



02. Contextualizing circularity in the architectural discourse

Green by Desire

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The industrial revolution, the use of coal to produce steam, and later the industrial drilling of petroleum, made seemingly endless amounts of energy available. Human labour for growing food, making things, or traveling was no longer needed. New industries produced goods speedily that would have taken humans a long time to make. Steam engines for trains, and later petroleum-fuelled cars connected cities and allowed elites to live in suburban settlements. But also led to the growth of slums in large cities.

Materials extracted in one part of the world started being shipped and consumed elsewhere creating major geopolitical shifts. Colonial realms contributed greatly to this. For example, oil drilled in South East Asia was exported to Europe in barrels. Transporting oil by tanker ships through the Suez Channel, shortened the trip extensively. These global exchanges created new environmental and social injustice, as some people achieved extraordinary fortunes and greatly disrupted 'green by need' practices.

Throughout the 1950s and 60s architectural design was driven by a strong belief in technology, but also in a seemingly unlimited supply of (almost) free energy and an unending availability of materials. Barely insulated houses, clad in asbestos, decorated with rare woods, and heated with petroleum became the norm. Monofunctional

suburban landscapes that relied on individual mobilities cemented energy-intensive usages into our built environment. They established new path dependencies that in turn cancelled the local character of traditional circular practices.

The energy crisis of 1973 and 1978 guided a (short-lived) realignment of architecture with the dictates of the environment. Select architects promoted a return to traditional building materials, and community building activities. A fine example of that school of thought is Arcology: Italian architect Paolo Soleri's construction of a dense model city in Arizona that conserves water, minimizes the use of energy and materials, and reduces waste and pollution. The early 1970's Counterculture Movement, or the New Communalist Movement, in the United States signaled an even more systematic attempt to lead people "to a more emotionally authentic and community-based way of life." Around this time, one of the pioneers of this movement, Stewart Brand, who most of you recognize as the author of the -by now famous- concept of shearing layers, began publishing the Whole Earth Catalogue, a guide for surviving communal living.

Images of the Earth from space that were taken from Apollo 8 in 1968 were featured on the magazine's cover inspiring explorations for self-sustained dwellings. Designers became fascinated



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by the notion of life in space, as an escape from industrial society. They sought to reconcile the natural and the technological realms and live like astronauts using self-sufficient adaptive space technologies. Terms like self-sufficiency, self-reliance and living-autonomy began to proliferate. Design and production of buildings as closed systems aimed at securing the cycling of matter, energy and data. Buckminster Fuller, one of the prominent figures of the time and a strong advocate for systems thinking, published a treatise in 1969 called “Operating Manual for Spaceship Earth.” In it, he argued that “we are all astronauts” aboard our spherical extraordinary spaceship earth. However, he added, people had been misusing it. It was finally time to see it as “an integrally-designed machine” that needs to be understood and serviced as a whole.

Despite their premise, none of these visions succeeded in establishing a new design ethics. The last decades have come to make us realize the scarcity of raw materials, and the environmental impact of waste that is not recycled, as a result of industrial production and consumption. Nevertheless, transitioning to a more sustainable way of living can’t just be done by a handful of people who desire to be green. So, how about turning “Green by Design?”