Clearings in a Concrete Jungle
Television documentary by the Street Farmers (Peter Crump, Bruce Haggart, and Grahame Caine), first aired 18 June 1973 on BBC 2 (BFI archives, British Film Institute, London)

Most revolutions start from the streets. The one, however, called for by the British anarchist, activist architectural group Street Farmers in their 1973 documentary *Clearings in a Concrete Jungle*, did not begin in the streets nor in public demonstration, but from the inner city: the interior of the urban fabric. To battle what the documentary diagnosed as the “highly structured detritus of metropolitan imagination,” the social and political revolution should start from the house and the way of inhabiting the land. The TV program envisioned a change of the city as a whole, achieved through tactical changes in small pieces— islands of habitation taken “off the grid” of energy supply.

The main theme of the documentary was one of the earliest ecological houses, the Eco-House, or Street Farmhouse, built in 1972 as a laboratory and living experiment by Grahame Caine, a member of the Street Farmers, which was originally formed by Peter Crump and Bruce Haggart. The Eco-House was a fully functional, integrated system that converted human waste to methane for cooking, as well as included a hydroponic greenhouse that produced radishes, tomatoes, and even bananas. Caine, then a twenty-six-year-old fourth-year student at the Architectural Association of London, designed and built the house on land borrowed from Thames Polytechnic in Eltham, South London, as part of his diploma thesis at the AA. He received a provisional two-year permit from the borough of Woolwich district surveyor with the promise to build an “inhabitable housing laboratory” that would grow vegetables out of household effluents and fertilize the land with reprocessed organic waste. With the help of the Street Farmers, Caine was able to start construction in September 1972, during his fifth year, and to inhabit the house by Christmas. After having lived in the house for two years with his family, he was asked to demolish it in 1975.

The neighbors were quite pleased with the destruction of the house. In the documentary we see them walking around the house’s site, disenchanted by its vision. For them, the Eco-House not only looked like a spaceship, it also functioned as one. In fact, they never referred to it as a house, referring to it as an “eyesore.” Built with a £2,000 donation from the chairman of the Architectural Association of London, Alvin Boyarski, and constructed from materials scavenged from the streets, in the suburban context of Eltham, the house bore a striking resemblance to a giant outhouse. As Haggart explains, when interviewed by TV anchor Melvyn Bragg, the Eco-House seemed uncanny from the beginning: “something that landed on the earth rather than growing out of it.”

For the Street Farmers, the Eco-House was a built manifesto that announced a radical urban reconstruction that would proceed by ripple effect from the reinvented domestic sphere to all the city’s fabric. With the promotional line in the London *Radio Times* in June 1973, “spring is here and the time is ripe for planting in the streets,” *Clearings in a Concrete Jungle* presented the process of building a house as a reactionary social practice that spoke of a new urban vision. As the Street Farmers explain to Bragg in the documentary, “we manifested ourselves in the house; we were locked in fury and that fury necessitated a
credible practice.” In many respects, the Eco-House articulated their anger in the form of the constructed reality of a house. It not only expressed a drastic reaction against the alienating authoritarian reality of inanimate gray blocks, it was also built on hard science.

Caine used NASAs terminology to describe the Eco-House as a fully regenerative “life support system.” His personal archive is replete with NASA papers for manned space missions, bioastronautics, and aviation medicine on the ecology of closed systems, and reports on the feasibility of NASAs living simulators, supported with formulae for water reclamation from urine. These essays addressed a readership of chemical engineers and microbiologists; Caine had to undertake exhaustive study to understand them and implement their findings. The Eco-House could not have existed without techniques such as electrodialysis, closed-cycle air evaporation, and vacuum compression distillation—in other words, substance reclamation from human waste products in weightless conditions. However, in the Eco-House, the ideological and political orientation of these technical systems was reversed. By manipulating biological cycles, the Eco-House was understood as an instrument of “co-operative liberation.” The underlying supposition was that by controlling biology and becoming independent from the forces of the state, we might repossess control of our social sphere and our interactions with the urban environment.

As Caine explains in the documentary, the exploitation of physiological data and the quantitative measurement of the environmental context provided new, emancipating, and realistic tools to resist the centralized control of the state. The Eco-House was an island within the institutionalized political arena of the city. This detachment from supply networks expressed a renunciation of the urban condition, which was portrayed as a catastrophic environment that restrained the imagination and the freedom of the individual. The abundant natural resources offered a substitute network to which the built environment could be attached, searing itself from the man-made manufactured network of energy distribution veins. In the documentary, the Street Farmers are shown pinning a label that proclaims “from here we grow” on the façade of the house. This phrase, excerpted from Murray Bookchin’s 1971 book Post-scarcity Anarchism, was announced as the Eco-House’s trademark. The house was the visual analog of a reconstructed political reality.

By the time the Eco-House was demolished it had received wide attention from the British press and architectural magazines, as well as considerable attention in the mass media. Besides being the main subject of the television documentary, it was extensively published in newspapers and magazines. Titles included “The House that Grows” and “A New Way of Living” in the London Garden News, “Living off the Sun in South London” in The Observer, and “A Revolutionary Structure” in Oz magazine. Although there was embracing coverage of his work by the press, and despite succeeding in the logistical and administrative struggle to acquire permission to use public land as an experimental facility, Caine failed his final examinations at the AA and never received his diploma as an architect. In his final presentation to the committee, he did not present any architectural drawings. Instead he discussed arrays of scientific diagrams and tables that detailed the performance of the Eco-House’s interconnected mechanical systems, as well as sketches of an alternative political reality. Caine perceived his scientific work as a crusade for the individual political liberation, but the RIBA jury could not forgive his neglect of an “architectural middle ground” and conventional representation formats. In 2008, when Caine was asked to recall this episode, he was comically apathetic about his failure to earn the certified title of an architect. “This was normal at the time. They could give you funding for a project they believed in, but they could not risk giving a degree to someone like me, interested more in biology than in drawings. Honestly though, it did not matter to me. I was convinced at that point that architecture is immoral.” Even though Caine failed his AA thesis exams, he was hired by the AA as an instructor the day after his presentation.

The story of the Eco-House in South London, as outlined in Clearings in a Concrete Jungle, raises a significant disciplinary paradox. It was an experimental laboratory sponsored by the Environmental Council of London and a house that compelled public imagination in the media, raising hopes for an alternative, sustainable occupation of the urban sphere. At the same time, it was rejected and notoriously criticized by the architectural community for its lack of reference to core disciplinary conventions: form, proportions, and spatial syntax. Yet, Alvin Boyarski and Martin Pawley at the AA recognized this critical moment of disciplinary outreach, thinking of the Eco-House as a tool for social reform propelled by scientific investigations; they supported Caine in his unorthodox habitation experiments and allowed him to further his research in the academic framework of the school.

But the real research space was the house itself. Snapshots of Caine’s life in the Eco-House appear in Clearings in a Concrete Jungle (Figure 1). In several frames, we see him experimenting with his waste, cooking, using water, and monitoring closely every activity of daily practice until the day the house was demolished in 1975. As Caine explains to TV anchor Bragg, he used himself and his family as guinea pigs in order to test the functioning of several components in the house. Caine was undoubtedly the steward of the building; he alone knew how to feed it with the right nutrients—how to chop wood, grow plants, supply the engines, and water the greenhouse. The architect was an indispensable, biological part of the house, and he portrayed himself as a combustion engine for generating electricity, connected to the house in a diagram where excretion becomes a vital constituent of the system’s sustenance. In many respects, the house was more grown than constructed. It needed care from its caretaker and without human presence its living biotechnical systems would degenerate and die. Caine rarely left the house. Everyday housekeeping habits affected the health of the Eco-House and vice versa, as if in an interlinked biological pattern.

The fragile bond between occupant and shelter—as enveloping environmental
enclosure—denoted an intensive preoccupation with the physiology of inhabitation. Detailed instructions for daily housekeeping were considered by Caine as a remedy and a regulating mechanism for the health of the Eco-House, as well as his own fitness. In many respects, housekeeping was a curing practice for Caine. Nevertheless, daily housekeeping regulations were unrelated to cleanliness and hygiene. Caine was intensely preoccupied with the physiological footprint of his inhabitation and developed an obsession with managing, retaining, and reorganizing his excrement. In the documentary, he shows to the audience the bathroom commode, which he manufactured after measuring himself and his partner. Inspired by the diagrams in Alexander Kira’s 1966 book The Bathroom, Caine did a series of studies on the human digestive system and the interface between defecation and anatomy. Based on his experiments, he drew a close-up of routine defecation, documenting the location of liquid drops. Caine reported, “I did several small-scale experiments, defecating in buckets. It was awful; I don’t want to go into details. I mixed feces with liquids in different solid to liquid ratios. If they were too liquid, they produced no gas.”

Describing the Eco-House as a life-support system and sarcastically alluding to the architect’s confounded identity, Caine argued that now the architect could better relate to his own shit. Aside from its humor, his statement makes it clear that mastering the process of defecation was vital to the systemic independence of the house. Caine was tied to his house as by an umbilical cord. The output of his body was used in the power generation for the house. Like plants and other animals, man becomes a requisite part of the overall cycle of organic matter. To create a successful energy cycle, Caine thoroughly studied the physiological cycles of humans, other organisms, and machines. At one point in the documentary, he is shown designing the house on a drawing table; however, immediately afterward he tells Bragg that numbers, statistics, numeric calculations, and the logistics of ingestion and excretion are the key components of his research. Architectural drawings were of some value, but what mattered most for building the Eco-House was the thorough examination of the architect’s internal biology.
A comparison of the Street Farmers’ political assertions, as outlined in *Clearings in a Concrete Jungle*, and the premises of NASA’s space probes shows that the same cybernetic prescriptions of a system have migrated from the military complex to a countercultural political theory. On the one hand, NASA’s scenario for self-sufficiency is based on technological supremacy and the aspiration to conquer a new frontier with an underlying colonial modality. On the other hand, the equipped interior of the Eco-House is envisioned as a platform for political autonomy, enabling withdrawal from society and the state’s organizational infrastructure. NASA’s space probe and the Eco-House represent two very different political realities and existential problems, based on the same strategy for self-reliance (Figure 2).

*Clearings in a Concrete Jungle* presents independence from the grid of supplies as fundamental for ecological design. The earth is viewed as a closed system, and the ideal household system would also be closed—and thereby immune from material loss—by recycling its waste and providing its own energy. Recycling promised to regenerate materials perpetually and feed all leftover substances back into cycles of production, creating a new world that was a complete whole.

This view of the world is philosophically problematic, in its claims about a natural cosmic order, and also technologically unviable. The vast majority of regenerative systems and recirculatory houses, the Eco-House included, have failed to function autonomously. Recycling systems are extremely fragile and likely to exhibit unpredictable behavior, such as the production of substances that cannot be dealt with by the system. In the aftermath of the TV documentary, Robin Middleton, then technical editor of *Architectural Design* magazine and a colleague of Caine’s at the AA, reported that the Eco-House had derailed from its normative cycle and destroyed itself. He recalled, “Caine had a family emergency and needed to leave England for a few weeks. He trained his favorite AA student to take care of the house while he was gone. In the meantime, the student who stayed at the house got the flu and the doctors gave him antibiotics. The antibiotics came through the system in his ‘crap’ and the crap was part of the whole recycling system. The whole system was eventually destroyed. It was amazing!” Middleton said, “The antibiotics killed the house!”

Independent of the success or failure of the Eco-House as a technical system, the real question is the relationship between biological and environmental processes on the one hand and the domestic realm and the practice of everyday life on the other. In postwar ecological design theories, recycling became more than a technical task; it was a psychosocial position. Organic matter does not cease to exist; waste is not wasted; instead it changes state. Recycling is not just about the creation of new materials from old, but also about the migration of properties from one substance to another through all the stages of a productive cycle.

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Notes
7. Alexander Kira, The Bathroom (Ithaca, N.Y.: Center for Housing and Environmental Studies, Cornell University, 1966). Created by the Center for Housing and Environmental Studies at Cornell University, in collaboration with Cornell’s Aeronautical Laboratory, in order to optimize urination and defecation for manned space missions.