the whole earth and beyond. For a systems thinker, the question do we need nature? is absurd because human dependence on nature is analogous to the dependence of a cell or organ on the whole body.

Nature is best understood through the Gaia hypothesis¹ which considers the earth as a 4 billion year old organism. The atmosphere, oceans and the geological cycles of the crust are as much a part of that organism as all living things. Together these elements form a self organising and self regulating system powered by sunlight and tidal energy from above and deep heat from below.

¹ Lovelock, J. *The Ages of Gaia: A biography of our living Earth* Oxford Uni Press 1988



Arguably the greatest internal threat to Gaia came from “pollution” of the atmosphere with highly corrosive oxygen 1.5 billion years ago - a threat she dealt with by an explosion of aerobic life that fed off the oxygen, while maintaining her primordial anaerobic life forms in the deep oceans.

The pulsing pattern of ice ages allowed Gaia to optimise the short lived but periodically explosive abundance of terrestrial life while the oceans continued to provide the base rhythm. About a billion years ago Gaia began to store some of this surplus organic abundance as fossil fuels. Curiously, this storage has gone on accumulating with only the smallest degree of recycling back into the biological and atmospheric domains until the final phase of the rise of homo sapiens.

The emergence of homo sapiens as a generalist species able to take advantage of the changes from the glacial to interglacial phase made us the dominant large animal on the planet. We reshaped whole regions and displaced a myriad of prey and predators. Development of agriculture in the most fertile regions of the latest interglacial paradise, and resultant organisation of cities, standing armies and civilisation allowed dominant tribes to capture the wealth of neighbours and so further aggregate power. After a series of failures due to ecological and cultural limits, European civilisation began to break its continental bonds early in the second Christian millenium. Colonisation of much of the planet provided the resources, organisational structures and culture necessary to trigger the industrial revolution driven by the greatest source of humanly useful power, fossil fuels. This stepwise growth in energy has supported growth in human numbers from less than a billion to over 6 billion.

At the turn of the new millenium we are at the peak of global oil production and only decades from peak gas production. Expert independent geologists² agree that decline from peak will be as rapid as growth during the 20th century, irrespective of technology, market forces, government policies and human values.

Energetics and Environmental awareness

While the details of history are the result of human endeavour and chance events, the general patterns are shaped by energy availability. These patterns are best described by the science of systems ecology, and especially the work of Howard Odum³ and colleagues. However, controversy and debate in academia over the validity of the science have stifled any wider consideration of its implications for land management, technological development, economic prospects, public policy and emergent culture.

Despite thirty years of environmental advocacy and literacy, the idea of human independence from nature appears as strong as ever. The affluent and formally educated half a billion or so citizens of the planet to whom the environmental message has been directed have so far been cushioned from growing adverse environmental impacts. Impending global oil peak may break through that cushioning faster than the gathering clouds of climate change, but whether these impacts will be accepted as signs of our complete dependence on nature is not clear.

Active responses to the environmental imperative can be characterised as either oppositional campaigns to slow and stall destruction of nature, or designs to apply nature's principles to create a green economy and culture. These efforts have both contributed useful understandings to how we depend on nature. However, we still lack a shared language and experience to ground these understandings and to get started in the reorganisation of society to live from nature's continuing abundance before her limits further constrain our options and cut great swathes through our culture and civilisation.

² Heinberg, R. *The Party's Over: Oil, War and the Fate of Industrial Societies* New Society Publishers 2003. An overview of the issues and evidence including references to the principle sources.

³ Odum, H.T. *Environmental Accounting: Energy and Environmental Decision Making* Wiley 1996. The definitive explanation of the Emergy (embodied energy) concept and its diverse applications in earth science, ecology, geography, economics and public policy.



While energy descent will spell an end to juvenile consumer materialism as a way of life, source of identity and meaning, the somewhat delayed onset of this reality is prefigured by a realisation of internal limits to affluence. The very success of consumer capitalism has given many people the repeated experience of both the addictive excitement and the lonely emptiness of over consumption⁴. This truth that all spiritual traditions speak of, is now common, if unspoken knowledge. Thus the ecological and the psycho-social limits to materialism reinforce each other.

Working Relationships With Nature

While clearly acknowledging both the internal and external limits, it is the provision of real human needs through working relationships with nature that should be our priority. For the poorest and most disadvantaged people on earth, the elemental needs of water, food and shelter from simple ecological designs have the potential to address basic security and family planning issues at remarkably little cost to the planet. Gardening and other simple self reliance activities can also reconnect the affluent with the abundance of nature and so rebuild confidence that life within the limits is both possible and desirable.

The same ecological design principles which inform the provision of material needs from nature can also be used to help evolve the personal, household and community systems which provide meaning, identity and values so lacking in affluent society. I believe it is this provision of nonmaterial needs, currently sought through relentless consumption, that provides the greatest hope that we can live within nature's limits. While nature's capacity for regeneration and abundance is wondrous, expecting an endless run of miracles of sustainable productivity from ecological design can degenerate into faith in yet another technological fix. Better we wake up to acknowledge the gift of fossil fuels and the resultant technology, culture, personal freedom and power and use them wisely – use them to carefully rebuild the natural capital of water, soil and forests which will provide the daily bread and source of wonder and meaning for our descendants.

The Dark Side of Energy Descent.

The evidence of energy descent is all around us, not just in the oil field data and the consensus of retired oil geologists. For nearly thirty years, systemic depression of commodity prices has prevented affluent nations receiving the market signals about the value of natural resources. Thatcherite policies and increasing disparity of wealth have driven the economic system faster with more short term gains but increasing ecological and social debt. In the USA, the alternative measure of well being, the Genuine Progress Indicator peaked in the late 1970's while GDP has continued to climb to extraordinary heights. New technology is harnessed to generate an endless flow of slightly altered products to seduce consumers. Virtual services and a host of "bads and disservices" allow growth of last resort.

By the late 1990's the rapid rise of the anti-globalisation movement indicated the social limits were being stretched, while the onset of greenhouse weather events showed nature's predicted fever was beginning to bite. At the same time evidence of imminent global oil peak was breaking into the mainstream media. and corruption of capitalism was threatening to pull down the economy and contaminate public affairs. The stage was set for a new politics of fear combined with bare fisted imperialism abroad to capture critical resources. These processes are reshaping public consciousness for a grim experience of energy descent without any acknowledgement of the energetic realities driving world leaders towards increasingly desperate solutions.

The debate over the importance of nature, the meaning of sustainability and value of prospective technologies is confused and mired by the climate of fear, corruption and denial as well as individual and systemic addiction. However, along with the confusion are many insights and tools which, if gathered together, could provide a coherent vision of how we can step back from the brink of a catastrophic energy descent scenario to find the gentle pathway to an accommodation with nature.

⁴ Hamilton, C. *Growth Fetish* Allen & Unwin 2003 A current critique of the psycho-social limits to economic growth.



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The cultural and technological hubris about not needing nature, that is currently peaking along with the oil, is no more than a worn out pair of boots which we can discard to rot back into the cultural compost and so feed the rebirth of human values properly respectful of all powerful nature.



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16 Fourteenth Street
Hepburn
Victoria 3461
Australia
Tel: +61 (0)3 53483636
Email - info@holmgren.com.au

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