

Permaculture – History and Futures

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Background to Permaculture

Preferable futures take a variety of forms, but for many futurists they include futures that play to our sense of hope for a more socially just and ecologically sustainable world. Permaculture describes a set of principles and practices that actively respond to the creation of such a future. Conceived in Australia in the early 1970s by co-originators Bill Mollison and David Holmgren [1,2], permaculture's main antecedents lay in the social utopian Garden City movement of the late 19th century [3] and the forest farming systems of Joseph Russell Smith [4]. Permaculture (from *permanent agriculture/permanent culture*) emerged in the 1960s and 1970s within the broader countercultural landscape of the postmodern turn of that period, with its rejection of rising consumerism, stifling authority and the rejection of dominant cultural forms. It was part of a broader environmentalism and awareness of the limited carrying capacity of the planet, influenced by iconic texts such as Rachel Carson's *Silent Spring* [5] and the Club of Rome's *Limits to Growth* [6]. Today, permaculture is recognised as part of an emerging global paradigm shift from a clever but unsustainable techno-industrial culture to a wise sustainable ecological culture, a processes of civilisational transition that ecological economist Paul Hawken has called 'The Movement with No Name' [7].

Informed and driven by the need to reduce humanity's ecological footprint, permaculture recognises that the business-as-usual growthist future made possible by finite and cheap polluting fossil fuels, is inherently unsustainable. It offers opportunities to re-envision and build new forms of prosperity based in quality not quantity, that can flourish in harmony with natural systems rather than seeking to dominate and be in conflict with them. Permaculture's strength and attraction to its many adherents around the world lie in its ability to provide both a theoretical framework and practical skills for designing towards sustainable human settlement systems. Rather than becoming embroiled in reaction, frustration, despair and negativity that awareness of the global crisis all too often brings, permaculture is fundamentally action-orientated and positive. The permaculture practitioner is an active participator in the creation and evolution of the system, inhabiting and learning from it in dynamic and reflexive praxis, [8] seeks to lay the foundations for a new way of being on earth [9].

Permaculture was the outcome of Mollison and Holmgren's creative synthesis of systems thinking and design principles based in an understanding of the processes of natural ecosystems, traditional small scale mixed agriculture, low impact technology, and redistributive social justice into an adaptive, interconnected dynamic design system for creating and implementing self-sustaining human settlements. Holmgren describes permaculture as a post-modern integration of elements from different traditions and modernity, involving continuous change and evolution [8].

The design principles themselves are located within a set of ethics relating to both ecological and social justice:

- Care for the earth
- Care of people
- Set limits to consumption and reproduction, and redistribute surplus (p.1) [8].

Classical permaculture design uses natural 'energies' such as sun, wind, water, gravity and animals to do work, replacing much that is currently achieved by fossil fuel energy. Its design principles guide the creation of adaptive and dynamic systems of mutually beneficial synergistic relationships by deliberate placement of functional 'elements' within the system, such as food crops, other plants, animals, dwellings, roads, water sources and so on. Resilience and adaptability of food systems are built in through diversity, redundancy and increasing soil fertility, mimicking as far as possible the processes of productive natural ecosystems.

While the principles of permaculture were developed to guide the design of sustainable settlement, they would appear to be generalisable. School principal Peter Harney believes that these same basic principles underlie the dynamics of both nature and culture. Diversity, resilience and adaptability can be as readily seen as characteristics of an effective workplace or classroom as they can a productive farm or well functional community. Harney himself has applied permaculture design principles to redesign the social settings within a school [10]. The principles are now being applied to urban planning, community development, sustainability science, public policy, agriculture, education, business and international aid and development [9].

Futures Scenarios and Permaculture

Though permaculture has always been futures-focused, it was not directly framed in futures language till 2008 when Holmgren explicitly brought permaculture and futures together [11]. Since then, Holmgren has added considerable layers of complexity to his futures work and the role of permaculture. For Holmgren, the probable future is of an energy descent to a low carbon future, driven by interactions between the need to adapt to and mitigate climate change, the peaking of oil supplies and continued extractive growth. The energy decent future gives rise to a number of possible scenarios. Within these, Holmgren's preferable future is one of a gentle descent to low energy intensity living in which permaculture provides an important pathway for tackling the immense challenges that will inevitably present themselves.

Holmgren argues that serious and thoughtful responses to energy descent futures such as permaculture have so far received limited attention within mainstream society, but believes that as peak oil and climate change erode affluence globally, interest in permaculture will rise. In contrast to current dependence on ephemeral carbon-intensive consumption, this preferable energy descent future will see the intensification of local food production as industrial food production becomes increasingly expensive. This future is characterised by distributed renewable energy economies and revitalised household and communities within bioregional political structures. It will see a revival of

lost household skills of reuse, recycle and re-fix systems and the creation of closed loop production cycles, in contrast to the current dominant linear input-consumption-waste production. Technology will continue to play an important role but will be re-engineered towards supporting the development of low carbon lifestyles [11]. Permaculture design principles and education provide for this, and many practitioners see them as important for preparing for such a future.

A particular strength of permaculture is its ability to retrofit the suburbs through redesign, transforming acres of high input unproductive lawn and garden beds to low input food production as part of the creation of an urban agriculture, paralleling the 'Dig for Victory' garden movement in the UK during World War 2. Permaculturists believe that this future will not only be an effective response to energy descent, but will confer unexpected benefits on communities as they rediscover the advantages of working within mutually enhancing systems

Global Uptake of Permaculture

In affluent countries, movements advocating low footprint lifestyles as described above have not yet become part of mainstream society. They tend to be seen negatively, as having to 'give up' a lifestyle rather than offering opportunities for a qualitatively different future as industrial society enters its death throes. The education system that perpetuates an increasingly bleak business-as-usual future as the only way forward is critically at fault in this regard. However, at the margins, permaculture is slowly contributing to changing lifestyles via bottom up and organic processes. Increasing community awareness of environmental issues combined with rises in the cost of energy, water and food are likely to lead to an explosion in permaculture-inspired activity in cities, towns and rural landscapes.

The growing recognition of a sustainable future as a preferable future means that permaculture and its allied movements will become something that academics, educators, activists, planners and policy makers will increasingly need to understand as both a factor in the social and physical fabric of society and a conceptual framework for the organic redesign of society and culture for the energy descent future globally. So far, permaculture has tended to be largely outside academic discourse though there is now a number of postgraduate theses written with aspects of permaculture at their core (see for example Harney [10], Hillis, [12]; Jones, [13]; Smith, [9]). For some years RMIT University in Melbourne has offered a unit on permaculture as part its Wellness course in recognition that the ability to envisage and design for a sustainable future is a critical component of individual and social wellbeing. More recently, Central Queensland University has developed a Graduate Certificate in Permaculture Design [14].

It is through its application in poor countries and in crisis situations that permaculture has been road-tested most thoroughly and found to be valuable. The role that permaculture design strategies and techniques played in the Cuba of the 1990s in rapidly increasing urban food production as part of a multi-pronged strategy to avert famine is perhaps the most dramatic example of the success of permaculture. Today, permaculture continues to play a strong role in Cuba's food production system which now provides an important focus for permaculture training for people from all over the world [15]. Cuba's

experience is important because it represents a microcosm of an energy descent scenario following the collapse of the Soviet Union and its abrupt termination of that country's energy supply. Permaculture is also increasingly turned to in aid projects and disaster relief [16].

The Transition Movement

As permaculture matures and the magnitude of the global crisis becomes better understood, its influence has been subsumed into other spheres of life, often without the realisation of its origins. The Transition movement can be thought of as a second-generation permaculture. Originating in Ireland by permaculturist Rob Hopkins [17], the Transition movement explicitly builds on the notion of energy descent futures driven by understanding of the impacts of climate change and peak oil. It brings communities together to explore the creation of energy descent scenarios 'for a local, resilient future' [18]. Its key tool is the development of an Energy Descent Action Plan (EDAP), contextualised to each community which actively participates in its creation [19].

The Future of Permaculture

While it is hoped that permaculture design principles will become more accepted into mainstream thinking and action as an important platform for designing and creating low carbon sustainable futures, what of the future of the movement itself? Permaculture has traditionally been most successful at the small, the local and the personal scales, which is both a strength and a weakness. Thoughtful permaculturists have long recognised that while local action is crucial to pathways to sustainability, it cannot be the only sphere of influence. More systemic forms of design and organisation, from regional to national and global, are critical to developing sustainable futures. Permaculturist Geoff Lawton's work on large-scale permaculture projects shows that this is indeed possible [20].

Integral Permaculture

To develop fully as a coherent system for a sustainable future and to be 'the new frontier' as Dawborn and Smith have called it [20], the next phase for permaculture lies in its interior development. Unlike techno-scientific-orientated solutions to sustainability problems, from an integral perspective [21], permaculture has the potential to enable development in all quadrants of reality as described by Wilber (1996) - the interior personal and cultural as well as the exterior techno-scientific, behavioural and systemic. Up till recently though, it has been mainly used to transform exterior biophysical landscapes. As the exterior world that we build reflects our interior landscape, to achieve the sort of paradigm shift that is truly integral, the challenge for practitioners is to reflect on the corresponding transformation of their interior personal and cultural landscapes. Dawborn argues that the transformation of consumer culture to sustainable culture critically depends on parallel changes in worldviews and values to avoid simplistic, linear responses to situations, and to be able to embrace and work with complexity is central to our ability to bring lasting and meaningful change [20]. Permaculture has the potential to represent an integral approach. Because the designer intimately participates in the design, the potential is there for powerful learning, growth, adaption and development in all four quadrants of reality. Table 1 outlines some of the aspects of permaculture as they map to Wilber's

quadrants of development.

Table 1. Wilber's Quadrants of Development applied to Permaculture

	Interior	Exterior
Personal	"Inner work": personal growth, learning, adaptation and development through increasing empowerment for taking responsibility; renewed sense of the place of humans in natural systems; reconceptualisation of values towards those consistent with sustainability; spiritual dimension and the resacralising of nature, connectedness with nature; realisation of the transcendent.	Science/technology foundation: knowledge of physical geography, ecology, nutrient cycles, energy transfer, soil chemistry, plant and animal biology, appropriate technology.
Collective	Ecological worldview – everything is connected. Cultural development - renewal of local culture and community; revaluing community life; taking responsibility for the health and flourishing of community; interdependence, resilience, relationships, ethics.	Systems understanding and design; natural and human systems (agriculture, horticulture, urban planning), physical geography; development of ecologically sustainable systems – cradle to cradle not industrial linear input-output-waste; adaptation, evolution and resilience; technology systems.

The real power of permaculture as a transformational movement for the future will be realised through its practice. Through practice, people begin to experience and reflect on the radical interior shifts in values and worldviews that enable the world to be seen and made differently. Working with permaculture design principles is as much personal and cultural and for some even spiritual as it is techno-scientific and systemic. Practitioners talk about a sense of coherence, a deep recognition, a resonance with permaculture, of working with instead of against nature - it 'feels right' [9, 20].

A future that feels right and in harmony with natural systems is a future worth working for.

References

1. Mollison, B. and Holmgren, D. (1978). *Permaculture One*. Australia: Tagari.
2. Mollison, B. (1979). *Permaculture Two*. Australia: Tagari.
3. Howard, E. (1898, 2003). *To-Morrow: A Peaceful Path to Real Reform*. London: Routledge.
4. Smith, J. R; Smith, J. (1929, 1987). *Tree Crops: A Permanent Agriculture*. Washington DC: Island Press.
5. Carson, R. (1962, 1994). *Silent Spring*. Boston: Houghton Mifflin Co.

6. Meadows, Donella, Meadows, Dennis, Randers, J. and W. Behrens (1972). *The Limits to Growth*. Universe Books.
7. Hawken, P. (2007). *Blessed Unrest: How the Largest Movement In the World Came Into Being and Why No One Saw it Coming*. New York: Viking Press.
8. Holmgren, D. (2002). *Permaculture: Principles and Pathways Beyond Sustainability*. Hepburn: Holmgren Design Services.
9. Smith, C. (2000). *The Getting of Hope: Personal Empowerment through Learning Permaculture*. Unpublished PhD Thesis, The University of Melbourne.
10. Harney, P. (1997). *Changing the Social System of a Catholic Secondary School: An Examination of Salient Design Features Pertinent to the Change Process from a Permacultural Perspective*. Unpublished PhD Thesis, Department of Educational Foundations, Australian Catholic University.
11. Holmgren, D. (2008->) *Futures Scenarios*. Retrieved 30th December 2013, from [<http://www.futurescenarios.org/>].
12. Hillis, de C. (2012). *The Wired Village: Sustainability, Social Networking and Values in an Urban Permaculture Community*. Unpublished Master of Education Thesis, The University of Melbourne.
13. Jones, P. (2013). *Walking for Food: Regaining Permapoesis*. Unpublished Doctor of Creative Arts Thesis, University of Western Sydney.
14. Central Queensland University. See [<https://www.cqu.edu.au/courses-and-programs/study-areas/science-and-environment/postgraduate/graduate-certificate-in-permaculture-design>]. Retrieved 19th October 2015.
15. Perez, R. (2013). How Cuba Leads the World in Permaculture (Podcasts – Parts I & II). Retrieved 31st December 2013, from [<http://permaculturenews.org/2013/09/09/how-cuba-leads-the-world-in-permaculture-podcasts-parts-i-ii/>].
16. See [<http://permaculturenews.org/category/permaculture-projects/aid-projects/>] for a list of permaculture aid projects. Retrieved 31st December 2013.
17. Hopkins, R. (2008). *The Transition Handbook*. Totnes: Green Books Ltd.
18. Chamberlin, S. (2010). *The Transition Timeline*. Totnes: Green Books Ltd.
19. Hodgson, J. and Hopkins, R. (2010). *Transition in Action*. Totnes: Green Books Ltd.
20. Dawborn, K. and Smith, C. (2011). *Permaculture Pioneers: Stories from the New Frontier*. Hepburn: Melliadora Publishing.
21. Wilber, K. (1996). *A Brief History of Everything*. Boston and London: Shambhala.