Instances of ecological motivations
in the production and use of space
An edited extract from *Spatial Agency: Other
Ways of Doing Architecture*

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Too often in mainstream architecture, environmental issues are directly attached to the building, in terms of control and mitigation. Buildings are treated as technical devices, and design for sustainability is focussed on the optimisation of systems to reduce energy use and in the choice of materials to reduce embodied energy, both in a move towards "low carbon" solutions. Clearly these are important issues, but this limiting of environmental understanding to the technical realm alone tends to treat it as an isolated system that can be dealt with on its own terms, typically those of efficiency and control. This leads to a sense that environmental issues can be dealt with through technical fixes, but this is in fact a false sense of security because it is clear that the environment is tied into much wider networks. Ecology, in relation to spatial agency, the environment is not isolated to matters of energy reduction and efficiency, but has to be understood in relation to the social, the global and virtual realms. In their important manifesto for an *Urban Political Ecology*, Nik Heynen, Maria Kaika, and Erik Swyngedouw note that "environmental and social changes co-determine each other."[1] In this light, acting motivated by ecological concerns means that one has to deal with the interchange of the social and the environmental – with how social conditions are linked with ecological conditions, as is most clearly identified in books such as Mike Davis's *Ecology of Fear*. The authors of the manifesto talk of this relationship in terms of a metabolisms, recognizing the cause and effect that is built into all systems, so that "while environmental (both social and physical) qualities may be enhanced in some places and for some humans and non-humans, they often lead to a deterioration of social, physical and/or ecological conditions elsewhere."[2] It is an awareness of this interdependency of systems that the ecological spatial agent brings to the table.

[1] *In the nature of cities: urban political ecology and the politics of urban metabolism,* ed. by Nikolas C. Heynen, Maria Kaika and Erik Swyngedouw (London: Routledge, 2006), 11.

[2] Heynen, Kaika and Swyngedouw, 13.

Given the very recent interest in ecology, it is all too easy to forget that a significant number of individuals and groups throughout the C20 and C21 have worked with the environment, have acknowledged human impact on the environment or focused on the interdependence of the environment, economics and the social. Many of the examples that follow have done that well before the time when global warming was an accepted term or phenomenon, and are instructive for their prescience in the way that they responded to the early signals of environmental stress.

This short illustrated text aims to acknowledge ecology as a main motivation for an individual's or group's action and is based on work conducted as part of the AHRC funded research project Alternative Architectural Praxis / Spatial Agency (Tatjana Schneider, Jeremy Till and Nishat Awan). Further information on each project can be found on www. spatialagency.net; a book with the title 'Spatial Agency. Other Ways of Doing Architecture' (Routledge, March 2011) will expand the presented arguments.

2012 Architecten. The practice was set up around a desire to reduce the use of natural resources through innovation and clever design. Inspiration for their work comes from the creative use of waste material that occurs every day in conditions of scarcity across the global South, and place themselves within the self-help, DIY tradition of 1970's US and in particular the use of waste materials and ecological practices developed in building the Earthships.

Fig 1. A pavilion in Dordrecht made from kitchen sinks. Photo: John Bosma.
 http://www.flickr.com/photos/15262666@N05/4178972681/)

Architype. *Architype are committed to using locally sourced materials and designing buildings that lower energy consumption, often pioneering new techniques. Their Genesis project for Somerset College of Arts and Technology also leads by example, using construction techniques such as cob walls, rammed earth walls, straw bales and clay blocks, as well as including a biomass boiler that runs on waste wood shavings and saw dust from the college.*

Fig 2. Self-build house in Islington. Photo: Architype

Centre for Alternative Technology (CAT). *CAT started in 1973 as an experimental community working towards self-sufficiency and later became an educational and information resource centre open to the public. It promoted a lifestyle away from urban centres and without a dependence on industrial production systems demonstrating alternative technologies and ecological lifestyles, and set up a cyclical system where waste from people, animals and crops was recycled using composting toilets and reed beds.*

Fig 3. Caravans sprayed with insulation serving as site offices. Photo: Courtesy: CAT

*Counter Communities. Influenced by Puritan settlers arriving in the 'New World, many counter communities, such as **Arcosanti,** the **Earthships,** the **New Alchemy Institute, The Lama Foundation, Drop City** and the **Dome Village,** were set up as alternatives to socially and ecologically damaging lifestyles during the 1960s in the hot arid desert landscapes of California and Arizona. Some are still operating today in different guises, for example **Nader Khalili's** vision of low-impact adobe building is still being promoted and researched by the **Cal-Earth Institute.***

Fig 5. Corner Cottage Earthship at Taos, New Mexico. Photo: Kirsten Jacobsen

Fig 6. Dome Village, LA (circa. 1994). Photo: Craig Chamberlain

Ecosistema Urbano. *Ecosistema Urbano combine expertise in architecture, civil engineering and landscape architecture, focusing on designing sustainable urban environments and increasing biodiversity. Their EcoBoulevard project in a Madrid suburb was designed to mitigate the effects of rampant urban development with little concern for environmental and social conditions.*

Fig 7. Urban voids, Philadelphia. Strategy for the self reparation of the urban tissue. Image: Ecosistema Urbano

Ecovillages. *Ecovillages are intentional communities that strive for a degree of self-sufficiency and a low environmental impact, often motivated by the desire to find a sustainable alternative to capitalist society. Many are part of the Global Ecovillages Network and vary in size from 50-500 members. Some have a strong spiritual dimension, for example the Findhorn Community in Scotland and Auroville in India, whilst others focus on collaborative and egalitarian social structures. Ecovillages often experiment in social organisation, operating alternative education and social welfare systems, forms of consensus democracy, or alternative economies.*

Fig 8. Solar House at **Crystal Waters**. Photo: Max O Lindegger

Buckminster Fuller. *One of the first to recognise the finite nature of natural resources, Fuller was convinced that design and technology could offer solutions to the problems of the management of resources, especially with regard to transportation and building. Fuller popularised and appropriated the phrase Spaceship Earth to describe the finite and unreplenishable resources of the planet and its interdependent nature. This was the basis for his systems thinking and the emphasis on access to and invention of tools to enhance living, concepts that were to prove a major inspiration for* **Stewart Brand**, *the co-founder of the* **Whole Earth Catalog.**

Fig 8. Fuller's geodesic domes inspired a whole host of architects and designers, including the use and adaptation of the domes at **Drop City**. Photo: Ryan Mallard.

Victor Papanek *(1927–1999) was a designer and educator who promoted ethical design that was socially and ecologically responsible and was also a vocal critic of multi-national corporations and the consumer culture that was causing large-scale damage to the environment, calling for an increased awareness of environmental issues in industrial design practices and construction. His highly influential publications on the topic include Design for the Real World: Human Ecology and Social Change (1971) and The Green Imperative (1995).*
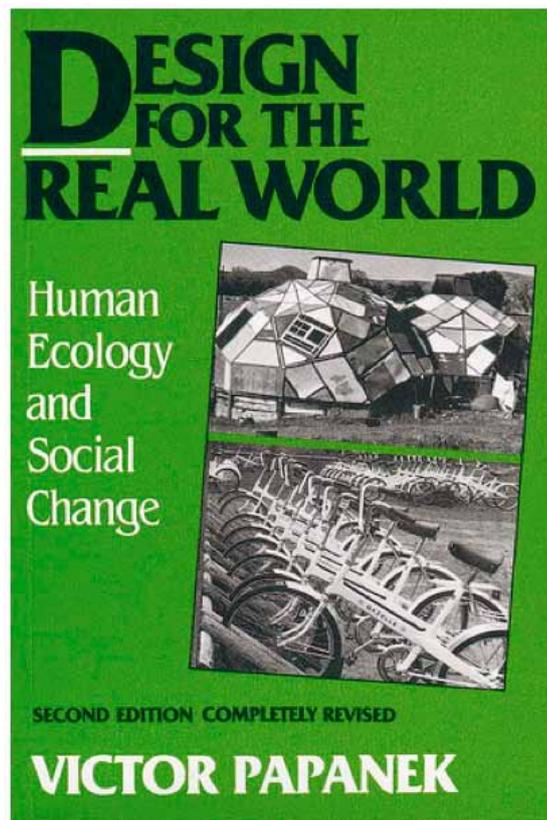

Fig 9. Design for the Real World (1971). Photo: Spatial Agency

Urban Farming. *The practice of cultivating food and raising animals in an urban environment is referred as urban farming or urban agriculture. Whilst small-scale and localised food production has a long history, including individual* **allotments**, *popular in Europe since the late C18, it is the integration of such farming practices within the economic and ecological system of towns and cities that is a newer development. The recent of example of* **Cuba** *has proven the effectiveness of urban agriculture. The Cuban government – following the collapse of the Soviet Union - promoted urban agriculture at various scales, including food grown in private gardens, state-owned research gardens, and the most successful model, the popular gardens on state-owned land open to the public. Architects,* **Bohn and Viljoen** *based in London, have adapted the Cuban model to suit landscaping proposals in European cities. They call on ordinary people to appropriate leftover spaces such as grass verges, as do* **guerrilla gardeners,** *but with the specific intent to cultivate food. A town that followed this course is Todmorden with their* **Increbible Edible** *project. In the UK* **city farms***, the emphasis is not only on growing crops but also on raising animals. One of the earliest of these is* **Mudchute Park and Farm** *on the Isle of Dogs in London, established in 1977 and still operating. The desire for local food production in urban areas is also reaching a global* scale *with the* **Transition Town** *movement developed to equip towns and also villages, neighbourhoods etc. to deal with the changes that peak oil would bring.*

Fig 10. Rotonda de Cojimar, Havana, Cuba. Photo: Jennifer Cockrall-King

Whole Earth Catalog. *Published regularly between 1968 and 1972, the Whole Earth Catalog was essentially a handbook for those wanting to live self-sufficiently, full of tips and suggestions. Today, its name is synonymous with the American counter-cultural scene of the late 1960s. The Whole Earth Catalog embraced systems theory and cybernetic evolutionism; its conceptual stance of a holistic model for society was inspired by the works of the anthropologist Gregory Bateson, the theorist Marshall McLuhan, architect Buckminster Fuller and the mathematician Nobert Wiener. The Whole Earth endeavour became a way of researching how a grass-roots movement could be furnished with information and energy, of how it could become a reality. The Catalog's sister organisation, the Farallones Institute, which was funded by the same non-profit educational institution, the Portola Institute in Menlo Park, California, concentrated on developing alternative technology solutions.*
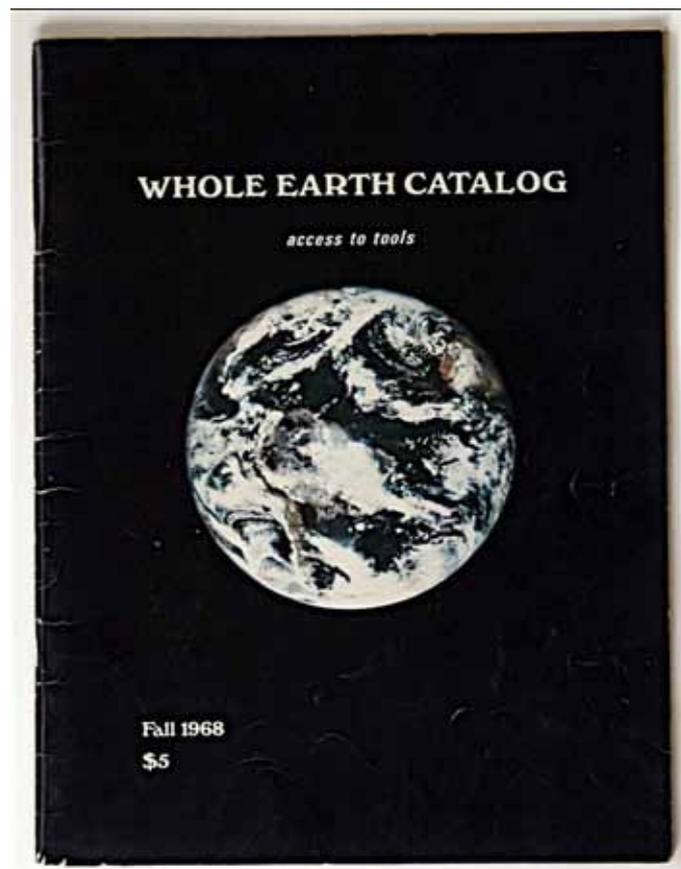

Fig 11. Whole Earth Catalog. Access to Tools, Fall 1968. Photo: Spatial Agency