

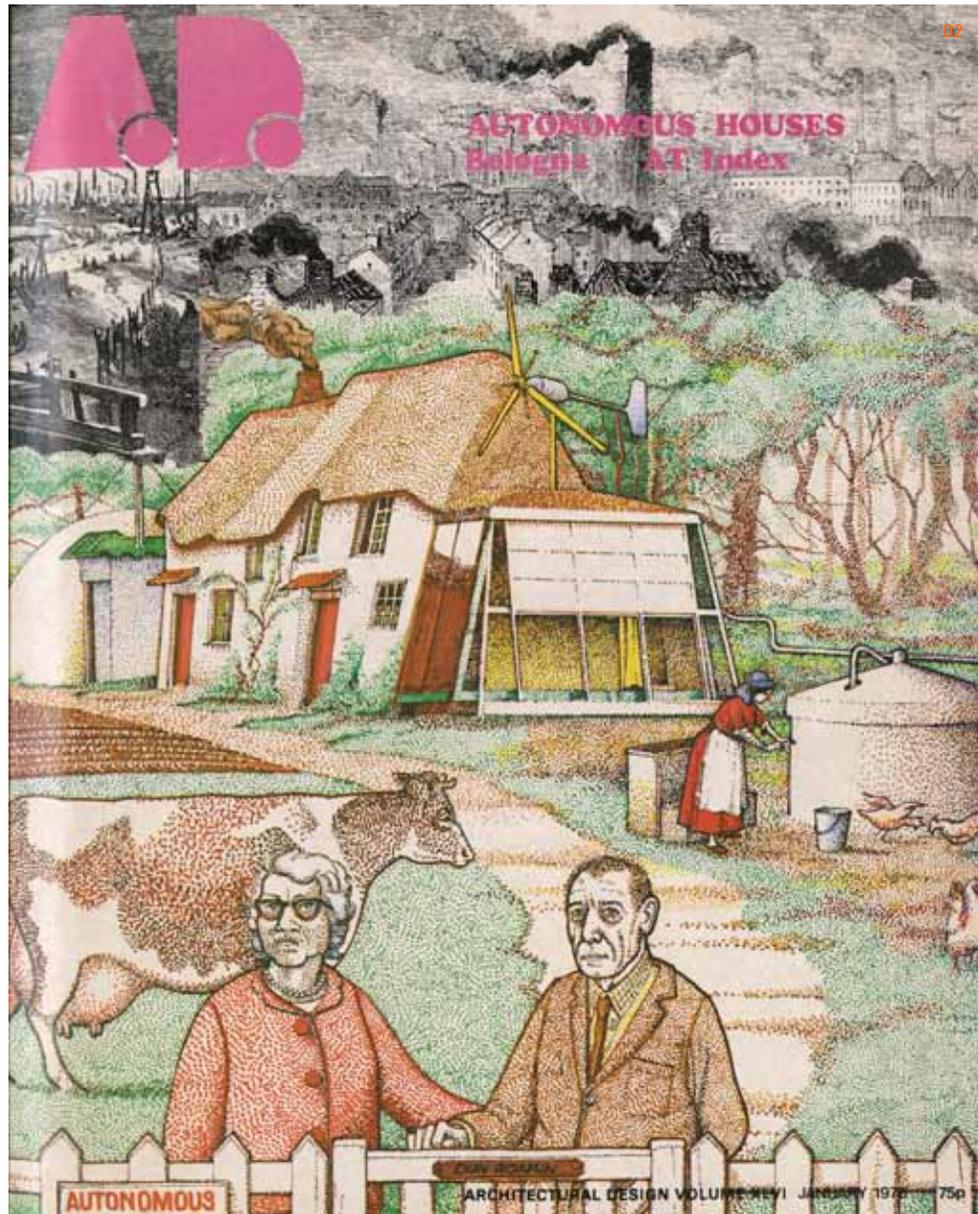
## The word 'autonomy' has a twisted history in architectural production.

It is most often associated with Peter Eisenman – founder of the Institute for Architecture and Urban Studies in the 1960s and editor of its journal, *Oppositions* – who has consistently argued for an inner logic exclusive to architectural thought; a logic so tightly insular that it cannot migrate to other disciplines or applications. According to Michael Hays, Eisenman developed a post-humanist paradigm founded on the antihumanist theories of Michel Foucault and Claude Levi-Strauss.<sup>1</sup> This intellectual legacy helped Eisenman to conceive of a kind of autonomy in which, in Hays's words, 'authorship can resist the authority of culture, stand against the generality of habit and the particularity of nostalgic memory, and still have a very precise intention'.<sup>2</sup>

While autonomy was interrogated as an ideational vehicle to fortify the boundaries of disciplinary fields, it was also, during the 1970s, used to popularise an ecological and libertarian way of living and acting and to herald 'autonomy' from the grid of urban supplies. In *Architectural Design's* January 1976 issue, entitled

1 – See K. Michael Hays, "The Oppositions of Autonomy and History," in K. Michael Hays (ed.), *Oppositions Reader: Selected Readings from a Journal for Ideas and Criticism in Architecture, 1973-1984* (New York: Princeton Architectural Press, 1998), p.x.

2 – K. Michael Hays, "Critical Architecture: Between Culture and Form," in *Perspecta* Vol. 21 (1984), p.27.



01 Cover of *Architectural Design* (AD), January 1976, on 'Autonomous Houses'. The cover was drawn in ink by Clifford Harper, a British underground illustrator who contributed to *Undercurrents* magazine and *Radical Technology*.

'Autonomous Houses' and edited by Martin Spring and Haig Beck, 'autonomy' not only harkened back to a grass-roots mentality and a pastoral iconography,<sup>3</sup> but also implied an existential separation of the individual from the urban fabric and ultimately from the social sphere (fig. 1). Following the oil crisis and a decade of environmental debates, the terms 'self-sufficiency', 'self-reliance', 'life-support' and 'living autonomy' became part of a pervasive lexicon describing alternative technologies that continue to preoccupy the British avant-garde. The biological definition of autonomy refers to a system's organic independence and self-governance. Transferred to the domestic realm of architecture, this concept was used to advance the idea of the house as a closed system, un-rooted from an urban context. The self-sufficient, autonomous house was like a restored Garden of Eden and a real-time habitation experiment where architecture, systems theory and human biology could blend in the hope of radical social reform.

These positions represented two entirely different, but parallel threads of autonomy in architecture culture throughout the 1970s. On the one hand, the countercultural environmental movement equated autonomy with organic self-sufficiency and presaged the emancipation of the individual from authoritative state mechanisms. On the other hand, for the Institute for Architecture and Urban Studies, autonomy heralded the emancipation of the discipline itself, by excluding the human from architectural thought and production.

It is precisely in the wake of this ideological battle that an expanded history of architectural autonomy can be written. Autonomy should be seen as a type of operational closure or detachment from context, whether this detachment is defined as the liberation of the individual from authoritative state

3 — See 'Cooperative Autonomies', notes by the editors Martin Spring and Haig Beck, in the contents page of *Architectural Design* Vol. XLVI (Jan. 1976). See also Peter Harper and Godfrey Boyle (eds.), *Radical Technology* (New York: Pantheon Books, A Division of Random House, 1976).

mechanisms, or as the liberation of the discipline from questions of culture, politics and history.

On the one hand, the title *Autonomy & Autodigestion* suggests that these two ideals of emancipation reflect a stagnant idea of utopia in reinventing the world from scratch by demarcating the borders of disciplines and territories. If the planet is now becoming one city by means of increasing urbanisation, and if the discipline of architecture is increasingly fused with biology, policy, fabrication, ecology and governance (among other fields), we could rightfully ask: autonomy from what and from whom? As Manfredo Tafuri argued in the 1970s, there are no more utopias in the era of late capitalism.<sup>4</sup> Any idea of utopia ends up eating its own roots, as suggested by the word 'autodigestion'.<sup>5</sup> But on the other hand, it is precisely this investment in the realm of impossibility, of redefining the reality of our built world and our disciplinary territories, which allows architecture and the city to reconstitute themselves.

The next question becomes: is *Autonomy & Autodigestion* a radical form of urbanism?

This exhibition answers an emphatic 'Yes.' Indeed, *Autonomy & Autodigestion* might be the last vestige of a radical form of urbanism and of disciplinary production: that is, to take a position and its opposite and examine them exhaustively, reciprocally, until either there is nothing left or something new comes out. The spectre of Western thought, 'all things in moderation,' originating from ancient Greek philosophy (πᾶν μέτρον ἄριστον), might no longer be applicable to a world defined by the seeming excess of a singularly urbanised planet. As Joyce Hsiang and Bimal Mendis write, 'No part of the world remains unaffected by the cumulative impact of human activity.'

4 — Manfredo Tafuri, *Architecture and Utopia: Design and Capitalist Development*, trans. Barbara Luigia La Penta (Cambridge, Mass: MIT Press, 1976).

5 — The word 'auto-digestion', otherwise stated as 'self-digestion' or 'autolysis', describes a process whereby the stomach's pancreatic enzymes destroy its own tissue; in other words, it is a pathological digestive process where the stomach eats its borders by receiving the wrong signals. In John Hopkins Medicine Library online, see [http://www.hopkinsmedicine.org/healthlibrary/conditions/endocrinology/pancreatitis\\_85,P00681/](http://www.hopkinsmedicine.org/healthlibrary/conditions/endocrinology/pancreatitis_85,P00681/) (accessed November 4, 2015).



02 **Sphere of the Unknown—The urban envelope from the depths of the ocean to outer space.**  
Courtesy Plan B Architecture & Urbanism, Joyce Hsiang and Bimal Mendis. Exhibited in 'City of 7 Billion: A Constructed World'.

Through complex processes of exploration, habitation, cultivation, transportation, consumption, and surveillance, the world has become completely interconnected'.<sup>6</sup> And it is in this interconnected world that we can invent new worlds as well as create new forms of space and urbanization, which might enable us to effect change (fig. 2).

*Autonomy & Autodigestion* posits citizenship as an active agent to reclaim the city, to address growing inequality created by climbing real estate values, and to use creative ingenuity to mark new territories; in the use of local resources, in seizing, squatting, communizing and taking ownership of urban space. The bottom-

6 — Joyce Hsiang and Bimal Mendis, curatorial statement for the exhibition, *City of 7 Billion: A Constructed World*, at the Yale School of Architecture (Sept. 3–Nov. 14, 2015).

up nature of the projects and the empowerment of local voices through the formation of federations speak to a quiet and slow upheaval against the masterplan, the urban grid and the distribution of power through authoritative networks; they speak of a social insurgency against the city plan as an authoritative control mechanism over cities, bodies, ecologies and atmospheres.

Beyond taking up questions of inequality and social justice, *Autonomy & Autodigestion* proposes a radical space, and a radical urban formation. It speaks of a city emerging from within the very fabric of the grid, an alternative localised organisation: a seed, a juncture, a focal point, rising from the roots or the *radix* (as the etymology the word 'radical' suggests) of the city's texture, from the inner workings of the city itself. This new formation is neither a central, decentralised, nor networked grid superimposed on the city's form. It is rather a spatial federation, a byproduct of urban processes and daily practices. It questions the structure of our urban fabric and thus our social fabric, as well as the spatial distribution of power in the urban sphere.

As argued by Paul Baran's 1964 paper, 'On Distributed Communications Networks', a distributed communication network – as distinct from a centralised or decentralised network – offers greater flexibility and the possibility of partial operation in cases of shutdowns from the main supply network (fig. 3).<sup>7</sup> Similar principles apply to other types of urban supply networks. Revisiting Baran's paper, Stijn Peeters argues that there is yet another network model to consider: the federated network.<sup>8</sup> The word itself hints at similarities with the political concept of a federation, where users may potentially become members of a coalition and act coherently as a group. An urban block micro-grid, partially

7 — Baran, Paul. "On Distributed Communications Networks." *Communications Systems, IEEE Transactions on* 12.1 (1964), pp. 1–9.

8 — Stijn Peeters, "Beyond distributed and decentralised: What is a federated network?" *Unlike Us #3, Social Media: Design or Decline* in <http://networkcultures.org/wpmu/unlikeus/resources/articles/what-is-a-federated-network/>, accessed April 27, 2014.

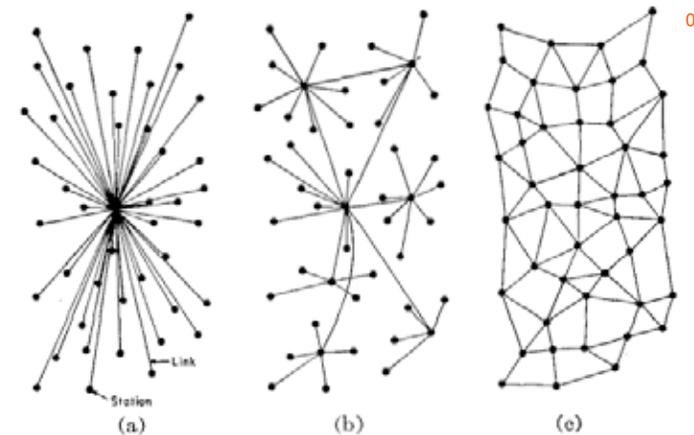
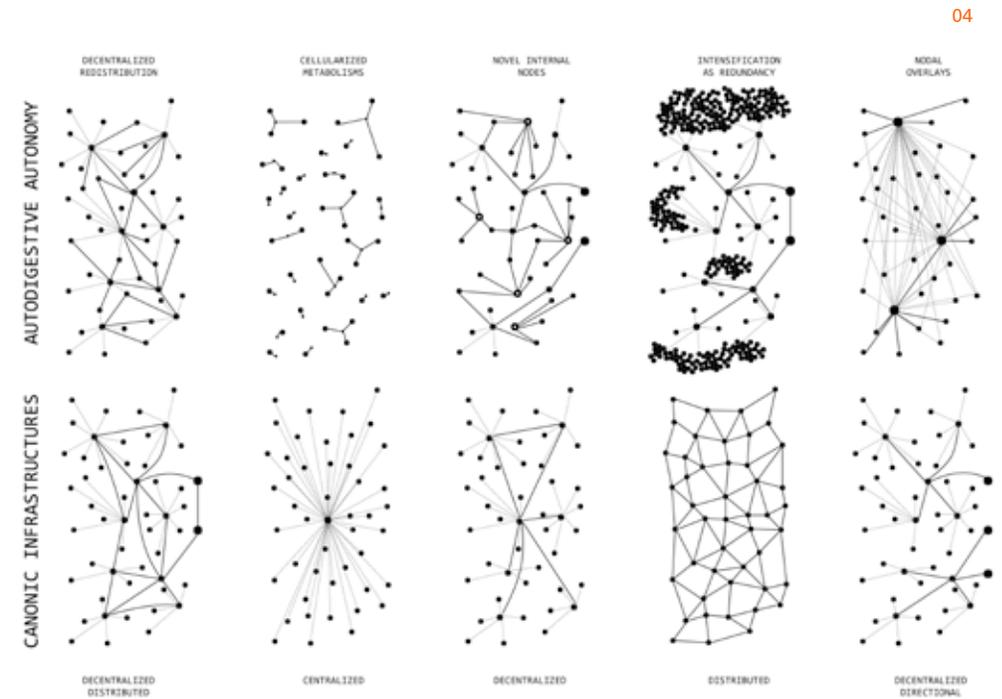


Fig. 1—(a) Centralized. (b) Decentralized. (c) Distributed networks.

03



04

03 Illustration from Paul Baran, 'On Distributed Communication Networks', 1962.

04 Diagram for alternative micro-grid urban organisations, Meg Studer, 2015.

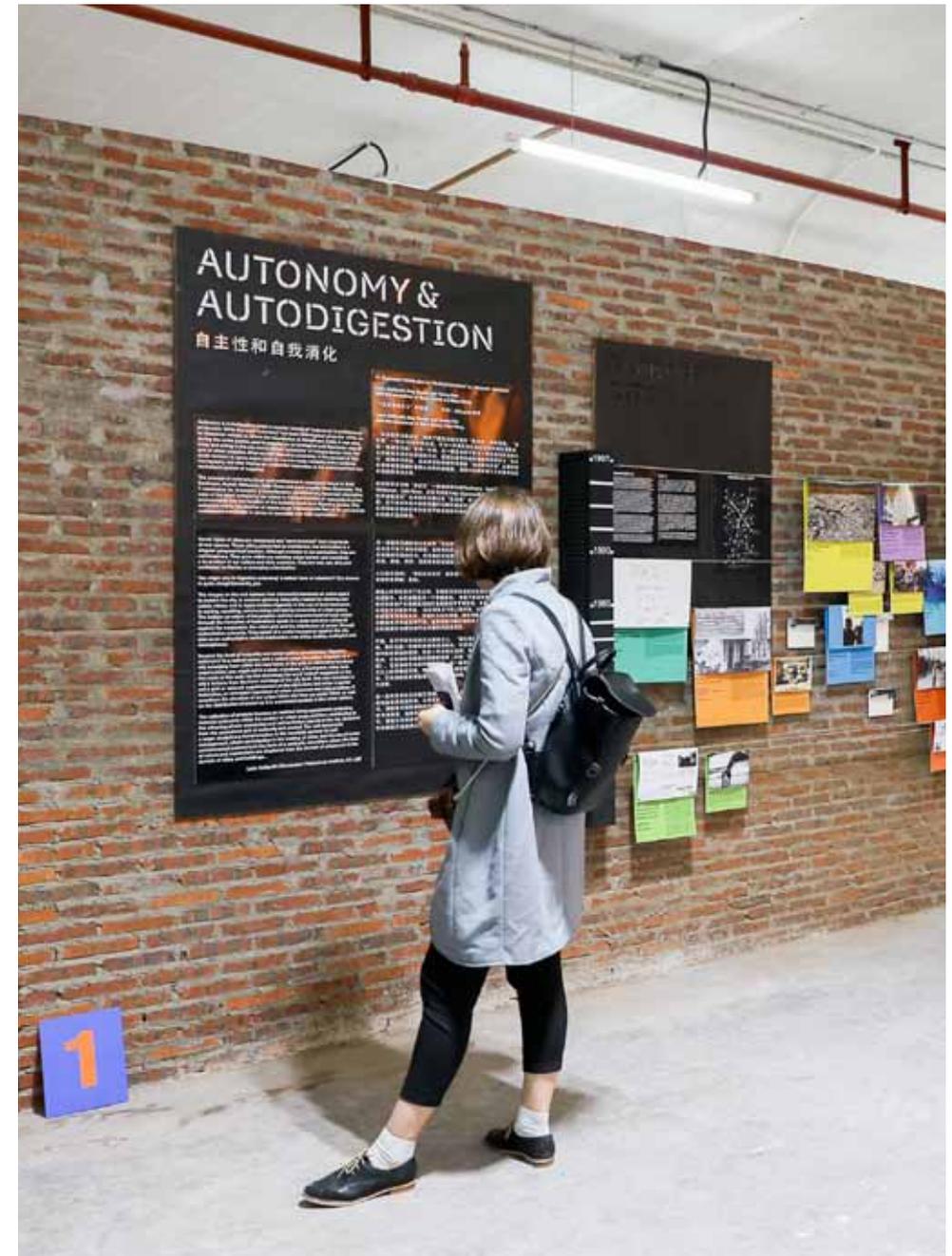
powered by resident activities, constitutes an example of a federated network. A micro-grid displays a collective and a communal initiative to organise the distribution of energy, and thus a measure of civic power, at a local level. It is an attempt to change the city from within, by growing the seeds of alternative organisations and spaces inside it, and by defying and hence redefining the grid of centralised control (fig. 4). Within the premises of a defined urban territory, a radical form of urbanism might be one that enables civic federation, or one that enables residents to become community stakeholders by providing them with tools to act coherently as a group and to develop infrastructural mechanisms.

Therefore, *Autonomy & Autodigestion* marks the demise of the city, of nature and of citizenship as indeterminate fields of their own, and subsequently proposes their translation in terms of resources and their exploitation in a continuous cycle. It speaks of the formation of new economies and self-sufficient islands in the city, detached from the centralised grid of authority and control. The autonomous worlds in such propositions document a larger disciplinary transformation in the late twentieth century toward self-management, citizen participation in the making of cities, and a new form of a synthetic naturalism that displaces the laws of nature and metabolism from the domain of wilderness to the domain of urban space. Now it is possible for anyone or anything to emerge as a potential builder of urban infrastructure. New cities are growing within cities.

**Exhibition and Project Credits:**

Lydia Kallipoliti, Meg Studer, Kyong Kim with the assistance of Royd Zhang and Ellen Wong

Lydia Kallipoliti, PhD, is an Assistant Professor of Architecture at Rensselaer Polytechnic Institute. Trained as an architect and engineer, she is Principal of EcoRedux research network and ANAcycle design+writing studio.





## GARBAGE CITY MANIFESTO #1

*Garbage City* is a phantom city; one that we cannot see or do not wish to see. First, *Garbage City* grows out of the metropolis and exists as a secondary invisible layer enmeshed in the urban fabric. Second, *Garbage City* is an unintentional city that sprawls on the cheap land surrounding developing capitals and is informally built up from masses of obsolete materials. *Garbage City*, however, is not a fiction. It is the byproduct of a city that grows without control and beyond our sight. It encroaches through the urban fabric to the blank lands surrounding cities; it invades the water and even the air we breathe.

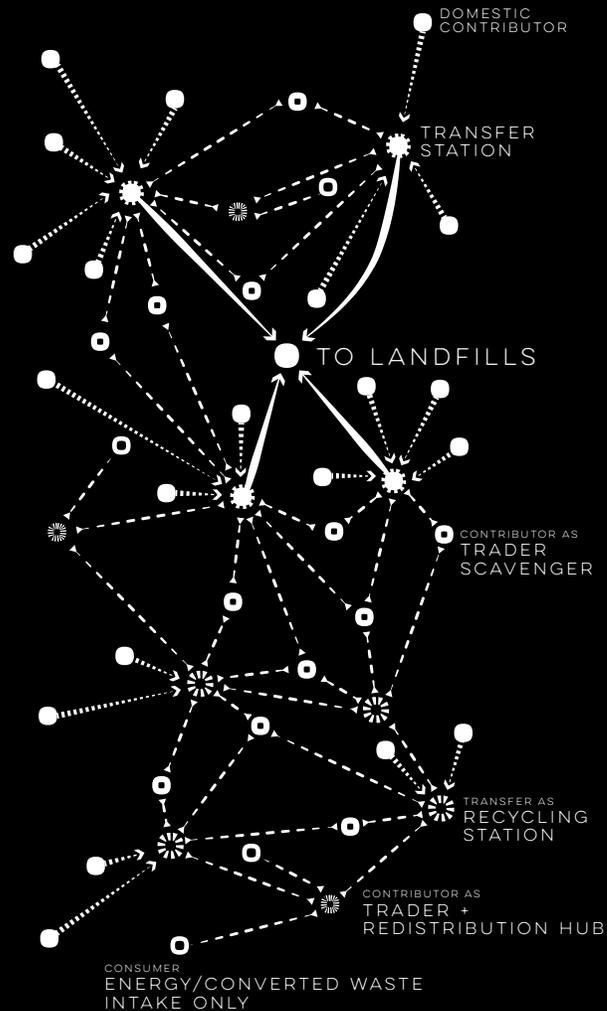
The term 'garbage housing' was adopted in the late 1960s by the British pioneer of 'garbage architecture' Martin Pawley. Pawley translated the laws of nature and metabolism, in a logistical and operative statistical game, by suggesting the immediate reuse of the leftover materials from global consumption. Perceiving buildings as an interface of global resources, Pawley proposed that consumer byproducts be fed back into the loop of production as new building materials. With his various writings on garbage architecture, Pawley merged two predicaments of the time, the housing crisis and excessive waste flows, hoping to salvage two crises by feeding one into the other. His aspiration

**Lydia Kallipoliti  
and Meg Studer**

# GARBAGE CITY

TRADITIONAL

REWORKED, RECYCLED



was that by-products of urban environments might be recycled just as natural systems recycle their wastes. Pawley conceived Garbage Housing to confront a vast and urgent social problem, namely the solid waste crisis, for which the US National Academy of Science called for solutions by 1966.

In recent decades, garbage is no longer an issue that relates solely to quantity. It now also relates to the intricacy of the waste matter and its material composition. Electronic waste, known as e-waste, is the largest growing sector of waste in the world. Electronics recycling has become an excruciating task that requires a new type of intensive manual labour reportedly exported to Asian slums and prison houses. The process of purging indestructible waste has given rise to 'para-economies' on a global scale. Heaps of accumulated obsolete matter are exported out of western metropolises and re-lived by a population charged to convert waste into capital. Recycling waste to money is as much a subject of theoretical analysis as a factual constituent of capitalist production. Waste needs to go away; and this very process of purging, transporting and carrying into oblivion all that is worthless is utterly profitable.

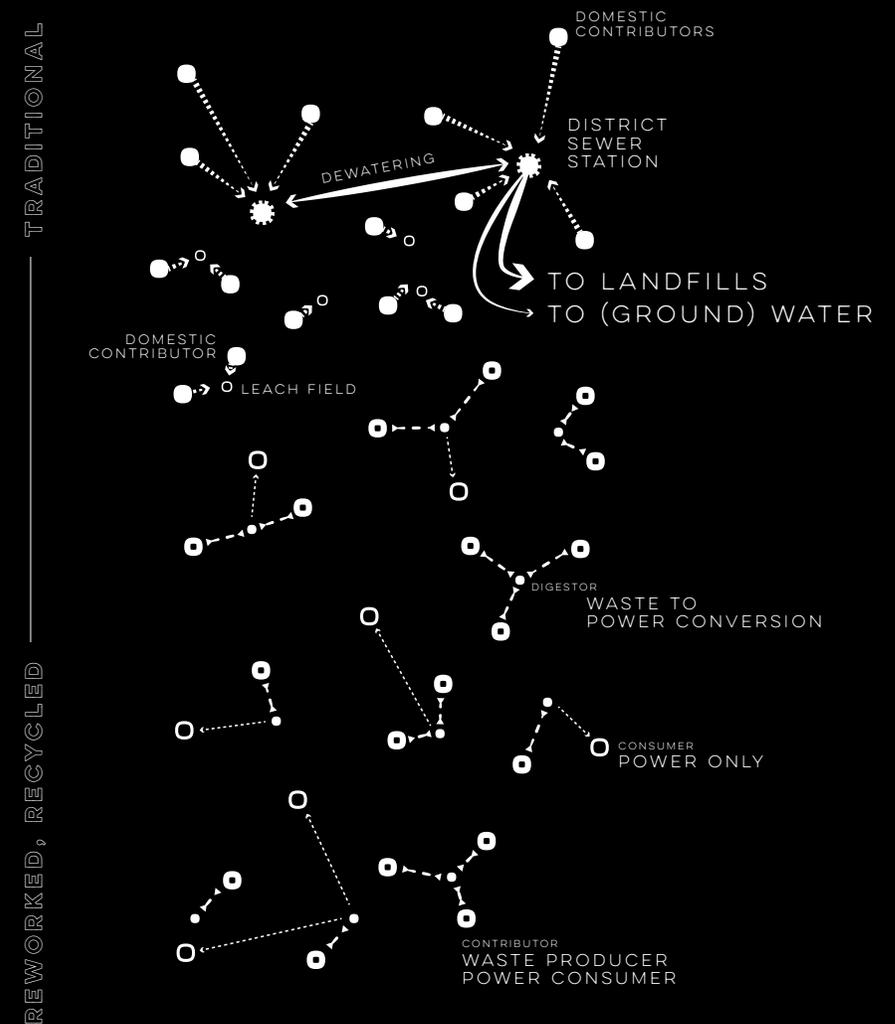
Similarly, the Great Pacific Gyre in the North Pacific Ocean is a by-product of social reality. Wasted fragmented materials coagulate and manifest as islands, cohering from a soup of waste to cell-like locales, places that exist beyond our perception of urban daily life. These emergent *Garbage Cities* now force us to delve deeper into the geochemical affinities between capital and excrement.

# MICROBIAL CITY MANIFESTO #2

Most revolutions start from the streets. However, the one called for in Microbial City does not begin in the streets nor in public demonstrations, but from the inner city: the domestic interior of the urban fabric. To battle the highly structured detritus of metropolitan imagination, a radical urban practice can start from the house and the way of inhabiting the land. *Microbial City* suggests that we may effect change in the city as a whole, through tactical changes in small pieces – islands of habitation taken ‘off the grid’ of energy supply.

In the late 1960s and early 1970s, amidst debates over pollution, the overpopulation of the earth, global catastrophe and the social role of science and technology, tinkering with biology – or managing the living matter of humans, animals and plants – was examined as an alternative and radical model of urbanisation. At the time, political radicals learned how to milk a cow rather than how to fire a gun. The cow’s excrement could be used as an engine, in order to produce methane. Essentially the cow was a tool that would enable the city’s resident to detach from the grid of energy supplies and the authoritative mechanisms of the state. At the time, biotechnical research brought close two fields that had been considered disjunctive: high technology, in the form of

## MICROBIAL ENERGY CITY



microbial management and material conversion; with rural life, in the form of living in proximity with nature.

The Ecological House built by the Street Farmers in 1972 was not only a house, but also a manifesto. Through the recirculation of all resources, it announced a radical urban reconstruction that would proceed by ripple effect from the domestic sphere to all the city's fabric. The process of building a house was in many respects a reactionary social practice that spoke of a new urban vision, reconstructing the city from the inside little by little. Thirty years later, this type of research by group of radical leftist urban provocateurs, has been taken up anew by the Philips Corporation to produce an experimental probe for a domestic ecosystem that challenges conventional design solutions to energy, cleaning, food preservation, lighting and human waste. If our world is at present in a state of disturbed equilibrium, the planning of sustainable cities and environments may in fact dwell in biological processes, which are less energy-consuming and non-polluting.

## DEGROWTH CITY MANIFESTO #3

*Degrowth City* is the physical counterpart of capitalism's decline in the late twentieth century. It is the city's periphery, niche, obsolescence, decay and abandonment; it is the leftover urban space that no longer serves any purpose and lies lifeless like a carcass. As Julia Czerniak has pointed out, *Degrowth City* is 'formerly urban'. It is a city of past glory whose urban character has devolved radically due to economic, demographic and physical change.

*Degrowth City* is the materialised junkspace of the defunct idea for unstoppable progress and economic growth. It is the sum of urbanisation that we do not know what to do with. When faced with the urgency to revitalise *Degrowth City*, the architect and the urbanist are confronted with anxiety and melancholy. A sense of emptiness follows the realisation that the empire to which we have laid all hope is nothing but a powder of formless ruins and we are only left with fossils of a past that cannot be reassembled.

To deal with such conditions of de-urbanisation and urban wilderness, we might need to consider practices of removal, demolition and destruction. The subtraction of buildings is as important as the making of buildings, yet it is an unexplored and unwanted field of inquiry and practice. In uninhabited rust-belt areas, abandoned buildings often become toxic and harmful;

# DEGROWTH CITY

TRADITIONAL

REWORKED, RECYCLED



they are literally a source of pollution, even after they cease to consume energy. Could we learn how to destroy them instrumentally little by little? Could we conceive other forms of occupation with non-humans to further the use of these sites and prevent their demise?

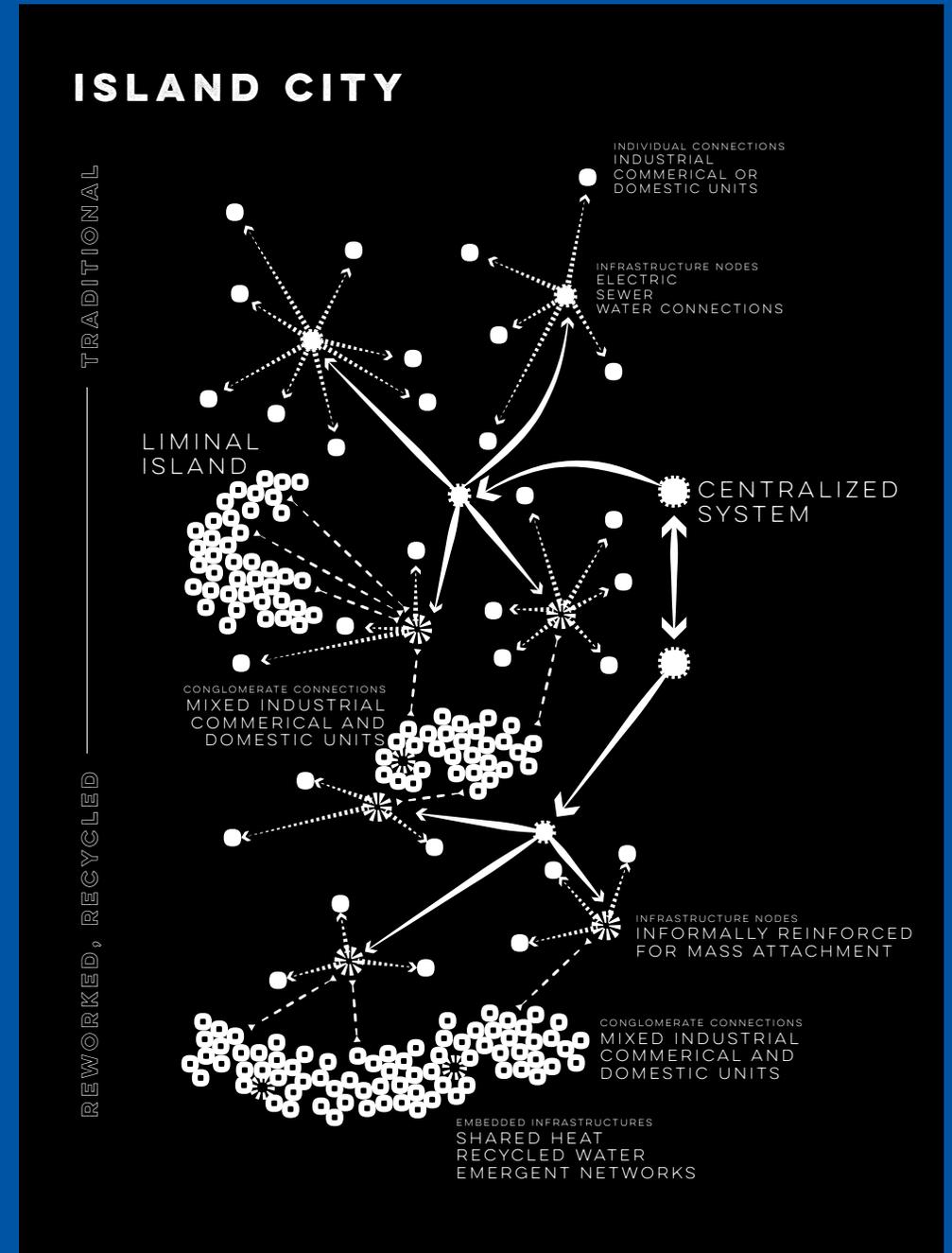
In the 1970s, several years before Detroit's urban blight and the emergence of the term 'rustbelt', the Street Farmers suggested planting the streets of London and releasing cows as a practice of radical urbanism against the authoritative mechanisms of the state. Orchestrating destruction was a creative act for the group that explored the aesthetics of erasure and unbuilding. At the same time, the Italian Radicals announced an urbanism of 'counter-design', with Allesandro Mendini's King Kong, defying the city and the city's plan. They proposed a vast unbuilt grid, with pieces of nature, animals and plug-in ports to power-up and create immaterial environments. Today, along these lines, the economic theory of 'degrowth' questions the limits of growth and the idea of linear progress imposed in all aspects of production and daily life through the channels of capitalism. To persevere on a course of growth as we have known it only serves the growth of capital itself, rather than the making of cities of urban environments.

As Ursula Le Guin recently pointed out, the power of capitalism seems inescapable. So did the divine right of kings. Power, nevertheless, can be resisted and changed by humans. Resistance and change often begins with art and imagination, and this is where architecture and urbanism come in.

# ISLAND CITY MANIFESTO #4

*Island City* is an independent enclave growing within the city; it is internally governed and detached from the grid of urban supplies. We can describe this island as a microcosm of the city as a whole, a microcosm, nevertheless, administered on a different set of laws, rules and systems of thought and production. For *Island City*, blockage and seclusion from the surroundings is critical to its identity. The territorial demarcation of boundaries enables material and spatial organisations that would not have been probable in the open field.

William Golding's *Lord of the Flies* (1954), lucidly pictures how a closed system – whether it is a territory, an ecosystem or a social system – produces its own output and regenerates it as input, and starts to behave unpredictably, derailing from the system's original goals. In the novel, a group of young people are cast away on an island, but their situation parallels that of people enclosed in walled cities, like the former City of Kowloon. Walled communities are social experiments as well as spatial experiments; they are new worlds within which elements, materials, people, information and behaviours need to be packed and reorganised in new ways.

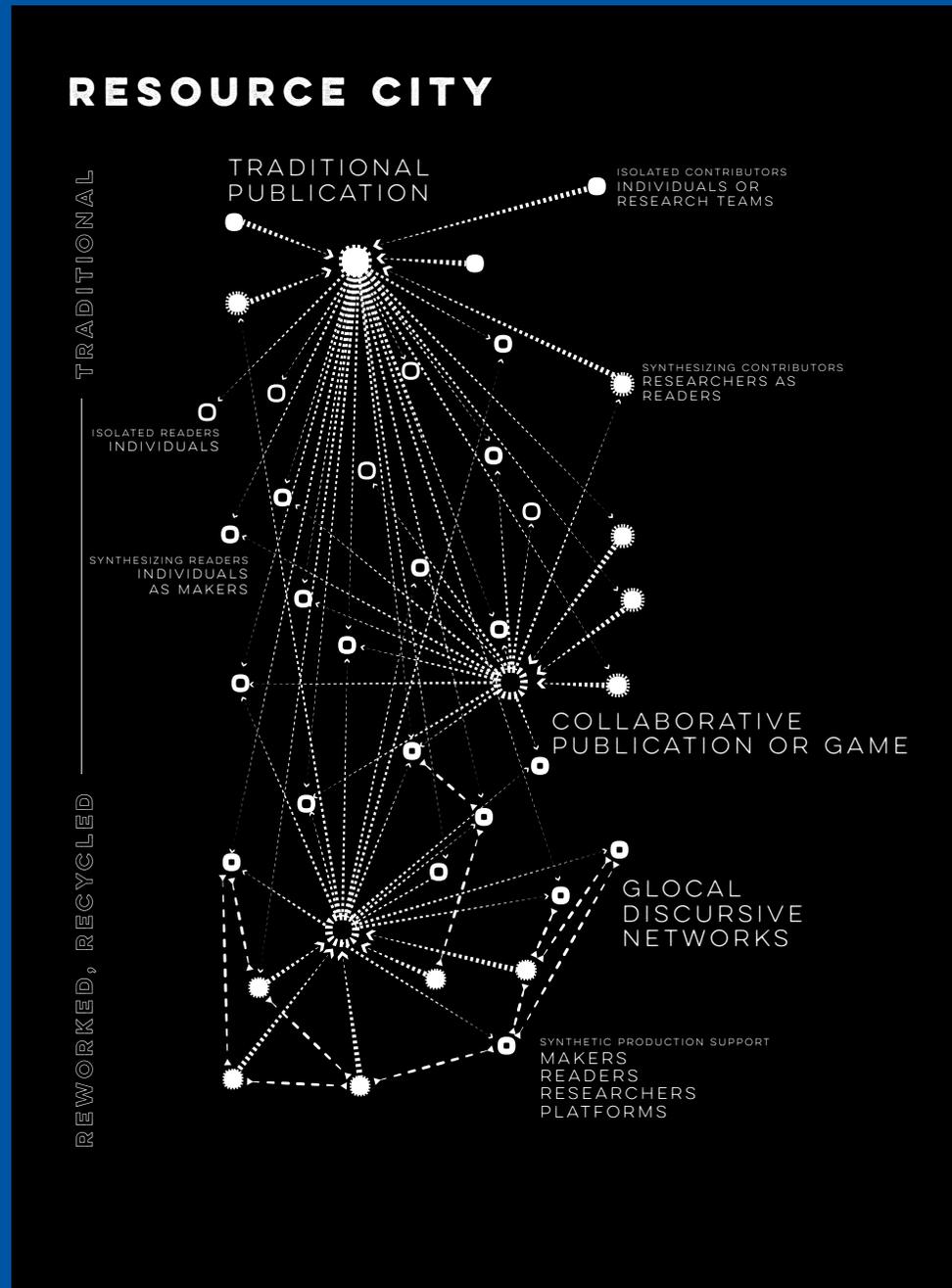


*Island City* is established without permission, without any authorised planning or design process; it is the self-constructed and autonomous space of its dwellers. As such, it is heterogeneous and unique, often associated with chaos, poor infrastructure and crime. *Island City*, however, does not mean disorder. In *Island City*, the condition of blockage enables the production of spaces by using what is available on the spot. Blockage becomes peculiarly productive, as it induces an unforeseen development of material constitutions within the island; the living laboratory.

## RESOURCE CITY MANIFESTO #5

*Resource City* starts with the disclosure of NASA's Earthrise image to the public in 1968, which constituted a profound rupture in human imagination. Previously unknown outside of fictional constructions of cartographic imagination, the reality of the Earth seen from space was captured by the astronauts aboard Apollo 8. It revealed the anatomy of the planet and suggested an external limit to human evolutionary expansion. Earthrise had a profound impact in our understanding of the planet as one body, a unitary interconnected system with finite resources, which needs to be managed. Stewart Brand's *Whole Earth Catalog* (1968-72), published the image of the earth to announce a new mindset: 'access to tools'. The logistics of global resources, information management and classification of goods were no longer just analytical tools, but also propositional tools; logistics and statistics helped to document and therefore reconstruct the world in a different order.

Buckminster Fuller, John McHale, and Ian McHarg played a seminal role in formulating this discourse, explaining ecosystems with parallels between the earth and human processes. A physiological diagnosis of planetary resources was precisely the agenda of Fuller's 'World Design Science Decade' series



of the 1960s, which took cognitive analytical form in McHale's *The Ecological Context* (1970). Through systemic management of resources, the totality of the earth could or should serve as a stage of concerted planning and action, giving rise to a new empire of balanced conservation and consumption.

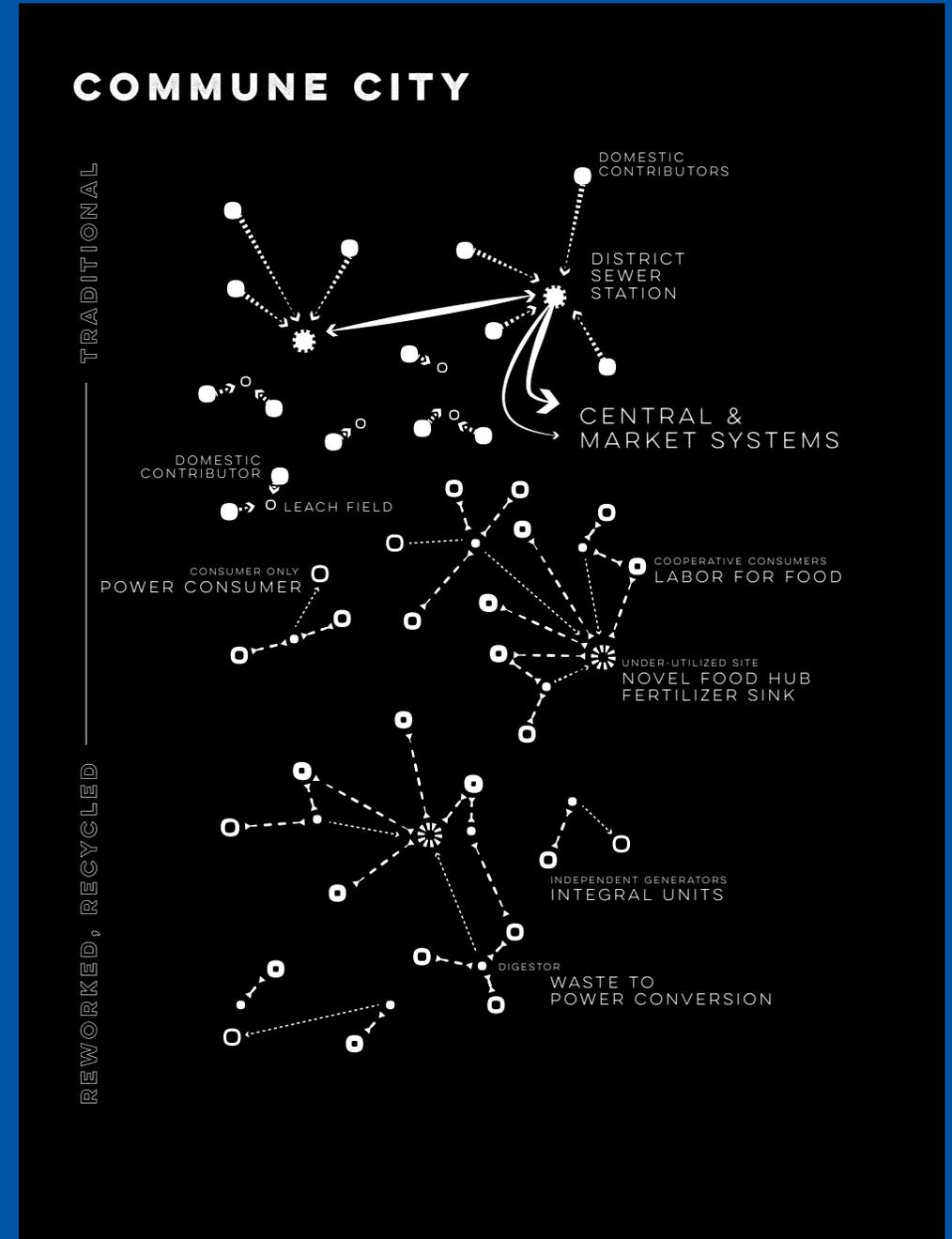
The projects in *Resource City* point the origins of a common observation today: Our planet is becoming one city by means of increasing urbanisation. Along these lines, architecture and urbanism are fused with biology, policy, ecology and governance. No part of the world remains unaffected by the cumulative impact of human activity. Through complex processes of exploration, habitation, cultivation, transportation, consumption, and surveillance, the world is governed and designed not just by vision, but also by tools.

# COMMUNE CITY MANIFESTO #6

*Commune City* is an experiment in living. It is a flexible, non-urban organism continually changing and evolving, empowered by citizen participation and detachment from the mechanisms of the state, both in terms of power and law. Unlike *Island City*, *Commune City* is not walled off from the urban fabric by means of a physical barrier, but by means of distance. It is the effort to reinvent civilisation far from the metropolitan centre and to create a self-sufficient living laboratory, an autonomous unit able to sustain itself, cut off from the main urban networks.

*Commune City* is able to defy urban mainstream production by recycling its waste, producing and distributing its energy and by achieving a new equilibrium as a social and natural system. As a laboratory, *Commune City* needs to produce its own language, by defying law and institutionalisation and by inventing an autonomous system of new policies, as well as an autonomous system of energy.

Featured on the cover of *AD*'s 'Autonomous Houses' issue of 1976, *Commune City* appears under the umbrella of 'autonomy' both to popularise an ecological and libertarian way of living and acting and to herald 'autonomy' from the grid of energy supply as a political statement against consumerism and capitalism. Clif-



ford Harper's 'Visions' series of drawings of collectivised gardens, community workshops and autonomous terraces gave visual form to environmental autonomy as a tool for political liberation. Harper's drawings were published in the book *Radical Technology* edited by Peter Harper – who later became the Director of the Centre for Alternative Technology in Machynlleth, UK – along with Godfrey Boyle and the editors of *Undercurrents* magazine.

The self-sufficient communities that Harper proposed in the 1970s harkened back to a grass-roots mentality and a pastoral iconography. They offer an intriguing counterpoint to technology-driven notions of self-sufficiency. Today's environmental visionaries need to reconcile previous notions of rural environmentalism, including farming and localism, with the instrumentalised regeneration of resources via technology.

In biology, 'autonomy' refers to a system's organic independence and self-governance, a notion that has been transferred to the urban sphere to advance the idea of a collectivised living space, un-rooted from its urban context. *Commune City* is like a restored Garden of Eden and a real-time habitation experiment where architecture, systems theory and human biology blend together in the hope of radical social reform.

## DO-IT-YOURSELF CITY MANIFESTO #7

*Do-It Yourself City* is the messy and fuzzy imprint of occupation on the urban fabric. It reveals the city as it has been seized, deformed or transformed and lived by its inhabitants. *Do-It Yourself City* does not only call for participation, advocacy and active citizenship in spatial production; it also calls for partially relinquishing control in the design process of cities and environments.

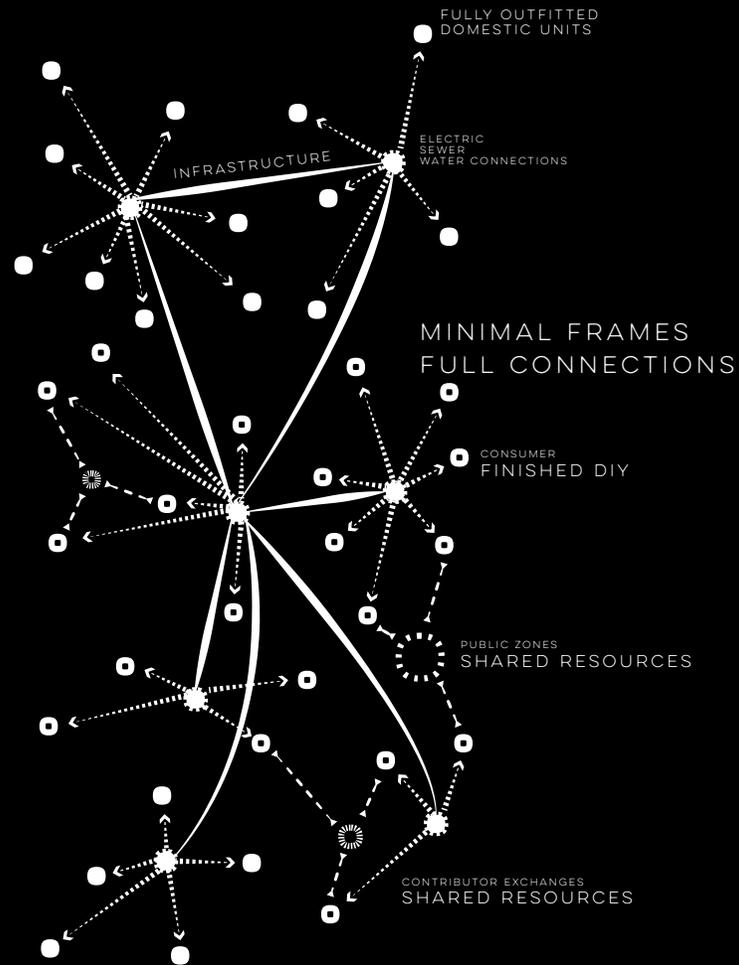
The spontaneity of civic occupation has fostered architects' interest in vernacular and informal settlements at several historical moments. Thus we recall the work of John Habraken in the 1960s, Bernard Rudofsky's *Architecture Without Architects* (1964), the PREVI project (Proyecto Experimental de Vivienda) in Peru in the early 1970s, and most recently, Elemental's Quinta Monroy project in Chile (2003-05). There is a substantial legacy of 'plug-in' structures, incomplete unfinished frames waiting for individual occupation, or a legacy of 'incrementalism', as described by the Museum of Modern Art at a 2015 symposium in New York. The aspiration in the genealogy of these projects is the defiance of uniformity and the complexity of a non-homogeneous textural grain, emerging from numerous personal choices and living patterns. *Do-It Yourself City* is semi-controlled and semi-organised; it offers a board game on which life unfolds and diversifies, yet still lies upon a defined territory of action.

With vast regions of the urbanised world built in slums, *Do-It Yourself City* obliges us to face and learn from this reality. It reflects the multidimensional nature of urban space and the

# DO-IT-YOURSELF CITY

TRADITIONAL

REWORKED, RECYCLED



unpredictability of life. The architects and planners who have engaged with questions of informality, time, and the right of forming the city, deeply believe that architecture can serve as a framework for social transformation. At the same time, they share a disposition for design processes rather than objects, and they defy determinism in design thinking. They resist the romance of the 'architect's hand' and the modernist ethos of the master plan. Behind the curtains of Torre David, they ask us to witness the reinvention of the architect's identity and to expand our perception of design authorship. In these new conditions of incremental urbanisation, the architect can only be an editor, a thinker, a tinkerer and a critic of physical resources and ideas.