

# Architecture Is Climate



MOULD



# Architecture Is Climate

MOULD

## ARCHITECTURE IS

|                        |                      |
|------------------------|----------------------|
| acid mine drainage,    | calcium oxide,       |
| acrylic,               | capital,             |
| air pollution,         | carbon,              |
| aluminium,             | caustic soda,        |
| arsenic trioxide dust, | cedar wood,          |
| basalt,                | chromium,            |
| bauxite,               | clay,                |
| Bayer process,         | clearances,          |
| biodiversity loss,     | coal,                |
| bitumen,               | coastal,             |
| black sand mining,     | cobalt,              |
| blasting,              | concrete floor       |
| bond-aid for           | hardeners,           |
| plastering,            | copper,              |
| butadiene,             | copper concentrates, |
| calcite,               | cryolite,            |

deforestation,  
depletion,  
desertification,  
dolomite,  
emulsion polymers,  
extraction,  
fir wood,  
floods,  
fluorides,  
fly ash,  
foamed plastic,  
food insecurity,  
granite,  
gravel water,  
groundwater pollution  
or depletion,  
halogenated flame  
retardants,  
hauling,  
hemlock wood,

hydraulic excavation,  
kerosene,  
land grab,  
large-scale disturbance  
of hydro and geological  
systems,  
lead,  
limestone,  
lithium,  
loss of landscape,  
loss of vegetation  
cover,  
malachite,  
manganese,  
marble,  
mercury,  
methane,  
mine tailing spills,  
mining of silica sands,  
monopoly,

|                         |                         |
|-------------------------|-------------------------|
| mould releasing agents, | polypropylene,          |
| mud disposal areas,     | polystyrene,            |
| mudflow,                | porous volcanic tuff,   |
| nepheline,              | quartzite,              |
| nickel,                 | reduced ecological      |
| noise pollution,        | and hydrological        |
| oak wood,               | connectivity,           |
| oil,                    | ripping,                |
| oil shale,              | roasting processes,     |
| oil spills,             | rock flours of volcanic |
| open-pit mines,         | origin,                 |
| ore,                    | rosewood,               |
| peat,                   | sand,                   |
| pebbles,                | sand sediments,         |
| phenol-formaldehyde     | sand stone,             |
| resins,                 | sawdust,                |
| pine wood,              | sealants,               |
| platinum,               | silica dust,            |
| polyethylene,           | slate,                  |
| polymer bonding agents, | soda ash,               |

soil contamination,  
soil erosion,  
spruce wood,  
styrene,  
surface retarders,  
surface water  
pollution,  
tar sands,  
teakwood,  
thermal cracking,  
timber,  
tin,  
titanium,  
toxic waste dumping,  
trass,  
uranium,  
vanadium,  
waste overflow,  
zinc—

CLIMATE

# Introduction

*Architecture is Climate* begins with a simple premise. First, that in an age of climate breakdown, the principles of the modern project—absolute knowledge, the imposition of order, endless growth, an addiction to the new, the separation of humans from nature—are exposed as threats to planetary survival. The ways of thinking and doing that got us into this mess will not get us out of it: they will only deepen the crisis. Second, that architecture in its current guise is fundamentally bound to these principles, emerging as it does as an agent of modernity. This implies that the current project of architecture, too, is untenable in the face of climate breakdown. It cannot effectively confront, let alone address, the conditions of climate breakdown because of the limits of its very constitution. The question then is: what is architecture after architecture? Our answers start with a straightforward assertion: *Architecture is Climate*.

To say that *Architecture is Climate* is to challenge the orthodoxies, assumptions, and protocols of architecture as it is professionally defined. To say that *Architecture is Climate* is to situate it within unpredictable and volatile contexts. To say that *Architecture is Climate* is to open up discussions about past and present violent entanglements. To say that *Architecture is Climate* exposes the discipline, stripping away the layers of protection that any profession wraps itself in, leaving architecture in a raw state. But it is necessary because climate breakdown engulfs us all, overriding boundaries, disciplines, and professional niceties. Better, then, to engage with it.

The term ‘architecture’ as used in this book reaches far beyond the received understanding of architecture as object. Buildings will continue to be built—and we can only hope they are increasingly judged by their approach to climate—but buildings are not the answer to the climate question. Even when they move towards carbon-positive and regenerative techniques and technologies, restricting architectural imagination to buildings as objects continues to limit how we think about futures and what that thinking might mean for the discipline, practice, profession, and education. It is often argued that engaging with climate breakdown demands wholesale systemic change. The challenge, therefore, is to think of architecture beyond building. This change starts with reversing the question, ‘What can architecture do for climate breakdown?’ so that it becomes ‘What does climate breakdown do to architecture?’ The first question situates architecture outside of climate, viewing breakdown as an external condition on which professional expertise can be deployed. It treats climate as a problem that can be fixed through technocratic interventions. Architecture becomes obsessed with measures of

these interventions, codifying them through various sustainability certification schemes (LEED, BREAM, DGNB), which set crude levels of success and hand out badges of supposed honour, that are then quickly discredited when the schemes also reward demonstrably environmentally damaging typologies, such as airports. But these so-called sustainable approaches are insufficient and only serve to mask architecture's role in the historical and contemporary production of climate breakdown. For this reason, this book moves sharply away from the arguments about reduction, mitigation, and adaptation that dominate current architectural discourse in response to climate. In their various ways, all these words attempt to alleviate the surface effects of the crisis but tacitly accept the status quo of the underlying systems. One 'adapts' to the conditions but does not change them. One 'reduces' the impact, addresses the symptoms of breakdown, but something still remains.

All that architecture in its present guise can do is to pick off the easy wins of carbon reduction, applying fragile band-aids to gaping wounds but leaving the underlying causes untouched. These technocratic patches, far from fixing the perceived problem of climate breakdown, serve to perpetuate the crisis because the forces that created it are not disrupted. Dealing with the symptoms alone provides a convenient illusion of action, but because of the distancing from the foundations of breakdown, it is a form of denial of the structural nature of the situation. The removal of architecture from the sites of climate breakdown veils the involvement of the discipline and operations of architecture as part of the cause of the crisis. The default mode of most architecture—buildings—is revealed, despite the appeal of the sector to policymakers seeking to reduce carbon emissions, as incapable of

intervening in the forces of climate breakdown at a more fundamental level. Many of the presumed solutions are greenwashing at best, trying to cover up the symptoms but shying away from identifying and confronting the conditions that made modern architecture possible in the first place.

It is not surprising that the twentieth century was a golden era for architecture, driven by the twin paradigms of modernity: growth and progress. As the extractive industry par excellence, architecture was the perfect vehicle for the announcement of growth, turning earth into constructed matter. These were then wrapped in various sheens to demonstrate progress, an endless advance of style, form, aesthetics, and techniques that became ever more hysterical as the old century turned to the new. These shining examples, photographed to perfection, did not come out of nowhere. There have always been invisible forces at play in architectural processes, shaping the outcomes to a far greater extent than the standard histories like to admit. Never has this been truer than in the entanglement of architecture with climate.

Tragically, the surfaces of architecture distracted everyone from its underlying role in the production of climate breakdown. The architecture of the modern era relied on extractive and combustive processes to such an extent that fuel came to dictate form.<sup>1</sup> Architecture became addicted to the extraction of fossil fuels and other materials. Weaning architecture off its reliance on fossil energy through carbon reduction measures is necessary. But it is not enough, because the issue is not just about energy and resources as material and technical forms; it is about untangling the social, economic, environmental, and political contexts within which architecture is situated.

So far, much of what passes as architecture's engagement with alternative futures relies on notions and images of utopian technologies: floating islands, hydroponic facades, trees growing out of concrete, self-flowering desert cities, and so on. These approaches align with the techno-boosterish end of the ecology spectrum, those who attempt to persuade us that the solution lies in some future technological intervention. In the meantime, it can be business as usual. Too often, these speculations repeat the mistake that created the breakdown in the first place, namely the fantasy of an unfettered command over nature, splitting humans from the world we are part of. They suggest that climate breakdown is a problem that can be resolved—fixed by such design futures. But what if it is not? What if it is a predicament we must navigate, with no expectation of a complete solution?<sup>2</sup>

This shift in thinking becomes necessary for addressing the second question: 'What does climate breakdown do to architecture?' What does it do to the bodies of knowledge, professional degrees, tools, instruments, and expertise? The initial answer to the question is that climate breakdown leads to a dramatic disruption and breakdown of architecture as we know it. No longer standing outside and applying superficial patches to the wounds of climate, *Architecture is Climate* binds the field of architecture to the scars, violence, and emotions of climate breakdown. Once *Architecture is Climate* is declared, it is possible to identify many shared characteristics of architecture and climate. First, both architecture and climate are relational, binding together multiple human and more-than-human conditions. They affect, and are affected by, multiple external conditions: political, cultural, economic, and so on. They are best understood and defined not in isolation but at the intersection of those other forces.

In their relationality, architecture and climate are bound to each other and also to numerous events and contexts. Secondly, both architecture and climate are temporal: formed in the past, influencing the present and projecting into the future. What happens to architecture and climate in coming times can only be determined in relation to their history and constitution, and also through understanding their immediate impact on humans and the world. Third, both architecture and climate are profoundly shaped by the tenets and operations of modernity. Separated from nature, bound to growth, conceived of technocratically, and overseen by the task of order, the principles of modernity determine the cause and effect of climate breakdown *and* shape architectural production. Fourth, both climate and architecture are controlled by the forces of capitalism to the extent that the predicament of ecological collapse requires new economic models if it is to be faced with any real hope. This means, too, that both are deeply political. The technocratic tendencies around the climate debate and the false promise of architectural autonomy are presumed to rise above politics, but both are clearly bound to broader political forces. The disproportionately brutal treatment of climate activists by contemporary judicial and political regimes reveals the threat that truly acknowledging climate breakdown poses to the established systems of the carbon state. Fifth, both are experienced and measured through multiple senses and means—visual, technical, emotional, and bodily. Screaming at the flooding, touching the handrail and pulling back at the heat, seeing the hurricane tracking across the screen, paralysed with fear for the future. The scientist draws graphs of temperature; the citizen sweats. The architect conjures lines on a computer; the user is caught in their web. Finally, architecture and climate directly affect the human and more-than-human worlds.

To understand how *Architecture is Climate* is to understand these mutual contexts of relationality, temporality, modernity, capitalism, politics, measure, and impact. Both are the product of these various conditions but can also act as agents to change them.

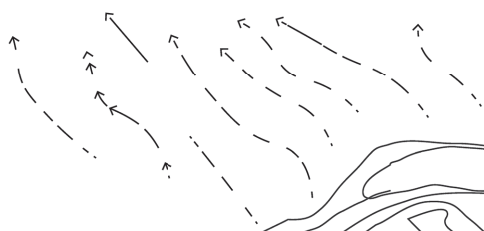
This book traces these relationships between architecture and climate, opening up architecture to a range of other possibilities. These futures are not conjured up out of thin air, but are ways of doing and thinking already all around us, if we choose to look. We build these other architectures with the help of ecofeminists and economists who offer revised interpretations of growth and value; anti-colonial thinkers who interrelate architecture and the wider productions of space; and with those who work with contingency, allowing different routes to emerge from situated contexts rather than imposing universal linear rules. The book is a glimpse into the manifold conversations surrounding us all; its arguments are supported and expanded in the accompanying website, [www.architectureisclimate.net](http://www.architectureisclimate.net). The website presents the foundations upon which our modern world was built, its entanglements with colonialism, and its impacts and consequences. The bulk of the website is made up of practices that provide hope in showing there are compelling and empowering ways of acting in the face of climate breakdown. The relevant practices are included in the book in square brackets which link to more detail in the website entry. [PRACTICES]

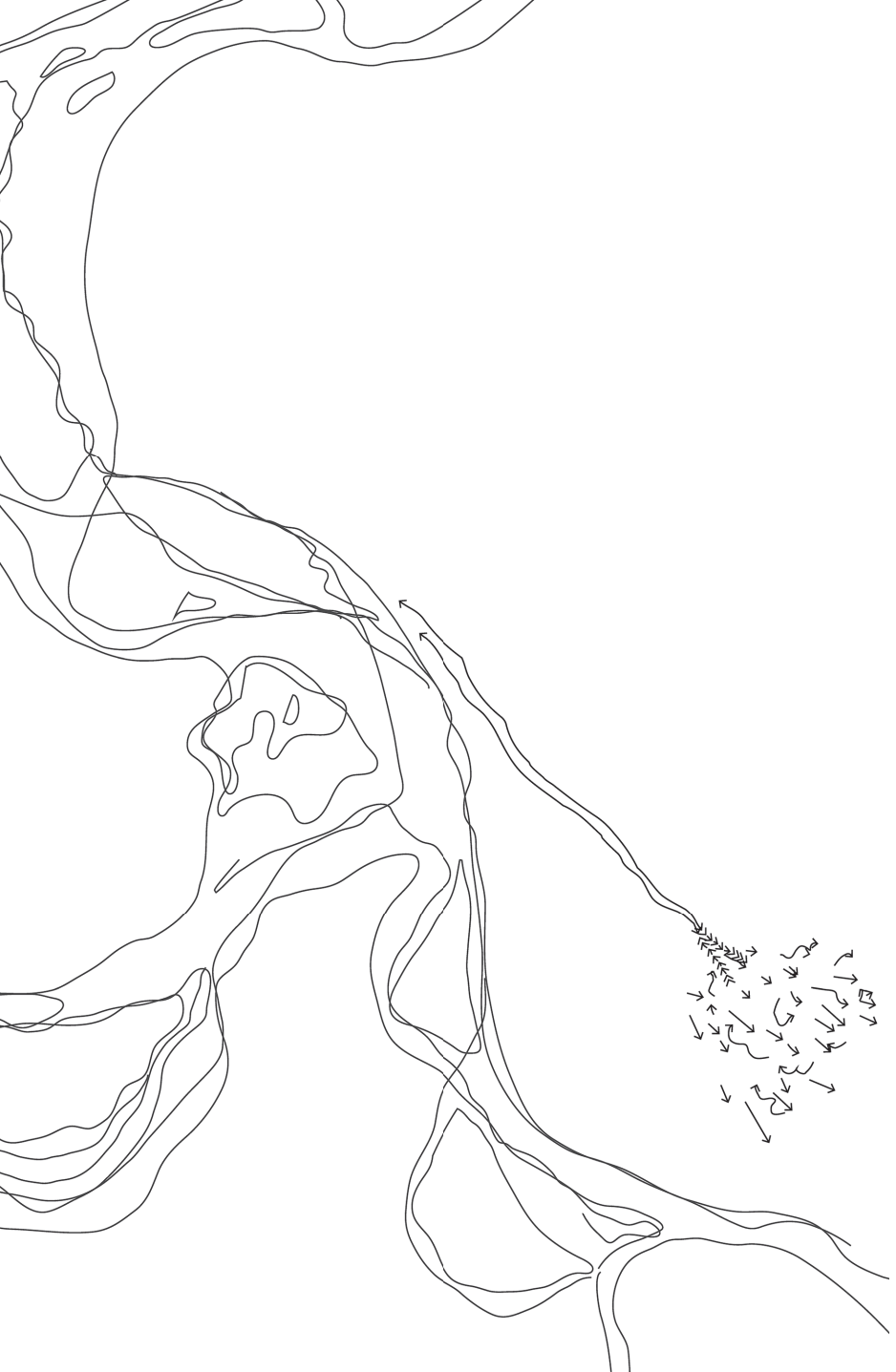
The book frames a wider intellectual framework on which to build present and future spatial practice. It is structured through eight chapters, each describing a site that contextualises the ‘what was / is’ and ‘what can be’ in relation to architecture and climate: knowledge, economy,

land, resources, infrastructure, work, policy, and culture. Each of these sites describes where and how architecture and climate are entangled. They describe social and spatial contexts in which climate breakdown is both produced and experienced, and so the conditions within which architecture might evolve. Each chapter presents a short overview of the issues, with quotes in the side column supporting the argument. The sites are not mutually exclusive; any spatial practice will engage with two or more of them, and common themes can be traced through the various chapters. Because both architecture and climate are relational, any reading of them (and this book) has to cross through the sites, joining together the various contexts described. At the end of each chapter are several prompts. Neither a definitive list nor a set of instructions, the prompts are catalysts for rethinking projects from a different perspective, pointing towards new futures. They provide suggestions for action in relation to the arguments of the preceding chapters.

The answer to the question—'What does climate breakdown do to architecture?'—implies an unravelling of the architecture as presently defined. The systemic change in societal norms that climate breakdown demands will have to be accompanied by new spatial formations that reflect, respond to, and interact with the social and material—with political, human, and natural environments. If architecture is seen as a process that negotiates and spatialises materials, culture, power, and politics, then it becomes an important agent in imagining and realising these new conditions of climate. Architects play an important role here, but it is a very different role from the one that is currently prescribed in the profession's education criteria and championed in its media.

The book argues that there are multiple ways in which spatial intelligence and imagination might be deployed to release architecture's potential vis-à-vis climate. This is why we intentionally keep the term 'architecture', avoiding any reductive understanding in order to open up new avenues for the discipline. In this way, the book is full of hope, for other possible architectures are also other possible climates. But it is not a false hope snatched desperately out of thin air and certainly not a hope that mocks with the promise of aestheticised futures. Our hope is one that arises out of a deep, critical dive into the constitution of the climate crisis and architecture's role within it. It is, therefore, a hope alert and resistant to the machinations of those forces. Finally, it is a hope found in the multiple practices that are already bravely and critically facing the issues of climate.





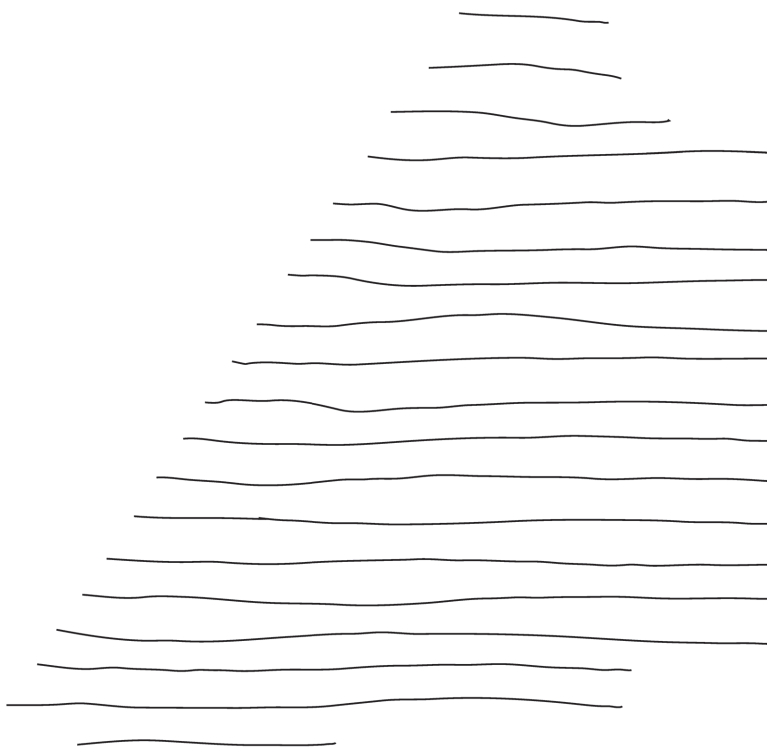
## IMAGINE

Imagine you are standing knee-deep in a flowing river. Let's call it the river of architecture. You are looking downstream, towards the river's flood plain. Recently the waters in the distance have risen alarmingly, but this presents itself not as an obstacle, but as a stimulus to your imagination. You are an architect. It's what you do. You solve problems. You project your inner creativity onto this landscape, gathering the pure waters of past architectures to create your version of the next. Buildings and infrastructure rise in your mind, shrugging off the floods. They are gleaming things—dams, towers, structures, channels, dykes, bridges—which will shape a brave new world. Determinedly facing forward, you are lost in this vision of the future.

But then you feel something tugging at your knees. You look down and see strands of filth wrapping around your legs; worse, your skin is getting stained. You turn the other way, and there—upstream—you see the past. In the distant hills are the sites of colonisation where man's disdain for nature and its stewards triggered the ecological collapse. The Plantationocene. Closer in are smoking chimneys, cement works, tarmac surfaces, soil grey from petrochemicals—all of which stand as witness to extractivist greed and growth. In the shadow of these carbon crime scenes are the hidden sites of production, where now-forgotten labour was once sweated.

The river gathers the events and climates that surround it, existing symbiotically with its hinterland. Charged by rain, dissolving into its delta, the river is a circularity. Upstream and downstream are not defined by a line but by the entire surrounding landscape. It is raining upstream, and the water running off the landscapes of the past into the river is poisoned. It is not the pure river of architecture but of architecture's guilt, architecture's dependency. As it flows downstream, you are distraught to see all your shining chimeras of the future stained by the residues of toxic histories that flow irrepressibly through the present. And you recognise your impotence, as your presumed solutions are revealed as no more than partial band-aids that barely patch the underlying wounds.

You twitch, head swivelling to look first one way and then the other, and in this repeated movement you understand that any viable future can only be found by understanding and intervening in the systems of power and capital upstream. It is lonely standing in this river, so you look sideways, and there, cutting through the sediments, are other rivers and multiple heads bobbing back and forth, upstream and downstream—the river is recharging itself from other sources. And you find hope in this collective movement within the now, because futures are multiple and found in the gaps within the present.



[illegible]

# Knowledge

It is a hot day in northern Europe. Very hot. Impossible-to-work hot. On the internet, there is the news of forest fires threatening Athens, of prisoners dying from heat exhaustion in Texas jails, of flooding in Florida, of a presidential candidate talking about the 'climate hoax', of heat records in Greenland, of more floods in Shanxi, of the confirmation that 2023 was the hottest year on record, of... These are just some of the effects of climate breakdown encountered on a typical day in 2024. They are overwhelming; they confuse our collective ability to think straight and to know how to respond. Do you protect yourself with air-conditioning, realising that this just pushes the problem down the road? Do you cancel your Greek vacation? Do you sign the multiple petitions campaigning for improvement in conditions in Texas prisons? Do you project your imagination and empathy into Florida's damp basements and soggy furniture? Do you take to your social media to refute climate denial? Do you delve into historical data about Greenland to support your refutation? Do you think: 'That could be my car,' as you watch YouTube videos of rampaging rivers? Do you panic?

All these responses are reasonable; in their range from the emotional to the rational, they reflect how climate disturbs boundaries, mixing up ways to react. Climate and its effects illustrate why diverse ways of *knowing* are essential. Knowing transcends the mere accumulation of information; it reaches into the experiential, the sensual, and the deeply personal. *Knowing* is very different from the conventional view of fixed *knowledge*: static, monolithic, and siloed; bound to disciplines; an entity to be acquired. Knowing is a way of enabling; it expands what can be imagined and achieved. Different ways of knowing allow other ways of being and acting. From scientific processes to intuitions, cultural traditions, and situated experiences, each approach influences individuals' states of existence or identities, shaped not only by their respective ways of knowing but also by choices—whether imposed or self-made. In understanding and confronting climate breakdown, the question of what we know is inseparable from *how* we know. It depends not just on the extent of our knowledge but on the depth of our engagement with different ways and types of knowing. What we know (or think we know) is profoundly shaped by value systems, deeply embedded within specific cultural, ethical, and ideological frameworks which are open to evaluation and should be critically examined and assessed. A community living in entanglement with nature and their land understands climate differently from urban scientists. Diverse perspectives are not just optional; they are essential in forming a holistic view of climate issues. The interplay of knowledge and action, theory and practice, is fundamental to confronting and imagining new possibilities. These dynamic relationships go beyond dominant academic concepts; they create a practical reality that influences how we tackle issues ranging from climate breakdown

Climate change demanded nothing less than a reconsideration of the very practices through which knowledge was understood to be produced in science, bureaucracy, activism and business [...] by persistently bringing to the fore the entanglement of social worlds and natural systems, climate change undermined any easy stabilisation of a world of nature 'out there' that might be managed or contained.  
→ Hannah Knox

Knowledge emerges only through invention and reinvention, through the restless, impatient, continuing, hopeful inquiry human beings pursue in the world, with the world, and with each other.  
→ Paulo Freire

to social inequality. Knowing informs action, and, in turn, action continually generates knowledge.

But how does one know climate? It is not enough to quantify it through data points or to model it through algorithms. It is also not enough to try to contain climate through enhanced drainage systems, flood walls, or barriers against sea level rise. Standardised approaches to knowledge often frame climate and climate breakdown through the lens of science alone—as a problem science discovered and thus one that science alone should solve. However, knowing climate means navigating its multiplicity. This process involves more than just acquiring facts and imposing fixed interpretations of the world. To truly know climate is to understand its rhythms, to feel its changes, and to witness its impacts on the lived environments and human experience. It is about comprehending time and scale through its cycles, which include seasonal, annual, and longer-term fluctuations. It also means experiencing climate changes through many senses, feeling the effects of altered weather patterns, rising temperatures, shifting precipitation patterns, and sea-level rise, and observing their direct and indirect impacts on daily life and natural surroundings. It requires a shift from *knowledge about* to *knowing with*—a relational engagement that acknowledges the interconnectedness of human and more-than-human actors in shaping environments. In this sense, climate can be viewed as a *form of thought*, a complex system that embodies specific patterns, processes, and values.

The point [...] is to discover how subjective and objective conditions together produce knowledge, values, and epistemology. It is neither to reject objectivity nor to glorify subjectivity in its stead. Knowledge is neither value-free nor value-neutral; the processes that produce it are themselves value-laden; and these values are open to evaluation.  
→ Lorraine Code

Because architecture *is* climate, ways of knowing architecture need to follow the ways of knowing climate. Architecture in its current mode of operation is determined by fields of knowledge which were defined in

centuries past. The profession defends its patch of knowledge because that is what defines its expertise over and above others. The stability of this knowledge base gives the discipline and profession of architecture its authority. The base is, therefore, fully codified and monitored through the accreditation of architectural education and various institutional charters. Thus, in the UK, the RIBA Code of Practice, without a hint of self-doubt, repeats its Victorian constitution in stating that an architectural practice's purpose is: 'the advancement of Architecture and the promotion of the acquirement of the knowledge of the Arts and Sciences connected therewith.' Such pronouncements of Architecture with a capital 'A' are self-fulfilling, with the profession both defining and enacting its knowledge base. The profession erects a wall around itself and plays out its autonomous games within. It is the internalisation and protectionism of its foundational structures that makes architectural knowledge as currently defined so inadequate in addressing climate breakdown.

The inadequacy of contemporary architecture in addressing climate, beyond lip service, is most clearly seen in its clinging to a familiar canon. This canon is constituted through a genealogy of theories, histories, works, and individuals that are traditionally highlighted and revered in the study, teaching, and practice of architecture. The very notion of a canon, derived from the word for 'rule' or 'standard', implies not just a set of guidelines but a deeply entrenched system of authority and control. This system dictates not only the boundaries of acceptable knowledge and practice but also the very framework within which judgement is rendered possible. In architecture, the canon often consists of historical milestones, influential male

architects, and pivotal buildings that are deemed exemplary. These in turn create a canon of behaviours and systems. The canon serves as a pedagogical foundation and a benchmark for taste, innovation, and technique, allowing for the illusion of progress within tightly-controlled boundaries while restricting any engagement with deeper issues. The architectural canon shapes aesthetic preferences, specific styles, materials, and methodologies that become benchmarks for 'good' architecture, restricting diversity and ignoring more equitable or culturally responsive practices that do not fit into the canon's criteria of taste and beauty. The narrow focus of the architectural canon eliminates the potential to act meaningfully within climate breakdown. Catalogues of styles, heroes, and taste count for nothing in the face of the turmoil of climate. The canon blocks out all other ways of knowing.

The canon of architectural knowledge and practice is often presented as a definitive, comprehensive worldview by institutions, professional bodies, trade magazines, and architects' organisations. In reality, however, it reflects the narrow experiences, values, and philosophies of a specific minority—primarily European, male, and bourgeois. Architectural knowledge is thus neither neutral nor objective. Instead, it is deeply entangled with the positionality of those who generate and disseminate it, taking into account their gender, race, and class. What has been considered legitimate and universal within academia, science, and other fields of intellectual inquiry has been constructed by and for men for centuries. This bias in knowledge construction and production has profound implications. It shapes policies, cultural norms, and societal structures in ways that reinforce gender and racial inequalities.

Architecture as a modern profession practiced by free and equal citizens was, from its very inception, gendered male. [...] This modern gendered division of gendered knowledge power and labour completed the architecture-care divide.  
→ Angelika Fitz  
and Elke Krasny

It also influences how the world is seen, framing issues such as climate breakdown as a set of problems which can only be intervened in through the application of expert knowledge. Climate becomes an externality, and thus is removed from direct human experience. The established canon of architecture also overlooks or misrepresents the needs and contributions of those who do not fit within its narrow framework. Within architecture, gender and cultural biases are manifested in physical spaces and spatial planning, reflecting and reinforcing traditional gender and racial roles. The division of spaces into zones (public, male-dominated; private, female-oriented; human, non-human; built, natural), the location and size of public transport facilities, or the design of domestic and office spaces do not predominantly consider different body types, abilities, and needs [DISABILITY JUSTICE]. Understanding how built environments can both reflect and perpetuate social inequalities is a crucial step towards equity and inclusion. The shaping of landscapes, intensive agricultural zones, parks, or the management of natural spaces often seek to control and contain nature's cycles and rhythms, imposing artificial boundaries and aesthetic ideals that prioritise human convenience and visual appeal over ecological balance. These interventions frequently lack sufficient understanding of the ecosystems they aim to modify, disregarding local climates, biodiversity, and the natural processes that sustain them.

Climate breakdown undermines these externalisations and attempts to organise and prescribe space; it renders everything—human and more-than-human—vulnerable, thereby challenging any semblance of authority and stability. Facing its vulnerability entails architecture stepping down from its platform of isolated authority. A completely reconfigured

profession, in its very vulnerability, joins in with the vulnerabilities of the rest of the world, human and more-than-human. The volatility of the conditions of climate challenges the traditional metrics of style, technique, and aesthetics that typically define architectural knowledge. With this comes a significant shift beyond the material aspects of architecture (the physical object and its aesthetic qualities) towards a deep understanding of how architecture influences and is influenced by the social dynamics, cultural practices, and ecological contexts in which it is situated. This immediately broadens the scope of what is considered valuable knowledge and practice in architecture, bringing into the foreground the invisible and immaterial aspects of spatial relations. Architectural knowledge, far from being locked away behind the walls of the profession, is shared and nourished by the contributions of other knowledges. This collective process of knowledge-forming is not fixed but dynamic, open to revision, and responsive to new inputs and perspectives. The act of breaking the canon, in terms of its formal restrictions and content, therefore emerges as a profoundly ethical and empowering stance, a conscious choice to challenge the status quo in pursuit of a more just and equitable world.

Such a collective approach to knowing is exemplified in the work of the Southern Collective [THE (INDIAN OCEAN) SOUTHERN COLLECTIVE], a group of researchers working across the northern Indian Ocean region, focusing on how climate breakdown and its social impacts demand a transformation of conventional and dominant forms of knowledge systems. Taking on climate breakdown, COVID-19, and migration as subjects, they argue that the complexity of these issues requires working within conditions of uncertainty and

Undeniably universal, human vulnerability is also particular: it is experienced uniquely by each of us, and this experience is greatly influenced by the quality and quantity of resources we possess or can command.  
→Martha Albertson Fineman

Architecture was never a single object; today it is more than ever a form of knowledge that can enable the convergence of physical space and historical time. This involves an expanded notion of architecture's 'subjects' as well as a reflection on how it is simultaneously constituted as an expanded object, a network, and a field.  
→Amale Andraos

urgency. The Collective calls this way of working 'postnormal' knowledge production.

The challenge for architects and spatial practitioners, then, is to perforate the constructed knowledge base upon which architecture has claimed its discipline—a discipline that presumes relatively static environmental and social conditions. Architecture is not alone here. The project of breaking down the architectural canon should be seen as a part of a much broader project of epistemological dismantling. In a world increasingly defined by global systems of power—multinational construction and real estate firms, international financial institutions, global supply chains—the complex interplay of colonialism, capitalism, and patriarchy is founded on particular forms of seeing the world, which in turn create a pervasive network of extraction, exploitation, exclusion, and marginalisation. These are the forces that have led to climate breakdown. Disguised behind a facade of progress and development, this worldview establishes a hierarchy of knowledge that privileges certain groups while rendering others invisible. At the heart of this system lies the dominance of a singular worldview that celebrates forms of knowledge that align with linear progress, growth, order, and global norms—while dismissing or diminishing the validity of circular, steady-state, Indigenous, and situated perspectives and ways of life.

Vandana Shiva refers to the hegemony of Eurocentric knowledge as *monocultures*, which not only marginalises but actively excludes and negates diverse cultural practices, epistemologies, and historical narratives, deeming them negligible or primordial. By prioritising certain forms of knowledge and dismissing others as 'primitive'

or 'unscientific', a wide range of voices and experiences are silenced, enforcing a narrow view of what is considered valid or valuable. This exclusion is not merely academic or theoretical; it has tangible effects on social groups and individuals who find their ways of life, knowledge systems, and very existence questioned or ignored. Such systemic prioritisation and marginalisation also profoundly influence dominant architectural practices, which tend to reflect and reinforce power structures and pervasive economic systems—overlooking local environmental, cultural and social contexts, and the accompanying ways of knowing.

The impact of knowledge monocultures on climate is profound. Most damaging is the separation of humans from more-than-humans and nature, as exemplified in the philosophy of Descartes, Kant, and others of the European Enlightenment. Once anything is conceived of as 'non-human', it becomes available for exploitation and elimination. Never was this more tragically enacted than under the systems of colonialisation. Colonial powers not only exploited material resources and labour, but also dictated how knowledge was defined, produced and validated. By prioritising a worldview that abstracted the non-human, the world was perceived as a collection of resources to be quantified, managed, and exploited—effectively justifying control of nature and Indigenous people. This control extended to determining what was considered true or false, valuable or worthless, civilised or primitive. The colonised societies' epistemologies were wholly disrupted, meaning their ways and methods for understanding and interpreting the world were deeply devalued and damaged. People were coerced into adopting the coloniser's perspectives,

The western systems of knowledge have generally been viewed as universal. However, the dominant system is also a local system, with its social basis in a particular culture, class and gender. It is not universal in an epistemological sense. It is merely the globalised version of a very local and parochial tradition. Emerging from a dominating and colonising culture, modern knowledge systems are themselves colonising.  
→ Vandana Shiva

These elite orthodoxies (of colonialism) [...] were the product not just of the subjugation of human 'brutes and savages', but also of an entire range of nonhuman beings—trees, animals, and landscapes. Indeed, 'subdue' was a key word in these conquests, recurring again and again not just to human beings but also to the terrain. Out of these processes of subduing and muting was born the idea of 'Nature' as an inert entity.  
→ Amitav Ghosh

language, political and organisational systems, and modern infrastructures, driven by greed, the monopolisation of power, the alienation of labour, and a relentless pursuit of economic growth and industrialisation—all of which have been at the heart of many environmental crises. For this reason, the start of climate breakdown can be aligned with the rise of colonialism, defining our present era not so much as the Anthropocene but the Plantationocene—a world shaped by colonising forces and their spatial manifestations through plantations.<sup>3</sup>

Understanding the depth of colonialism's impact on the planet and its inhabitants is an important step towards reforming knowledge systems to address climate. In contrast to the violent consequences of dominant Western thought, many Indigenous knowledge systems—which colonialism sought to suppress—emphasise a holistic and integrated approach to the environment, advocating for balance and reciprocity, and viewing humans and more-than-humans as part of an interconnected ecological web.

The work of the Hunnarshala Foundation [HUNNARSHALA FOUNDATION], demonstrates how to rethink monolithic and static practices. The organisation brings together students, professionals, artisans, and craftspeople working at the grassroots level in Gujarat who invest in vocational training and research into local knowledge systems, working with communities for inclusive development, and resilience against climate change. Hunnarshala Foundation recognises the urgent need to address climate breakdown by advocating for ecological sensitivity in building practices and encourages building less as the primary principle. This design approach connects multiple disciplines and knowledges, recognising that diverse methodologies

and thinking can ultimately inform present day approaches and co-produce climate-responsive material and social spaces.

Vandana Shiva's insightful critique of modernity and its so-called 'scientific reason' illuminates the arbitrary nature of the distinctions we draw between what is considered scientific and what is not.<sup>4</sup> Her insights prompt us to look beyond the surface of these categorisations to see them for what they truly are: manifestations of power that reflect the interests and prejudices of those who hold it. In this light, the questions of who constructs knowledge and for whom—and who decides which narratives are amplified, diminished, or erased altogether from collective memory—are quite critical. Similarly, Aymara/Bolivian sociologist and activist Silvia Rivera Cusicanqui challenges the suppression of Indigenous knowledge systems by colonial powers. She critiques 'decolonial' as a detached academic concept and instead advocates for more direct, action-oriented approaches like 'anti-colonial' thinking, which connects more effectively with concrete struggles. Shiva and Cusicanqui's work offers a powerful lens through which we can understand the world and our place within it, and eventually act upon it.

Along with many Bolivians, I prefer to speak about 'demolition' instead of 'deconstruction,' and 'anti-colonial' instead of 'decolonial,' because I think it is more coherent to try to connect with the direct language of subalterns, rather than with the word-games of high-brow *afrancesado* intellectuals.  
→ Silvia Rivera Cusicanqui

The coalition of climate justice groups, Wretched of the Earth [WRETCHED OF THE EARTH], explicitly introduces these suppressed ways of knowing into the climate debate. Naming themselves in honour of the Martiniquian political philosopher Frantz Fanon's book on anti-colonial theory, the Wretched of the Earth coalition represents the interests of the Global South and people of colour in the context of climate change and climate justice activism. They base their actions and publications on three salient ideas. First, the idea that hierarchies akin to colonialism will only repeat

themselves if climate activists suppress the voices of Indigenous people and people of colour in climate discourse. Second, a critique of climate protests, such as those organised by Extinction Rebellion, for pronouncing apocalyptic diagnoses for the planet. Such pronouncements erase the experience of Indigenous people and people of colour who have faced genocide and ecocide for centuries. Third, an understanding of privilege. The coalition states that directives for climate action should consider the way activist tactics assume white privilege by promoting strategies such as street protests that endanger Indigenous activists and activists of colour, who account for a disproportionate number of people arrested, brutalised, and imprisoned. In its current guise, traditionally institutionalised and professionalised, architecture remains emaciated and insulated from these critically important ways of knowing. It has detached itself from the vast richness of spatial and social production that extends beyond the Imperialist confines of academia and metropolitan centres. In the context of climate breakdown, this narrow view becomes even more problematic, as it neglects the diverse, situated, and often marginalised forms of knowing essential for comprehending the different scales, forms and faces of climate.

Climate is both everywhere and specific to its location. As understood within feminist theories, location is however not merely a geographical or physical condition but a profound expression of one's socio-political, cultural, and historical situatedness. Location is intricately linked to *vulnerability*, which stems from recognising and acknowledging the limits of one's perspective and rejecting any notion of a singular absolute truth. An admission to one's vulnerability deliberately embraces the partial, the situated, and the specific.

It challenges the entrenched desire for definitive answers and closed-off perspectives that have long dominated fields of knowledge, including architecture. This revaluation and perforation of ingrained thought patterns argues for an understanding of knowledge as inherently relational, formed through networks of relationships and contingent upon specific contexts, climates, and environments.

Advocating for a spatial practice that is spacious enough to acknowledge diverse positionalities in the (re)production and evaluation of knowledge invites an understanding of architecture as more than the canon. It suggests a shift from *architectural knowledge* housed and stored in constructed spaces to *architectural knowing*, a dynamic, ongoing process that envisions new spatial, temporal, or social relationships. In this sense, architecture expands its boundaries beyond buildings to reimagine the spatial consequences of the radically altered social conditions that climate breakdown demands: the spatial implications of other economic mechanisms, fair labour conditions, alternative governing structures, different resources, and so on. Addressing these other conditions requires a transdisciplinary approach to architecture; a deeper, more profound crossing of boundaries, regions and histories, while remaining conscious of one's specific standpoint. The interrelationship of these conditions further suggests that transdisciplinarity evolves into what Felix Guattari terms *transversality*, dissolving not only the boundaries between academic disciplines but also between these disciplines and broader societal realms: science, society, aesthetics, and politics. This forms a practice where scientific inquiry, social understanding, aesthetic expression, and political action are not isolated endeavours, but are deeply

Transdisciplinarity must become transversality between science, the socius, aesthetics and politics [...] Politics ought to be rethought as a transversalist domain; it ought to leave its usual arenas [...] a politics that is closer to the eco-systems of everyday life and yet with a grasp of the major stakes for the planet.  
→ Felix Guattari

interwoven, reflecting deep engagement and a holistic approach to addressing complex climate challenges.

Architecture here moves, with a spring in its step, from being an isolated discipline to being part of an *ecology of practices*, portraying knowledge as a tool which is active rather than neutral—a constellation of possibilities essential for comprehending ongoing processes around us. In a reformed architecture, this notion of ecology emphasises the relational and interconnected nature of elements—social, environmental, economic, and cultural—within an ecosystem. This perspective becomes critically important in envisioning new possibilities for practices to connect and engage with the conditions of climate while challenging traditional notions of progress. By adopting an ecological approach in architecture, progress is not seen as linear, constant growth, but as a process that includes cycles of growth, decay, and regeneration—recognising the importance of diversity and resilience in maintaining healthy environments. An ecology of practice is not about understanding practices as they are but rather about imagining what they could become, fostering the creation of new possibilities that bridge pasts, presents, and futures. This diversity of ways of knowing opens up to architecture a spectrum of potential responses to climate breakdown. From the empirical to the intuitive, from the scientific to the spiritual, each mode of understanding brings with it a unique set of possibilities for action. New forms of architectural thinking will lead to new ways of spatial practising, recognising that architecture is inherently concerned with understanding and integrating complex material and immaterial relationships. Such an approach calls for the demolition of many established frameworks and practices,

An ecology of practices does not have any ambition to describe practices ‘as they are’; it resists the master word of a progress that would justify their destruction. It aims at the construction of new ‘practical identities’ for practices, that is, new possibilities for them to be present, or in other words to connect.  
→ Isabelle Stengers

reconfiguring architectural knowledge to be more inclusive, situated, and to embrace relational forms of knowing and doing.

Spatial thinking can be nurtured through education and experience; the skill is to deploy this spatial intelligence in a manner sensitive to the uniqueness of every interaction it facilitates, emphasising the importance of context and adaptability in architectural practice. Architects here step down from their platform of remote expertise, not to simply share knowledge but to engage in deeper collaboration, recognising the existing practices of hope and strengthening the solidarity networks that already exist. Their contribution becomes one among many, acknowledging that everyone—human and more-than-human—holds embodied and embedded experiences of the effects of climate change. This shift requires more than just integrating knowledge; it calls for rethinking the very foundations of architectural education and practice, making room for relational and experiential ways of knowing that are too-often overlooked in the standard curriculum. An example of this sharing of knowledge is the Chilean Foundation Aldea [ALDEA], an organisation that works in and between the fields of architecture, learning, and heritage to question both *by whom* and *for whom* heritage is being preserved. Aldea's work is done through engagement with participatory research and action methods, confronting expectations through embodied experiences and respecting everyone's knowledge as equally valid. Workshops are often intergenerational and build on existing concerns, expertise, and organisations. Working with young people, in particular, is about supporting them in developing an understanding of their built environment and the language and skills to

Spatial environments are one of the primary ways by which we have socially extended our organs and minds. Today, we need to reconceive of what we understand by nature, and what we understand as our relationship to it.  
→ Jon Goodbun

participate in its development. Aldea's work demonstrates the power of interdisciplinary spatial practice when it recognises the knowledge held by so-called 'non-experts' when professional skills are utilised to break down the language barriers that otherwise prevent people from participating in their built environment. Aldea's empowering approach is transferable into fields beyond heritage, including that of climate, as a means of engaging citizens with the spatial complexities that climate breakdown induces.

All this shows the importance of education and a shift towards a relational ecology of architectural *knowing*. Current architectural education is still fixated on the outputs of architecture rather than the underlying processes. It is the outputs that are validated and championed through systems of accreditation and academic evaluation which tend to overlook the critical link between architecture and climate, failing to address the root causes of climate breakdown, such as imperialist, capitalist, and extractive forms of production. While there's a growing focus on non-new-build projects, this focus remains short-sighted. The reliance on solution-oriented briefs perpetuates the same extractive logic, constraining the potential for addressing deeper systemic challenges and fostering a more process-driven, holistic approach. By compartmentalising learning into discrete categories—like design, history, theory, technology, and professional practice—current education fails to reflect the holistic and relational approach that climate breakdown demands. But when architecture *is* climate, the dispersal of climate into separate parts (the history of climate, the technology of climate...) is reversed, and climate becomes the lens through which all aspects of the curriculum are viewed.

Learning to think differently is both a political and a pedagogical project since both pedagogy and politics involve processes of change and transformation.  
→ Petra Hroch

In this way, architectural education becomes a process of unlearning of the established actions and ways of thinking that have led to climate breakdown. To unlearn is to challenge established worldviews and to recognise the value in the margins, in the voices and knowledges that have been systematically excluded. It becomes a tool of political engagement, a way to question and redefine the power dynamics that shape our built and natural environment. Breaking the canon is not an end in itself but rather a hopeful means to reimagine the rich possibilities of architecture in times of climate breakdown. It is a call for action. An action that opens up space for diverse ways of knowing, learning and disseminating. An action that envisions new forms of spatial practice that are not only responsive to the ecological imperatives but also deeply attuned to the social and political dimensions of each place. An action where 'good architecture' is understood not by its visual appeal or technical innovation, but by its contribution to the health of the planet and the wellbeing of its inhabitants, human and more-than-human. It is an action that perforates the traditional boundaries of architecture towards new ways of knowing, designing, and inhabiting the world. This is profoundly a political act. Viewing the act of unlearning, and then relearning and rewiring, as a *political project* implies that changing how and what is known can lead to the broader societal, economic, and policy changes that are covered in the following chapters.

SITUATE  
THE RATIONAL  
WITHIN THE CRITICAL

/

AND VICE VERSA

We need to know the facts in relation to climate, but knowing the facts does not determine an answer. Just because science asks the question, doesn't mean that science must be the answer. Reason is necessary, but be reasonable in its use; question its presumed authority with a critical perspective. Mix hard logic with gentle empathy. Celebrate other ways of thinking that elide criticality with empathy.

LEARN  
FROM ERASED  
HISTORIES

/

REMEMBER THE FUTURE

Look to the past—and those histories erased by the dominant forces that have created climate breakdown, because they challenged and threatened the emerging status quo. It is precisely in those overwritten narratives and cultures where points of resistance, hope and inspiration might be found. Look and learn from the silenced Indigenous voices, from the margins that have disrupted the centre, from the brave few who spoke truth to power, from the more-than-human world that has been vanquished—the future will be remembered through them.

# CONFRONT ORTHODOXIES

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## AND QUESTION THE STATUS QUO

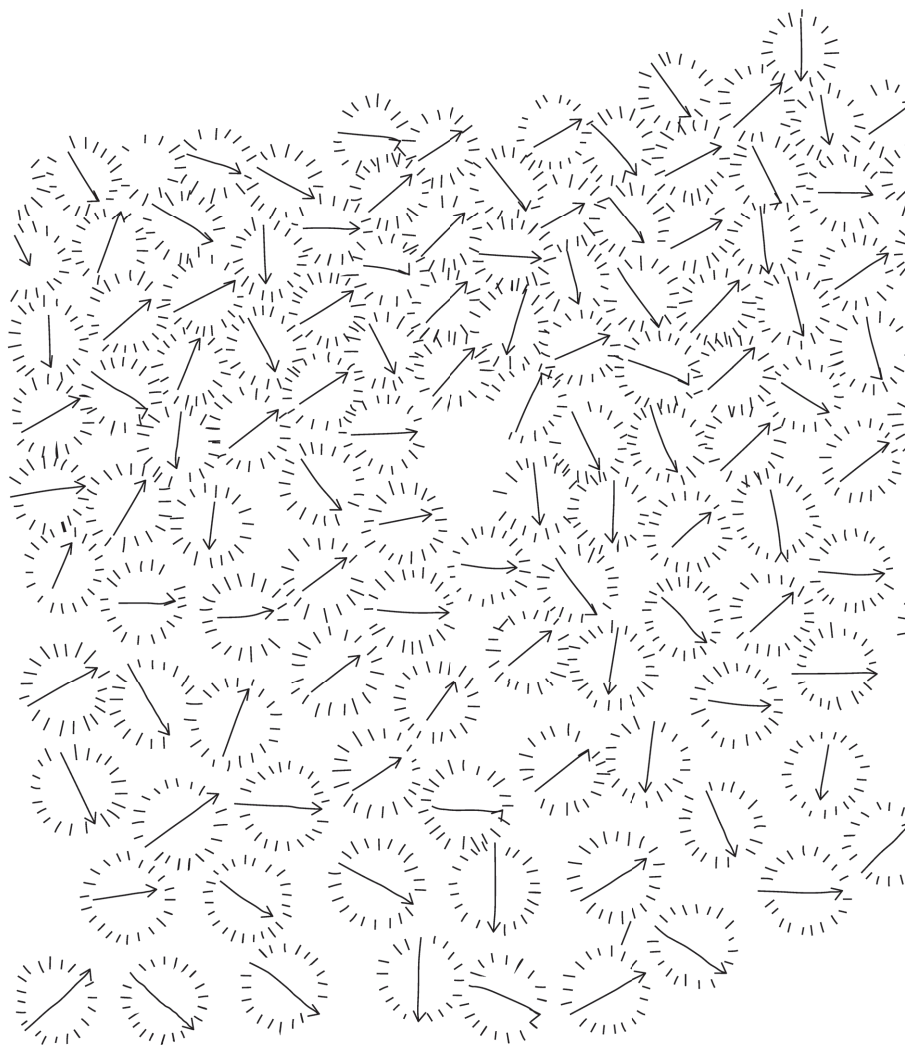
Believe that other ways are not only possible but necessary. Climate breakdown demands systemic change beyond the rearrangement of existing parts. And yet the forces that uphold the Modern Project, and with it the status quo, will always protect themselves by dismissing or subsuming anything that remotely challenges their structures and logic. The potential to imagine other ways of being and doing is thereby restricted. It is vital, therefore, to challenge and look beyond orthodoxies and not to be persuaded into compliance with, and conformity to, the forces of the status quo.

## CONNECT MULTIPLE FORMS OF KNOWLEDGE

/

## CUT ACROSS DISCIPLINES, SCALES, AND GEOGRAPHIES

Climate does not respect boundaries between different forms of knowledge and existence—so, as a designer, make bonds between multiple ways of knowing and allow them to converse and complement one another. Switch your hats: from scientist to gardener, historian to accountant, dreamer to pragmatist—because all these, and many more modes, are needed to face climate breakdown. Bridge between otherwise disparate disciplines, scales, and geographies, to reflect that climate needs to be understood and addressed as a set of relations.





# Economy

Economy frames any discussion of architecture and climate. Every move one makes as a spatial practitioner is haunted by the shadow of economic orthodoxies—a monetary darkness that shuts out other possibilities. Fredric Jameson's infamous dictum, that it is easier to imagine the end of the world than the end of capitalism, started as a provocation for people to act. Yet it has since become an accepted statement of inevitability. However, it no longer holds water. The end of capitalism is not simply being imagined; its founding tenets are being challenged, here and now, by the conditions of climate breakdown.

This actualisation rewrites the dictum: the threat of the end of a world demands that we imagine and enact the end of capitalism. The reason is simple: the history of capitalism is bound to the history of climate. The machinations of capital have directly caused the crises of ecological collapse. In relation to knowledge, the term *Plantationocene* recognises the role of colonial activity in expropriating human and natural resources in service of expanding European economies. In the *Capitalocene*, everything—human and more-than-human—is reduced to abstract units of exchange, there to be traded and profited from.

Architecture is not an innocent bystander in this relentless process of economic exploitation of people and planet. First, it is deployed as a marker of the sustained progress demanded by the Modern Project and its economy; continuous innovation is hard-wired as a necessity for both modernity and architecture. Second, the discipline of architecture is the agent and materialisation of the endless growth that capitalism relies on. The consequences of this growth on environmental conditions are profound, with human consumption far exceeding planetary boundaries. Finally, the acts and

Capital comes dripping  
from head to foot,  
from every pore,  
with blood and dirt.  
→ Karl Marx

The Capitalocene signifies  
capitalism as a way of  
organizing nature—as a  
multispecies, situated,  
capitalist world-ecology.  
→ Jason Moore

For capitalism, Nature  
is 'cheap' in a double  
sense: to make Nature's  
elements 'cheap' in  
price; and also to  
cheapen, to degrade or  
render inferior in an  
ethico-political sense,  
the better to make  
Nature cheap in price.  
→ Jason Moore

products of architecture are inevitably shaped by market demands and are therefore bound to the consequences of those economic systems—most notably their extractivist base. Architecture has followed a broader shift from public to private sectors of the built environment's design, production, and maintenance. As everything from housing to infrastructure has been outsourced to the market, architecture, both as discipline and profession, has been overwhelmingly exposed to and controlled by neoliberal forces.

The discipline and profession of architecture are thus bound to the dominant economic structures of modernity, and with this are complicit in capitalism's role in climate breakdown, particularly as the culture and operations of architecture have become increasingly financialised. This is not an accusation but a statement of fact. This complicity challenges the liberal foundations of the profession, which has long positioned architecture as a public good. To avoid the charge of collusion with the darker forces of capital, the discipline of architecture plays two cards. First, it asserts itself as an art form that is somehow elevated above worldly concerns. Second, it positions its practitioners as experts who are there to fix the world's problems, a seemingly worthy posture that continues today under the guise of architectural sustainability. But if architecture is to become genuinely effective in engaging with climate breakdown, it must acknowledge its role in the systems that produced the crisis. This means looking upstream to the past conditions that have shaped the discipline, and recognising how architecture is implicated in the economic causes of climate breakdown.

Because the forces of capitalism have propelled the trajectory of ecological collapse since

The triumph of market logic with its ethos of domination and fierce competition, is paralyzing all serious efforts to respond to climate change.  
→Naomi Klein

the colonial era, it is necessary to recognise and implement other economic models to divert that path. However, such is the hold of late capitalism that it blocks the potential to envisage other economies. Capitalist realism, a term of the late British critic Mark Fisher, suggests that there is only one feasible and acceptable mode of economic conduct—one that permeates all aspects of life. Within this system, architecture is overseen and tormented by the demands of profit-obsessed economics, and under these restrictions, cannot release its spatial imagination in support of new social and economic formations.

Capitalist realism [...] is more like a pervasive atmosphere, conditioning not only the production of culture but also the regulation of work and education, and acting as a kind of invisible barrier constraining thought and action.  
→Mark Fisher

There are several broad approaches to dealing with these impasses. The first is to employ the practices of capitalism but in ways that subverts or bypasses standard systems. However, one of capitalism's most irrepressible traits is its ability to appropriate and use such tactics to its own ends. Open-source peer-to-peer networks, for example, often begin as disruptive alternatives but are quickly assimilated and controlled by corporate capital. Both the telephony software Skype and developers' resource GitHub—which started out as free software—were bought out by Microsoft and absorbed into its corporate infrastructure. In urban contexts, similar dynamics apply. The collective spirit of temporary urban installations or markets has been commodified by developers as 'pop-ups', used to maximise return on empty sites awaiting development; there are now architects specialising in 'meanwhile' design. A second approach is to work within systems of the capitalist economy and attempt to make them more responsible in relation to planetary boundaries. This is the logic behind so-called green capitalism, where environmental issues are addressed through market-based mechanisms using redistributive measures such as carbon credits and offset trading, or

[The] essential fault in the [...] market-based approach to ecological crisis is its virtual guarantee of delivering injustice, both domestically and globally.  
→Adrienne Buller

government incentives such as those found in various versions of the Green New Deal.<sup>5</sup> In architecture, this approach often manifests in an obsession with sustainability metrics, counting the carbon load of buildings in terms of embodied energy and energy-in-use. However, the ‘greening’ of capital and architecture has a fundamental contradiction: it remains tethered to systems and principles of a market-based economic system that demands perpetual growth. And growth, as a core tenet, is a key driver of climate breakdown. While green capitalism and sustainable architecture may mitigate the worst aspects of environmental collapse, they remain reliant on dominant economic assumptions, and so they fail to disturb them.

A third approach is to look for cracks in existing systems and lever them open to establish hopeful alternatives. Living in a permanent state of anger, anxiety, and critical frustration with existing economic orthodoxies risks paralysis, shutting down the potential of envisioning other ways to act. In Andy Merrifield’s metaphor, we stand before a Kafkaesque castle, as symbol of entrenched authority and violence. Rather than attacking it head-on, Merrifield argues for a tunnelling operation that at the same time undermines the castle and finds new routes for the future.<sup>6</sup> These other routes might begin with a critique of the existing economic structures, but must move quickly beyond to imagine new horizons and values.

It’s time to create something one likes rather than smash what one doesn’t.  
→ Andy Merrifield

A good starting point for surfacing economic alternatives is to think about different growths and measures. Currently the overriding measure of growth is that of GDP, but GDP growth is not accompanied by growth in other indicators such as health, equality, let alone happiness or freedom.<sup>7</sup> In fact, growth in GDP is a driver for increasing global inequality, as the wealthiest

nations compound their yearly growth from a higher base, leaving the poorest countries further behind. This inequality also plays out at an individual level within the countries, as growth in GDP directly benefits the few over the many. But the most profound effect of economic growth is on planetary ecosystems. One of the most startling economic graphs is one that tracks GDP against material extraction. The correlation is almost exact, one line relentlessly dragging the other up. The people pulling fastest are the world's top 1% who produced as much carbon pollution in 2019 as the five billion people who make up the poorest two-thirds of humanity.<sup>8</sup> The politics of growth are thus inseparable from natural resource depletion, degradation of biodiversity and knock-on effects on climate, as well as rising social inequality. All evidence suggests that this addiction to growth has already breached several planetary boundaries, limits that are not abstract measures, but fundamental to human survival.<sup>9</sup>

For Marx, the metabolic rift associated at the social level with the antagonistic division between town and country was also evident on a more global level: whole colonies saw their land, resources, and mills robbed to support the industrialisation of colonising countries.  
→ John Bellamy Foster

Dominant architectural paradigms and operations are fully implicated in the systems and consequences of economic growth, not least because the construction of the built environment is so resource-intensive. The sheer material scale of architecture means that it is both a rapacious extractive medium *and* tied to symbolising and materialising the excesses of growth through thin veneers of progressive form. Architecture is inevitably extractivist, drawing on stocks of planetary resources and exploiting labour in order to maximise returns. Architecture here becomes an agent in widening what is termed the metabolic rift: the alienation of humanity from the natural world. It is more productive to release the definition of growth from the myopic grip of GDP and talk of *different growths*: to reinstate notions of other forms

of abundance by asserting other measures and understandings of value.<sup>10</sup> This is not a radical proposal—it is already enshrined in the politics of countries such as Aotearoa New Zealand, with its Treasury's adoption of a Living Standards Framework, which supplements standard economic indicators with measures of well-being, social cohesion and environmental health.

Introducing different growths begins by understanding what GDP does *not* measure. GDP counts economic activity regardless of its social or ecological value (or damage). Crises such as oil spills, earthquakes and wars raise GDP because of the costly rescue and reparation projects they entail. Meanwhile, the unpaid labour of raising children or caring for sick and older people is excluded entirely. What is valued economically has always been determined by white, patriarchal, colonial power—rewarding the kinds of work typically done by white men in the global North, and ignoring other forms of work that support or enable it. Actions that are fundamental for planetary well-being, such as keeping oil and trees in the ground, maintaining water health and halting air pollution, have zero value according to GDP. A recalibration of the economy to value these aspects of the living and social world is urgently necessary to stay within planetary boundaries.

The idea of *different growths* extends the more commonly used notion of *degrowth* because it introduces other ways of measuring the world beyond reversing the economic growth of GDP. This shift has direct implications for architecture. First, it requires decoupling the Eurocentric link between progress and growth, so each term can find new, independent meanings with which architecture can engage. Released from the obsession of announcing

Many of the environmental resources we value are excluded from measure in the economy. They cannot be sold in private markets, so it is said to be difficult to determine what they are worth. Yet their destruction, and the costs of cleaning up after the destruction, are labelled 'growth' and 'production'.  
→ Marilyn Waring

progress through spectacles of polished form and technique, architecture can spatialise and materialise other interpretations of progress, most notably those that align with climate and social justice. By stepping off the linear treadmill that binds growth to progress, architecture can detach from its servile role within financial markets and find purpose and value beyond delivering short-term profits. Such purpose can be elaborated through re-understanding the role of the economy not simply as the generation of growth and gain but as the management of resources. This original domestic meaning based on the conditions of the home (*oikos*), must be seen in a planetary context: as the collective management of the world's human and more-than-human resources within ecological boundaries.

How a society, and a profession such as architecture, views the use of resources plays a substantial part in determining its economic ethos and systems. In the 1970s, economist Herman Daly proposed steady-state economics, which is defined as an economic system that works within ecological limits. Daly envisioned a square (the economy) placed within a circle (the planetary ecosystem), resisting growth and maintaining closed-loop resource flows.<sup>11</sup> This diagram influenced Kate Raworth's influential 'doughnut economics' model, where a socially—and ecologically—viable economy sits within an outer circle of environmental limits and an inner circle of social well-being indicators [DOUGHNUT ECONOMICS]. In the economic diagrams of Daly and Raworth, social and ecological considerations are inseparable. A steady-state model for architecture implies a model that redistributes, renews, repairs and maintains existing resources. This is very different from the default mode of architecture today as determined by the dominant financial models,

which is to add more to the human world by taking more from the natural one.

The most productive examples of a steady-state approach for architecture extend beyond the retrofit and repair of single buildings (valuable and necessary though this is) into a more systemic design of infrastructures and services that encourage the redistribution of existing materials and resources. A steady-state architecture also draws on the principles of the circular economy, where the linear flow of extraction-use-obsolescence-waste is redirected into a looped system. The architect's role moves here from designing objects to designing systems that allow these loops to be realised—such as in the work of the Belgian firm Rotor, which has established a platform for tracking salvaged materials for reuse in construction projects [OPALIS.EU].

Alternative economic systems can also shift timescales. Current dominant economic models are based on short-term targets for profit and growth, particularly when these are tied into the expedient rhythms of politics, which are too often determined by the demands of election cycles rather than any longer-term thinking. Urban development and its architecture typically mirror this short-termism, with the supply of space reflecting the immediate processes of financial exchange from developer to tenant. In this context, architecture is employed to materialise a swift transaction, cut off from long-term cycles. There is a clear severing at play in this commodification of contemporary architecture, with the insistence on financial outcomes separating spatial production from its social and environmental implications and responsibilities. The frenzied pursuit of immediate profit ignores the impacts and consequences downstream in the future and learns nothing from lessons upstream in the past.

Economic and spatial short-termism also disregards the relational and temporal structuring of planetary resources. The ideology of the free market asserts its primacy as a single force that subsumes all other conditions into its logic, overwhelming the interdependence of human and beyond-human relations. Instead, the economic and spatial conditions required under climate breakdown need to work with and within the relational contexts of planetary systems, remembering the joint etymology of the words economy and ecology. This means bridging between otherwise disparate disciplines, scales, and geographies to reflect that climate needs to be understood and addressed as a set of relations. These relationships are held together spatially, which is where the architect's role as spatial agent comes in, working with others to envisage new socio-economic conditions and their spatial implications.

View economy as referring to all of the practices that allow us to survive and care for each other and the earth. Economy, in this understanding, is not separate from ecology, but refers to the ongoing management—and therefore negotiation—of human and non-human ecological relations.  
→ J.K. Gibson-Graham

Economic, political, and spatial short-termism is also incompatible with the temporal aspects of planetary resources, which have evolved in epochal timescales that far exceed human cycles. Any spatial negotiation in the face of climate breakdown thus needs to respect the temporal depth of natural systems, from how they have evolved to their future endurance. Such an approach draws on the work of the feminist economists Julie Graham and Katherine Gibson, who talk about economics in terms of ecology, as a living and evolving system of interdependencies.

An economic obsession with the now, and the production of instant futures, leads to a forgetting of the past conditions that have constituted the present. There is a disregard to the exploitation of human and natural resources on which modern economies

were built—particularly in relation to colonial histories and slavery, where the conjoined expropriation of Indigenous people, land and resources laid the foundations for climate collapse. Here human and beyond-human resources were treated as abstract units of financial exchange. Remembering these racist foundations is necessary if such divisive and violent acts of accumulation are not to be repeated. Tragically, these colonial methods are still being deployed: from the accumulation of agricultural land in sub-Saharan Africa by Global North nations to the planting of lucrative forests for spurious carbon-offset schemes. In both cases, this leads to the displacement of Indigenous communities and shifting of carbon load from the Global North to the Global South. In architecture, the same neo-colonial behaviours are apparent in the expansion of Western architectural practices into the Global South, bringing with them the same economic and spatial models that have historically damaged vernacular networks and natural ecosystems. Angola's capital city of Luanda is a prominent case. Following the end of the civil war in 2002, the city experienced a building frenzy, funded by offshore oil. Over 200,000 city dwellers were displaced as German, US, British, Chinese and Portuguese consultants transformed the city into a vision of Western modernity, largely inappropriate for the tropical climate and the living patterns of the Angolan citizens.<sup>12</sup> Similar patterns of Chinese and Western neo-colonial urban development are repeated across sub-Saharan Africa.

Because the status quo holds such sway over our lives, any thinking outside the strictures and structures of capitalism is too easily dismissed as fanciful. However, the entrenched connection between market forces to ecological collapse makes this rethinking a

The refusal to integrate [the history of slavery] into our views of modern economics prevents us from telling the truth about the current destruction of the environment, or to acknowledge—really acknowledge—the misery of workers today who provide us our goods.  
→ Marvin Brown

necessity. The potential to think beyond the existing system is not a utopian impulse, but an urgent need. Alternative economic systems can be found in South America that intentionally move away from colonial models into ones that relate climate justice with social justice by establishing new social contracts. The best-known of these is found in the concept of *buen vivir* (Spanish for 'living well'), which is based on the Indigenous Amazonian concept of *sumac kawsay* or 'living in completeness' [BUEN VIVIR]. Buen vivir emerged in several regions of South America around 2000 as a coalition of Indigenous peoples, people of African descent, ecologists, feminists, and activists. These groups worked from long-standing processes of resistance to fight austerity measures imposed by neoliberal political regimes and industrial damage to habitats and Indigenous territories. In the regions of Ecuador and Bolivia, Indigenous organisers promoted plurinationalism, intercultural identity, and the rights of nature as foundational principles. Though buen vivir avoids prescribing a formalised set of rules or practices, it is characterised by its multi-species definition of rights and its non-linear understanding of life as an ongoing process of regeneration and evolution. Buen vivir's non-linear temporality is a direct rebuttal of the colonial and neocolonial industrial development projects that have damaged ecologies and societies across the Andes and the Amazon basin. Rejecting colonial economies of land ownership, buen vivir understands territory as a living system of multi-species relations, which must be supported by ecologically respectful worldviews, principles, and customs. Driven not by instrumental systems aimed at economic growth but by relations of human and non-human value, buen vivir redefines growth as a flourishing of communities and ecosystems in tandem.

Alternative economic models also exist in Europe, some of which bring inventive and surprising spatial conditions—for instance co-housing schemes based on shared ownership that liberate the dwellers from the traditional markers and boundaries of property ownership and use. The Spanish housing cooperative La Borda [LA BORDA] focuses on sharing ideas, space, and facilities in a process of co-design and cohabitation, challenging the traditional model of individual ownership and consumption. La Borda demonstrates the social and environmental value of designing housing carefully, over time, and with enough imagination to move beyond private ownership conventions towards convivial and climate-attuned alternatives. The spatial difference between these and standard market-led housing is sometimes startling, with much more common space, and less private boundaries, promoting different living patterns.

This approach can also be seen in the Swiss housing cooperative Mehr als Wohnen [MEHR ALS WOHNEN], where architects Duplex mix private and communal spaces in innovative ways, generally by minimising the individual accommodation (a one-person studio can be as little as 25 square meters) to allow for generous shared facilities such as kitchens, dining and living areas, laundries, and playrooms. This system of clustering around shared facilities also works at a large scale, as the thirteen blocks are intersected by open spaces for a wide range of uses, as well as workspaces, restaurants, and shops.

The opportunity now is to expand these alternative economic models into other social and spatial conditions. These are acts of imagination and hard work, opening possibilities in which new economic models are spatialised in both material and immaterial

ways. All aspects discussed here—different growths, management of resources, temporal depth and relational aspects—can be brought together in a renewed understanding of an economy designed to serve the many (human and more-than-human) and not the few. Capitalist economies consistently drive wealth into the hands of privileged individuals and private corporations away from the arena of public and planetary good. This has direct spatial consequences: territorial boundaries are erected to protect private assets. Against this, on the premise that we are all in this together, an economy of the commons sets conditions for mutual support and multiple forms of abundance. US economist and Nobel Prize winner Elinor Ostrom has been instrumental in reframing economic debate with her theories of the commons.<sup>13</sup> She showed how communities can, and do, manage common resources in a sustainable and collaborative manner that resists the exploitations and inequalities of capitalism. They are economies that value stewardship over ownership, conveying interspecies and intergenerational responsibility: land, water, and air are not assets but something to be cared for with others. And because the commons are never isolated, such collective economies are necessarily embedded in planetary networks. When these networks collapse, so do the commons. New economic models act as a profound liberatory force and collaborator for a future architecture. They bring with them new social and ecological contracts, and with those, new spatial relations.

[It is] important to dispel the assumption that a society based on commons is a utopia or that commons must be small-scale projects, unfit to provide the foundation of a new mode of production. Not only have commons existed for thousands of years, but elements of a communally based society are still around us, although they are under constant attack, as capitalist development requires the destruction of communal properties and relations.  
→George Caffentzis  
and Silvia Federici

## FIND THE LEVERAGE POINTS

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## AND DECIDE HOW AND WHERE TO INTERVENE

Work out where you might be most effective in transforming a given situation. In any system, there are both blockages and gaps—see what you can unlock in the former, and where you can lever open the latter. Find conditions you can affect and leave aside those you cannot access, or situations so stubborn that they need to be bypassed or just left behind. Determine which changes might take significant effort, and those which are easier: things that make small changes and things that set off cascades.

ACT CIRCULAR  
BEFORE LINEAR

/

IN TIME AS MUCH  
AS IN STUFF

Think in terms of the circular, breaking the hold of linear processes in which a 'new' thing is made, then used, and then disposed of in a relentless line from extraction to waste. Circular thinking avoids time's arrow, which has led us to believe that we are forever marching from one state to another along the straight line of progress, leaving the past behind. The past still exists in the present. Design with the past in mind, so that you recuperate what is already there. Design with the future in mind, so that what you produce can be kept in circulation.

## REARRANGE THE INSIDE

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## RATHER THAN BRINGING SOMETHING IN FROM THE OUTSIDE

The temptation always is to bring in resources (material, human, expertise, immaterial) from the outside, hoping that the fresh input will act as a 'solution'. These externalities might suppress the potential of what is already there. Project out from the given, working with existing structures—both their blockages and potentials—in order to allow for just change. Work with those who share the same vision, and act from a place of deep understanding of local conditions and their relationship to broader systems.

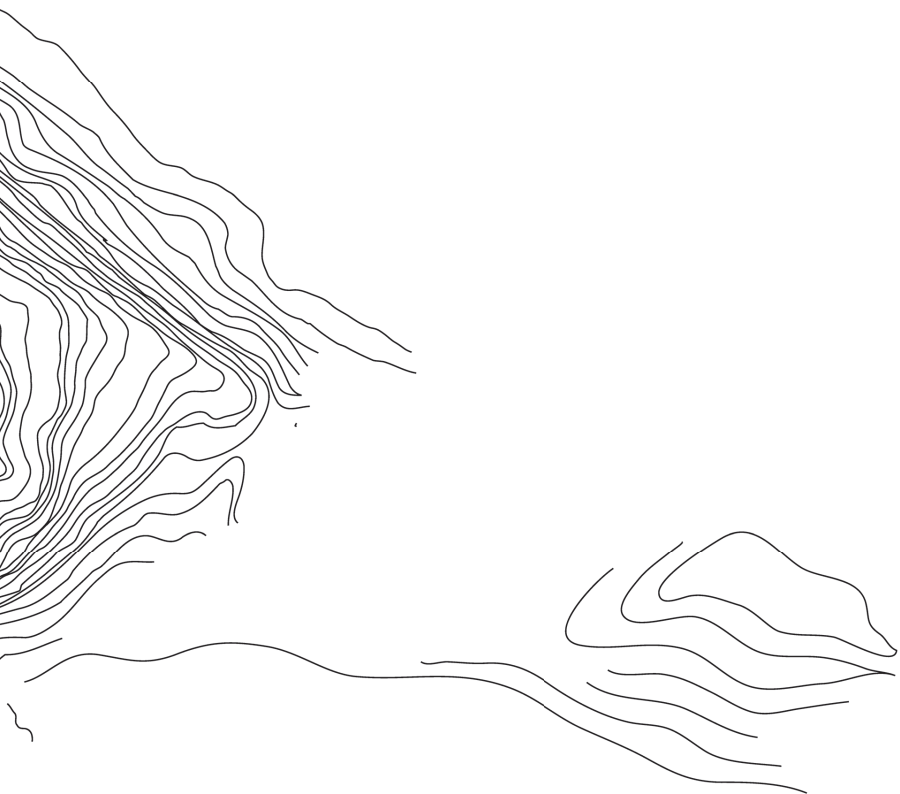
## MEASURE GROWTH DIFFERENTLY

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## TO RECONSIDER FORMS AND TYPES OF VALUE

The standard measures of growth—those of GDP and economic expansion—are entirely counter to climate justice, because this kind of growth is accompanied by extraction and exploitation. Economic growth is inexorably matched by material growth which breaks planetary boundaries. Think instead of other ways of measuring growth in what you do—growth of equality, of health, of well-being, of biodiversity, of planetary care—building other economies that support, rather than profit from, ecology.





# Land

Nearly a quarter of the world's most fertile soil, known as Chernozem or black earth, is located in Ukraine, occupying about two-thirds of the country's area. Around one metre beneath its surface, archaeologists have found some of the largest settlements in the world, dating back to the era of the first Mesopotamian cities. However, these settlements had nothing to do with the hierarchical and political organisation of ancient cities; on the contrary, they displayed an alternative urban tradition that contributed to the fertility of the region's soils. They could be seen as an early example of when a mutual relation of land to life was integral to the way that society was organised .

This is what Forensic Architecture has called 'The Nebelivka Hypothesis'.<sup>14</sup> A land once regarded by the ancient Greeks as part of the 'barbarian steppe' appears to have been shaped not just by geological processes but also by the complex interplay between human societies and their environments.<sup>15</sup> Following archaeological studies, Forensic Architecture reconstructed the layout of Nebelivka using aerial photography across different seasons and following soil patterns. They revealed an extensive settlement forming multiple rings of domestic buildings around an empty centre. Further, excavations at Nebelivka have yielded no evidence of palaces, central storage facilities, administrative centres, rich burials, or any other signs of top-down control.<sup>16</sup> This discovery challenges previous assumptions that early cities inherently exhibit hierarchical organisation and centralised power structures.

Nebelivka presents a significant challenge to our established understanding of urban development, social structures, and ecological history, all of which are intricately recorded in the composition and memory of its soil. The site reveals an overlooked tradition of urbanisation through forgotten societal and ecological practices. This contributes to a broader understanding of cities and their interaction with the environment, suggesting a future made up of symbiotic relationships with the land and its depths.

Beneath our feet lies not a solid, unchanging mass but multiple restless, layered sediments that reflect millennia of how humans, nature, and the constructed environments have influenced and shaped each other.<sup>17</sup> Our roots, both cultural and material, extend deep into the soil.<sup>18</sup> This profound connection implies that our identities, histories, and ways of being are fundamentally intertwined with the land we inhabit. Land, then, is not just a backdrop and footing for human existence but an active participant in shaping it. What in the architectural world is perceived as a 'surface', as a blank slate for human intervention, is, in fact, the outcome of a complex interplay of diverse histories encompassing both natural and cultural forces.<sup>19</sup>

Land remembers. It remembers conflicts, displacements, migration movements, natural disasters, human constructions, and weather patterns. Land, through its soil, represents not just a physical location but a profound sense of belonging through a complex network of relationships.<sup>20</sup> Land is not an abstraction, a lifeless concept detached from the brutal dynamics of human history—colonisation, capitalisation, and commodification. Like an archaeological record, land registers the events situated on and within it. It is a living and

A revolution is taking place in our understanding of cities, arising from the laboratory of the past. Using an array of new techniques, archaeologists are discovering traces of urban landscapes that, until now, have been entirely lost to human memory. Such evidence is not 'unearthed' from the ground. It is interior to the soil and inseparable from it.  
→ Forensic Architecture

The fact that soil itself is a human product is often overlooked in architecture. Although the term 'geotechnics' conjures up images of the laboratory analysis and design of foundations, the soil taxonomies used by architects and engineers artificially classify land by fixing the names and properties of soil into types. But the colorful patches of their grids in fact record both natural and human history.  
→ Lucia Allais et al.

breathing common resource. It encompasses the climate and biodiversity, the air above and within it, the water bodies, the diverse flora and fauna, minerals, fossils, and hidden ecological and human stories concealed in its subterranean depths. It harbours the resilient Indigenous communities whose symbiotic relationship sustains both land and lifeways.<sup>21</sup> Both tangible and intangible, natural and human-made, land encapsulates landscape, cultural history, human interactions and collective memories, along with emotional and spiritual significance.

Architecture of the modern era is blind to the intricacies and dynamics of land. It sees land as inert matter to be manipulated: as something to be flattened, sat upon, dug into and pushed around. It treats land as a form of dead matter, a conception that is a basic tenet of modernity and conquest. Progress demands the transformation of landscapes into private buildings, concrete infrastructures, glass surfaces and vacation houses, disregarding the ecological and cultural tapestries woven into land's depths. Land becomes part of the architectural project that turns raw matter into spatial commodities through standardised urban planning, global real estate markets and developments. The financialisation and abstraction of land have severed its connection to its fundamental value, including its capacity to support life and ecosystems. These architectural processes open a significant gap between land's material and ecological reality and the speculative notions prevalent in the market. Treating land as a commodity—a physical asset to be traded, invested in, or speculated upon in financial markets—without regard for its historical or ecological importance has detrimental effects on climate and communities. Maintaining healthy, biodiverse land is essential, as it acts as

a crucial carbon sink, filters water, and supports organic matter, which converts carbon dioxide into oxygen, thus preserving ecological balance and mitigating environmental degradation. The over-extraction of natural resources, excessive development and exploitation all strip the land of its ability to regenerate, reducing biodiversity, and increasing pollution levels. The relentless expansion of urban areas, where wetlands are paved over, forests are clear-cut, and streams are concreted over, disrupts land's natural capacity to regulate climate, moderate temperatures, and absorb rainwater. Large-scale excavation and land alteration disrupt soil structures, leading to erosion and the loss of fertile topsoil. As the soil structure deteriorates, it becomes less capable of supporting plant life, leading to a cycle of decline in land quality and biodiversity. Land is left wounded and barren.

Such destructive actions on land often ignore the rights and well-being of local populations, weakening communities' social and economic structures, and fostering a cycle of environmental damage and social hardship. The displacement of Indigenous peoples, the erosion of local cultures, and the undermining of traditional livelihoods further exacerbate the disconnection from the land. Architecture and built infrastructure are not outside of this cycle. The Dakota Access Pipeline's route through the Standing Rock Sioux's sacred lands, the destructive logging and mining in the Amazon affecting tribes like the Yanomami, the strip mining that displaced the German village of Lützerath, and the power plant infrastructure development disrupting the Sami's reindeer herding illustrate how construction practices not only threaten the environmental sustainability of regions but also the cultural and social fabric that binds communities together, disconnecting them from their historical and ecological roots.

The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land.  
→ Aldo Leopold

In Indigenous lore, living *with* and not *on* the land encompasses a deep, reciprocal relationship between humans and more-than-humans, natures and climates. These ways of living are embedded in the traditions, spiritual beliefs, and daily practices of many Indigenous cultures across generations. From harvesting practices to deep understandings of relationships between plants and soil health, communities see themselves as part of an interconnected ecological system and honour the intrinsic value of all life forms.

The concept of perceiving land as ‘empty’ resonates with the principles underlying both liberal and colonial ideologies, and has had a significant influence on how land has been historically controlled, divided, and exploited, as well as how it continues to be managed in the present day.<sup>22</sup> This essentially Eurocentric perception supports the notion that land without visible signs of development or use according to Western standards is available for taking, transforming, and incorporating into dominant economic and political systems. The mechanisms through which these incursions on the land are enforced are multiple, often using architecture and infrastructure as apparatus. Borders and boundaries are drawn onto geographical maps, demarcating ownership and jurisdiction. Fences and walls are erected to segregate and safeguard these territories. Legal frameworks, often influenced by liberal policies that emphasise individual property rights and free markets, then have a significant impact on establishing the basic rules and structures that place land ownership beyond the reach of the original inhabitants. These ideological structures and property rights remain stable and secure, enforced by military and police presence, preventing any significant resistance or attempts to reclaim the land by those who

To divide ‘land’ is not a simple act of territorialisation. As a practice of seizing land from Indigenous peoples, colonisation parcels land into packages, treating it as ‘empty’ in need of being surveyed, depopulated, and resettled. With the colonial project’s obsessions with neat ownerships, gridding, separating land and water, and the delineation of property lines, only makes the border a colonial construct.  
→ Aastha D.

might have been replaced or marginalised.<sup>23</sup> Here, architecture, disguised as a regional planner, agronomist, or land surveyor, plays its role as a master in 'improving land'. This interplay of legal, architectural, and military strategies forms a comprehensive system of control that perpetuates the dominance of these ideologies over the land and its people.

In Brenna Bhandar's insightful analysis, the histories of colonisation and land privatisation work in parallel, rooted in acts of making enclosures and borders. She uncovers the intertwined narratives of use, abstraction, race, and status, which support specific legal forms of ownership across settler colonies. These ideologies cast land and its native inhabitants as objects in need of 'improvement' and forge links between ownership rights and identity, particularly along gendered, racialised, and colonial lines. The legal and social constructs of property ownership were designed to privilege certain groups, especially European men, as the 'proper' legal subjects within the political sphere.

This ideology of improvement is one that binds together land and its populations; land that was not cultivated for the purposes of contributing to a burgeoning agrarian capitalist economy by industrious laborers was, from the early seventeenth century onward, deemed to be waste.  
→ Brenna Bhandar

The process of registering land titles then introduced an abstract logic in which land becomes a commodity that can be bought and sold, allowing colonial powers to impose their legal and economic structures, marginalising Indigenous land rights and reinforcing racial distinctions. Architecture in this context plays a crucial role in manifesting racial classification and social hierarchies through segregated neighbourhoods, schools, and public spaces designed to keep different racial groups apart. Those who asserted dominion were seen as having a rightful claim to the land, which served as the foundation for their authority and control. In this context, law was a tool employed to legitimise and codify these claims, consolidating the power of the ruling

classes. Urban planning, zoning laws, and building regulations further entrenched the legal and economic structures imposed by colonial powers.

Emptiness has historically been a pretext for dispossession and colonisation. The idea that land was 'empty' and uncivilised, as were the Indigenous stewards of the land who needed to be civilised and brought into a Western perspective, provided a convenient rationale for colonisation and exploitation by so-called 'explorers' of the vacant landscapes they found. Such explorers, who claimed to have discovered and tamed these supposedly unruly lands and their stewards, justified the dispossession of Indigenous peoples by portraying their ways of life as inferior. The violent colonisation by European settlers in Asia, the Americas, Australia, New Zealand and Africa set the stage for the global climate crisis. The colonial mindset of relentless accumulation, consumption and expansion has shaped historical trajectories. It persists in contemporary economic practices, driving global inequalities, environmental degradation, and the exploitation of both natural and human resources. A striking example of resistance to the colonial conquest of land is the Mexican Zapatista movement [ZAPATISTA CARACOLES]. The Zapatistas demanded official legal recognition of the rights of Indigenous peoples and improvement of living conditions. They argued for autonomy as a collective right and called for self-governance of their territories and resources. From a Zapatista perspective, territory is not a defined physical space but is formed through relationships. Communities (pueblos) comprise flows of communication, negotiation, and confrontation between individual and communal needs, and a person's sense of self is attuned to the larger scale of community.

The intricate relationships between land ownership and prevailing concepts of emptiness and dominion have been instrumental in shaping and perpetuating systems of power.<sup>24</sup> Power has consistently been rooted in land ownership throughout history. As Amitav Ghosh argues, recognising all these intertwined issues, which stem from inequalities in land use and management since colonial times, is the first step towards ecological justice.<sup>25</sup> Addressing these deep-seated conditions requires not only policy reforms but also a fundamental shift in acknowledging the historical injustices of colonial land appropriation and its ongoing impact on marginalised communities and the environment.

Architecture does not stand outside these operations but is an active agent through which the abstract concepts of land ownership, spatial organisation, and neoliberal ideologies are translated into concrete and spatial realities, reflecting and reinforcing social hierarchies and power dynamics. The segregation of neighbourhoods along racial lines is not a natural occurrence, for example, but a product of historical and contemporary practices of discrimination, such as redlining and zoning laws. Sets of rules and norms governing land use, ownership, and management—a ‘land system’<sup>26</sup>—are embedded in our society. They influence the distribution of resources, determine access to housing and food, affect environmental resilience, and shape economic inequalities. Agricultural land is concentrated in the hands of a few large corporations, limiting opportunities for small farmers and contributing to rural poverty; restrictive land use regulations and zoning laws constrain the supply of affordable housing, while low-income neighbourhoods in cities have limited access to fresh and affordable groceries. Recognising

The brutal dynamics of capitalisation had no place for the alternate valuations of the ground posed by the enslaved or the Indigenous. These communities were perceived as odious obstacles to landed freedom. So, the story of architecture’s relation to land is also a history of dispossession and disenfranchisement taking on built form.  
→ Lucia Allais et al.

all these intertwined issues, which stem from inequalities in land use and management, is the first step towards the re-evaluation and reform of land policies and practices.

Land is much more than a surface to be appropriated and exchanged; it has a depth; it is made up of soil, a living, dynamic matter. Soil, Earth's second-largest active carbon reservoir after the oceans, has been adversely impacted due to unsustainable land-management practices, industrialised agriculture and shifts in land use. In cities, the soil is carpeted with concrete and tarmac; water finds nowhere to go, and heat multiplies. The isolated, piecemeal approach to land management that emerges from the tight relationship between land and law eliminates any possibility for actions that join the living soil to other conditions. Initiatives like rewilding, agroforestry and regenerative agriculture, while valuable, cannot work in isolation; they require greater interconnectivity between local and global, between situated knowledges and legal frameworks, between disciplines, and between historical practices and futures.<sup>27</sup> It is crucial to think and act beyond international borders to reimagine our relationship with land as soil, recognising that policies and actions are often confined within state or national boundaries. Soil and ecosystems do not adhere to these limits. Prioritising the interplay of ecosystems where ecological boundaries merge and flourish is essential. This is a call to embrace the multiplicity of perspectives through which our planet is engaged with, experienced, known, and imagined.

A good example of combining the politics of land rights with an ecological sensibility can be found in the Black Dirt Farm Collective [BLACK DIRT FARM COLLECTIVE]. This is a US collective

formed with the dual purpose of returning land to Black farmers and bringing Black farmers back to the land. Central to the Collective's work is the question of land and how to return it to Black farmers through legislation, seeking to move away from a profit-driven agro-industry economy to one that is mutually healing of both land and community. Through training and education programmes based around Afroecology, the Collective aims to transition from an extractive to a regenerative economy. This transition is inseparable from one that undoes societal and racial injustices resulting from extractivist systems responsible for the production of climate breakdown and biodiversity crises.

For the Collective and many others, soil is more than the ground we walk on; it's home to billions of organisms—from earthworms that aerate the earth to microorganisms that break down organic matter, recycling nutrients back into the system. This intricate web of life sustains plants, which in turn sustain animals and humans. In this way, soil is a critical player in the ecological balance, supporting biodiversity and regulating the climate. Yet, rapid industrialisation, the relentless pursuit of growth, and the exploitation of natural resources for short-term economic gains disrupt soil's natural metabolic processes which sustain life and the environment.<sup>28</sup> Understanding the ecological value of land as soil is essential for human and more-than-human existence.<sup>29</sup> The case of Nebelivka's urban tradition illustrates how cities can thrive with land-use systems and governance patterns that move away from extractive practices and the exploitation of nature. It shows that there are ways for spatial practice and architecture to go beyond sustainable building and mere technocratic solutions by understanding the land use practices of

many situated and Indigenous voices; by integrating environmental, social, and cultural considerations into building policies; by adopting participatory governance models that prioritise community involvement and Indigenous knowledges; by working within local ecosystems and cultural practices; by prioritising restoring and repairing networks, relationships and not only buildings; by thinking with, within, and through soil.

Land can be a powerful means of reshaping how we think about our built surroundings because it spatialises and represents the life that has been part of the present, and its pasts and futures. Acting as a living canvas, it raises a fundamental question: *Who owns and controls land both in the past and today?*

This question opens up new opportunities for architecture, drawing on situated, anti-colonial and more-than-human narratives that can be found in various contexts around the world. For instance, the Green Belt Movement in Kenya [GREEN BELT MOVEMENT] is a charity that organises forestry projects and employs women to plant and manage woodlands used for their communities' food and firewood needs. The movement is exemplary in understanding equity as an economic and ecological concern, with the needs of the planet closely aligned with the needs of the people depending on its lands and waters. In Australia, the Karrabing Film Collective [KARRABING FILM COLLECTIVE] communicates issues of environmental devastation, land restrictions, racism, and economic exploitation through various media. *Karrabing* means 'low tide' in the Emmyyengal language and refers to a fluid form of collective organisation freed from the Australian government and its strictures around land ownership. The collective's approach emphasises belonging to each other, the land, and the more-than-human beings who travel across it.

The struggles for control and use of land come to the forefront in several instances specifically related to climate. In defence of Indigenous lands in protests in North Dakota [DAKOTA ACCESS PIPELINE] or within community-supported agriculture initiatives such as the Sudanese women's rights organisation Zenab [ZENAB], Similarly, the Landless Workers' Movements (MST) in Brazil, the international food sovereignty movement La Via Campesina and the Idle No More movement among Indigenous peoples in Canada illustrate the power of collective action in challenging colonialist viewpoints and exposing entrenched systems of land exploitation and management. These conflicts reveal that the just distribution of space is intricately linked to ecological practice. Equitable access to land allows communities, especially those which have been historically marginalised, to participate in land stewardship, preventing overexploitation by a few commercial entities. Fair distribution of land enables sustainable agricultural practices, conservation efforts, and responsible land management, which are crucial for maintaining ecosystemic balance.

These examples, and more [SOMANKIDI COURA, MOVIMENTO DOS TRABALHADORES RURAIS SEM TERRA], in one way or another, rethink land beyond Western ideologies and paradigms, dismantling received thinking, and recovering voices that have historically been silenced and labelled as marginal. They explore intersections of multiple disciplines and knowledges, advocate for land justice, and imagine networks of ethics and responsibility. Each movement or initiative recognises the intrinsic value of land beyond mere ownership and economic utility, emphasising stewardship, cultural significance, and ecological interconnectedness. They directly impact architecture by challenging architects and

others involved in the wider making of space to consider the socio-political and ecological contexts of the land they affect and transform. It then becomes an ethical decision to either perpetuate power dynamics and historical injustices associated with land ownership and use or to challenge these inequalities. These actions could enable new spatial thinking and, with this, other ways of practising architecture. The challenge is for the dominant architecture paradigm to transcend its role as a service provider primarily catering to the world's elites and engage not just with what goes onto the land but with the land itself as an active player in the design process.

The shift towards reconfiguring architecture's ties to land and climate draws inspiration from the notion of kinship between humans and more-than-humans, as highlighted by feminist scholars and practitioners. Inspired by Indigenous practices of caring and restoring landscapes alongside more-than-human entities, a kinship approach broadens our understanding of interspecies relationships and challenges traditional binary and hierarchical concepts.<sup>30</sup> It embraces the multifaceted essence of land, acknowledging its dynamic ability to influence and be influenced by its environment.

In reimagining architecture's relationship with land, it is essential to recognise that the economy and ecology of land are understood as not just interconnected, but inseparable. Such an approach requires a radical transformation in economic structures, moving away from systems that incentivise or permit the continuous exploitation of natural resources. Central to this vision is the need for different models of land use that prioritise stewardship and commoning over ownership. This leads to communities actively

Colonialism has deprived Indigenous people, and all people who are affected by it, of the means to develop according to our needs, principles, and values. It begins with the land. We have been made 'Indians' only because we have the most precious commodity to the settler states: land [...]. The path forward is simple: it's decolonization or extinction. And that starts with land back.  
→ The Red Nation

participating in the governance, management, and care of the land, representing a fundamentally different relationship with it, rooted in collective responsibility. This systemic change redefines the very ethos of ownership and enterprise.<sup>31</sup> It embodies a responsibility towards the land, demonstrating a profound shift in how it is perceived and interacted with.

Reforming land policies and practices to address historical and ongoing injustices is crucial for forming resilient ecosystems and imagining architectural alternatives. This includes implementing land redistribution programmes, protecting Indigenous land rights, promoting sustainable agricultural practices, and caring for and learning from the communities who live off the land. Architecture can be aware of the land's history, its ecological processes, and the communities it supports. Land is a register of climate: it blackens in a wildfire; it silts in a flood; it cracks in a drought. We see and feel its pain. There is no other path forward than repairing the ecological and social damage, starting with thinking through and with the land.

There is no option left but ecological revolution, which means simply that the people, in their endless numbers, will once again be compelled to take history into their own hands, in a struggle that is likely to be stormy and chaotic, but that will also demonstrate the power and endless creativity of humanity, offering the possibility of a new ecological renaissance.  
→ John Bellamy Foster et al.



THINK  
THROUGH SOIL

/

BECAUSE LAND  
IS NOT AN ABSTRACTION

Soil not only teaches us about ecology but also about how all life is fundamentally relational, dependent, and part of larger systems. Think through soil to see land as a living system, not an abstraction ripe for exploitation and commodification. Thinking through soil is the starting point to understanding the world as a complex ecosystem requiring nurture and stewardship.

# STEWARDSHIP OVER OWNERSHIP

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## BECAUSE LAND IS NOT AN ASSET

Relations of property organise the world—humans, nonhumans, environment—into financial transactions, and allow individuals to exploit what is not theirs, to ransack that which should be protected for all. Stewardship—as opposed to ownership—conveys interspecies and intergenerational responsibility: land, water, and air are not yours, but something you are privileged to look after for and with others.

DRAW ECOSYSTEMS  
NOT BORDERS

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BECAUSE NOTHING  
EXISTS IN ISOLATION

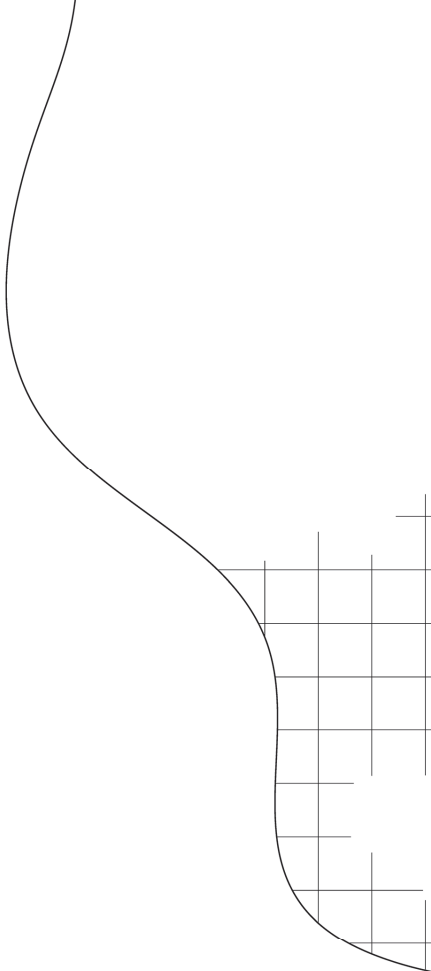
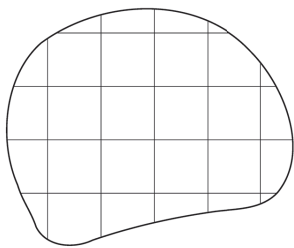
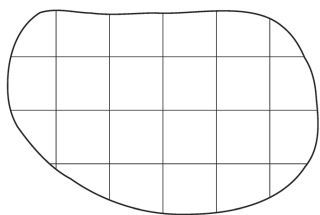
Always think of a line on a piece of paper or computer screen not as a potential boundary, but as establishing a social and environmental relationship. A collection of lines becomes an ecosystem, joining various parts and scales. Resist the modernist insistence on separation—of people, of places, of humans from nature—and work with connections, because everything you do is related to something else.

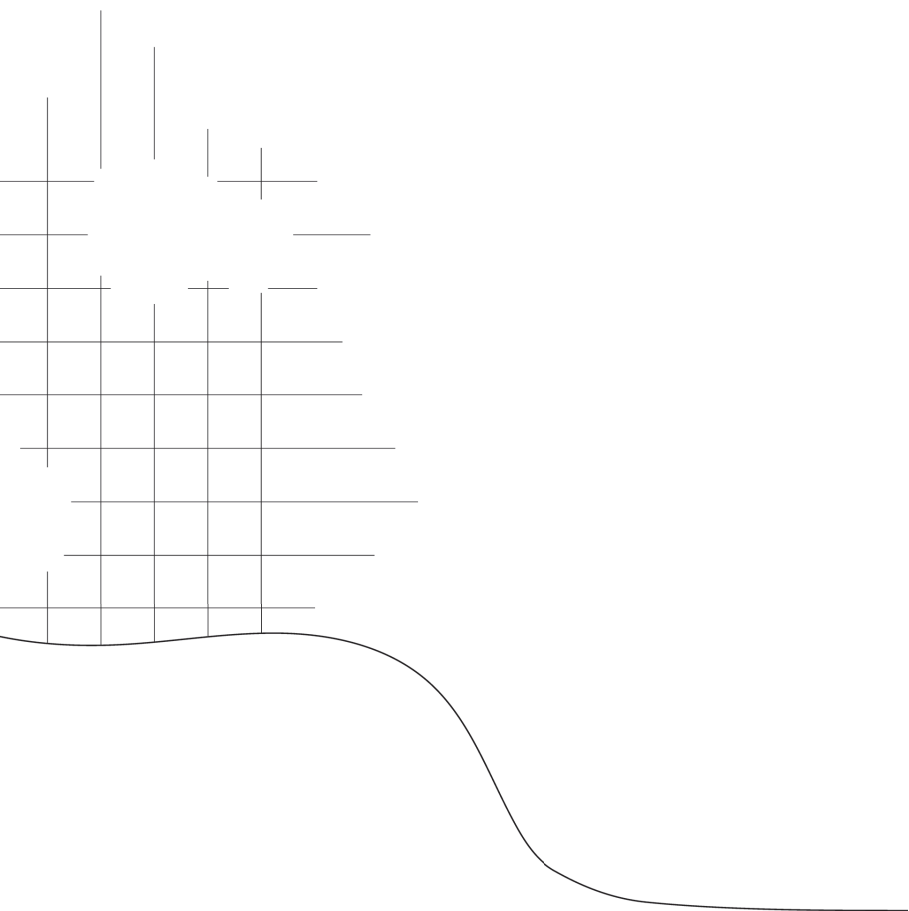
DESIGN  
FOR EMERGENCE

/

BECAUSE NOTHING  
IS EVER FIXED

Emergence describes an ecological principle by which things combine in unexpected ways to create new conditions and outcomes. Don't try to determine fixed endings by tying things down, but instead think about what your work might start, what energy it might make space for, and what action it might enable. See design as a catalyst for others, humans and more-than-humans, to flourish. Allow the unexpected to happen.





# Infrastructure

In 2023, the streets of London became a battleground between climate activists and car owners. The protestors, asserting the rights of the planet to survive, were jailed for slow-walking down highways and restricting the apparently more important rights of drivers. The UK government had just passed the Public Order Act, specifically to curtail groups like Just Stop Oil and Insulate Britain's peaceful but disruptive climate actions. Under the Act, particular transport, energy, telecommunication and health infrastructure was designated as 'critical national infrastructure' (CNI). The police were authorised to arrest people for doing things previously considered part of legal public protest. Some activists were arrested for being on the pavement beside the slow-walkers. Subsequently, people were jailed for simply planning to disrupt such CNI.<sup>32</sup> Infrastructure, a seemingly useful and neutral category, had become deeply politicised, charged with the government's authoritarian stance.

Streets have always been more than a means of getting from A to B. The history of European cities shows the street as a specific form of urban and legal space: an infrastructure of both provision and governance. It happened in Sixtus V's plan for Rome in the sixteenth century, in which the city's streets and squares were reinvented as a form of papal power. It happened in London with the Westminster Paving Act in the eighteenth century, in which improvements to the paving, drainage and lighting of streets were part of a broader programme of urban order. And it happened again in Paris during Haussman's extensive works in the nineteenth century, an attempt to construct an anti-revolutionary city.

The same model is repeated: streets were paved over to improve the passage of carriages, as well as to remove ‘filth’ for reasons of aesthetics and disease prevention; pavements were constructed as raised or demarcated areas which separated pedestrians from other traffic; lighting was added to make streets safer after dark, and to facilitate new forms of supervision and sentry.

These early modern streets were not only constructed for their functionality: they regulated and segregated urban activity through the inscription of by-laws, social codes, and the increasing power of the police. The construction of a material public space arose together with the production of new kinds of urban social norms and powers—an exercise of authority as to what (and more often what could not) be done in space. While the very existence of pavements might be read as a sign of people’s freedom, the making of streets in legislation was—in reality—tightly restricting movement and expression. Acts of dissent and even forms of travel seen as subversive or out of the ordinary were swiftly banished from the city. Try walking in some US cities to experience being othered. Mess and disorder are seen as synonymous, enemies of both cleanliness and civility.

The inscription of streets and pavements with rules has since accelerated alongside private ownership of public space. When, in 2011, a large group of protestors attempted to occupy land outside the London Stock Exchange in the wake of the global financial crisis, the Metropolitan Police simply blocked access to the square. It was a privately owned space, so the right of entry could be refused. The space of urban infrastructure had become part of a regulated world.

Infrastructure bundles together both technologies and ideas. It joins physical and historical processes with the ways of thinking that they emerged from. Infrastructure includes material and immaterial networks, supply chains, offices, timetables, building sites, and financing. Recently, the word has been adopted to describe media, digital platforms, communications networks, news, and even culture. All these impact architecture. But whilst infrastructures hold things together, we take them for granted and often only realise they are there when they are not working.

Even as infrastructure has become increasingly difficult to define in physical terms, the word still retains its association with the supposedly rational, unquestionable parts of systems: the soil engineering beneath the construction of colonial transport in India; the communications cables through which orders were sent to the front lines of wars; the supply chain routes of international aid. In these moments and many more, infrastructure's world-making powers are hidden away behind a veil of supposed neutrality: a technical solution to a technical problem, devoid of politics.

Infrastructures are too often described and understood as technocratic things fulfilling instrumental purposes. They are deployed to treat problems in isolation, providing solutions and operating with a certain and singular focus. They are typically framed by an anthropocentric worldview abstracted from the more-than-human, where nature is reduced to passive functions and values: a supporting ground, a provider of water or heat, or a site of disposal. Infrastructures bring with them all the issues of imposition over and abstraction of the natural world that are typical of anthropocentrism. Too often, various infrastructures are overlaid on each other in a wasteful and non-relational

The seemingly mundane world of paving and lighting can reveal a realm of politics.  
→ Miles Ogborn

Infrastructure, like technology, turns out to be a recent term, a promiscuous term—one that has no clear definition and is liable to reification. [...] [Such] words are emerging and taking on new meanings in response to historical phenomena that they purport to be describing.  
→ Rosalind Williams

manner, each presuming to solve a particular problem, overlooking the integrated nature of problems by isolating them in closed systems. Or new infrastructures endlessly replace older ones in a cycle of obsolescence. In all these aspects—anthropocentric, solutionist, technocratic, disconnected—infrastructure, as commonly understood, is inadequate to deal with climate in all its relational, temporal, more-than-human, and deeply political conditions. Other formulations of infrastructure are needed to engage with climate breakdown, starting with tearing away the mask of neutrality and rationality behind which modern infrastructure hides.

The ideals and ideologies on which infrastructures are built are concealed behind their functional immediacy. But far from being a dispassionate background, infrastructures are the things that hold the scripts from which worlds are built. The substructure is working hard; it conditions everything above it, whether it be the design and implementation of infrastructure as a core strategy in colonial power, or the ideals of recent European social democracy in the provision of large networks of public transport, housing, and healthcare. Infrastructures are always both intentional (they presume to do something) and consequential (they impact). Infrastructures enable or preclude certain activities, allow certain people access, permit life in some places, and exterminate it in others. Infrastructures determine social, economic, and ecological worlds—and are contiguous with networks of power. Normative infrastructures can be said to be so precisely because they determine, regulate, and control based on permission and refusal—by establishing the parameters of permitted action. They are too often built for and by the powerful to further entrench their power. They exist to further certain interests above others.

Design is central to the structures of unsustainability that hold in place the contemporary, so-called modern world.  
→ Arturo Escobar

Design, be it engineering, architectural, or industrial, is central here: not only in the construction of obviously physical built infrastructures, but significantly in the maintenance of accepted cultural, political, and economic norms. The fact that the very word *infrastructure* entered English in the early twentieth century—after the expansion of the railway network and alongside the beginnings of road transport—anchors our understanding of it in the conditions of the time, when rapid technological advances were accompanied by new vocabulary and ways of understanding the world.

The settler-colonial infrastructure masked the political issue as a technical constraint.  
→ Anna Engelhardt  
and Sasha Shestakova

The reach of infrastructure extends further back into the networks of extraction linked to colonial projects. In this particular colonial form, railways were a technology fundamentally bound up with capitalist and military expansionism. Infrastructure was an agent in all forms of colonisation. Offered as a neutral technology of improvement and civilisation, it was used as a means of control and imposition. Rafico Ruiz describes how the settler-colonial process in Newfoundland, based around the capture and commodification of fishing, relied not only on the construction of physical infrastructure but also—more fundamentally—on social reconditioning: remaking local livelihoods.<sup>33</sup> Ruiz focuses on the Christian mission established by Wilfred Grenfell, an English doctor, as a form of infrastructural mediation packaged as aid. The mission's work 'recast' ongoing extractive processes as reform, thus maintaining their legitimacy.<sup>34</sup>

Infrastructures reach across time, building uneven relations of the past into the future, cementing their persistence. In colonial and settler colonial contexts, infrastructure is often the means of dispossession, and the material force that implants colonial economies and socialities.  
→ Deborah Cowen

Architecture and spatial design are fully implicated here. The similarities between processes of colonisation and urban regeneration are striking, in that they both dismantle social and economic relations

by external means. First, declare a place a wasteland, blighted, or otherwise in need of a kind of salvation that the locals cannot provide (or even better—claim that there are not locals at all, or at least that they are not of consequence). Second, supplant existing social and spatial relations with a new, imported kind of order. Third, introduce an incoming population that simultaneously extracts wealth for the colonisers (or developers). Finally, reflect on how much has been improved.<sup>35</sup> In both colonial and urban expansion, infrastructure serves as the solution to a problem—one which requires sweeping away what has come before.

Infrastructure is inherited from the past—not only through material artifacts and physical configurations but also through spatial imaginaries, affective relations, and shared memories.

→ Kenny Cupers

The intersection of colonialism and capitalism was, and remains, a significant driver of climate breakdown. We saw this with economy and land—and now we see it with infrastructure. Therefore, the ecological collapse throws all the standard definitions, as well as existing uses of these terms into the air. On a positive note, it seems that infrastructure is a malleable term that shifts and changes along with the worlds to which it belongs, offering opportunities for redefinition. For instance, Anna Engelhardt and Sasha Shestakova's study of Crimean Tatar resistance to Soviet and Russian colonialism highlights the Tatars' irrigation systems, which nurture rather than control water resources.<sup>36</sup> The Tatars' decentralised system of canals and branches created an infrastructure of collective responsibility, which also cared for people by providing public fountains for drinking and ablutions. Such infrastructures of collective responsibility and public provision were antithetical to the colonial project and, therefore, deemed chaotic or even subversive. They offer alternative narratives and definitions of infrastructure, the power and perceived danger of which is such that the Russian authorities repeatedly imprison Crimean Tatar historians for telling them.<sup>37</sup>

The object-hood of architecture is but a small part of what constitutes this vastly differentiated discipline [...] What if the architectural object were revealed to be something closer to a thing among other things, operating necessarily in ecological relation, apt to emerge only to decay?

→ Hélène Frichot

Given the previously noted inadequacy of standard modes of infrastructure to deal with ecological collapse, the conditions of climate breakdown demand a rethinking and reworking of ideas of infrastructure. Consistent with the argument that climate breakdown cannot be dealt with as a series of problems to be solved, but as a condition to be engaged with holistically, infrastructure shifts from a platform of technical solutionism to one of support. A deterministic version of infrastructure is replaced with something more about enabling rather than controlling action.

Such an enabling approach to infrastructure was taken by OOZE Architects in their project for new water infrastructure in the suburbs of Rio de Janeiro [ÁGUA CARIOCA]. While it included technical infrastructure of rainwater harvesting, septic tanks, and constructed wetlands, these were all designed with and for the local residents, giving them a voice and ownership over the system. Situating the infrastructure within a circular system allows the project to avoid remote, large-scale interventions, demonstrating the integration of technical design with social justice through a democratic and accessible urban infrastructure.

When architects talk about infrastructure, they usually mean the background—the beneath or in-between, the support, the servant—the elements and structures behind everything they do in the world. Architecture is generally understood as the foreground, the thing that you notice. Perhaps because of infrastructure's status as background—limited as it is to determine things from a distance, powerful but invisible—architects have generally been happy to hand off the responsibility for infrastructure to other professions (engineers, planners, and project managers). Nevertheless,

The fact that infrastructure is so often unseen—supporting and making possible without any real inscription into an identified activity—here assumes another dimension, one that promotes invisibility.  
→ Irit Rogoff

it is possible and productive to expand an understanding of architecture to include the background as well as the foreground, and so to see architecture also as a form of infrastructure in relation to everyday life. In a lovely phrase about the limits of an architect's role, Florian Beigel described the work of his Architecture Research Unit as 'designing the rug, but not necessarily the picnic.'<sup>38</sup> This is an expansion of the widely-accepted understanding of architecture. Architecture becomes one act among many: part of a wider set of interdependent objects and interactions. It suggests a form of architecture that involves the production and negotiation of underlying systems and is part of a broader support system.<sup>39</sup>

Such an approach to using architecture as part of a broader support network can be seen in Atelier Bow-Wow's scheme in rural Japan [THE TIMBER NETWORK]. The Kurimoto Timber Network re-localises and de-intensifies timber production by engaging the local community in activities centred around its small-scale forest area, sawmill, woodshop, laboratory, and farm. The project is an intervention that creates ongoing opportunities within an existing social and economic context of timber production, helping ecological habitats and a community to flourish. The architects did design buildings, but these are part of an integrated network that comprises architecture, forestry ecology, and supply chain economics with a social and ecological focus.

The Timber Network is very different from modern infrastructures described above, which require control and promise a certain kind of stability. Infrastructure is at its most visible during moments of failure, as is now the case when the infrastructures of the modern era are struggling to hold up in the face of

climate breakdown. The privatisation of basic infrastructures (water, gas, air, land) has meant that short-term profit and shareholder value trump any environmental concerns, leading to exploitation and degradation of natural resources. Rivers and aquifers are raided with little regard for their longevity, harming the more-than-human ecosystems that rely on them. In addition, the lack of investment in long-term infrastructure means that the corporatised systems are increasingly unable to cope with the environmental shocks that climate breakdown is inducing. Flooding increases, power systems are knocked out in surges and storms, and treatment plants are overwhelmed.

From the Global North perspective, the capitalisation of nature—viewing the entire earth in terms of its utility, as ‘ecosystem services’—disregards the ways in which nature is stubbornly resistant to being infrastructuralised. We say that infrastructure has been abandoned when it is appropriated by animals and plants and is no longer in service of narrow human needs. Instead of seeing this as a problem, we should hope for hybrid infrastructures that offer functionality, but can also become much more. In Berlin, the collectively designed Floating University shows such an approach to infrastructure [FLOATING UNIVERSITY]. A large rainwater basin, which had been abandoned for years, was brought back into use in a way that restored the plant and animal life and provided a background for a series of temporary structures, including spaces for studying, researching, cooking, resting, discussing, making, and food growing. The built elements coalesce with the living elements in a mutually supportive manner.

The American scholar Lauren Berlant called our contemporary era a time of glitch. We are surrounded by such glitches, but not only in the sense of failure—glitches are also the gaps in the present where hope is found. Similarly, Legacy Russell sees the error ‘as a passageway’ for imagining better worlds.<sup>40</sup> In a time of climate breakdown, modernity presents an infrastructure we can no longer live with, a misguided and all-consuming infrastructure that now threatens our survival. It may only continue to operate through denial and disavowal. But the breakdown of this veneer presents opportunities.

A glitch is an interruption within a transition, a troubled transmission. A glitch is also the revelation of an infrastructural failure. The repair or replacement of broken infrastructure is [...] necessary for any form of sociality to extend itself.  
→ Lauren Berlant

For infrastructural theorists such as Keller Easterling, the very fact that infrastructure is the operating system of the world means that it can be hacked.<sup>41</sup> This does not simply mean to replace one infrastructure with another, but subverting existing systems to make new ones that avoid reproducing the form or the intention of Modern infrastructures. The notion that infrastructures are powerful hidden systems that do political work can give rise to an assumption that they are large, unwieldy, and inaccessible—and therefore that ordinary people cannot participate in their production. Overcoming this idea requires a new narrative: one in which infrastructures of authority and control are reconstructed as infrastructures of opportunity, agency, and reinvention—a different, distributed form of power. Such infrastructure is sensitive to how things are organised, and who does the organising.

The organization itself is active. It is doing something.  
→ Keller Easterling

The understanding of *infrastructuring* (as a verb), as opposed to *infrastructure* (something more static), here expands beyond the material to the social: forms of infrastructuring offered by groups that seek to build democratic structures by designing collaborations, economic structures, labour

systems, or learning programmes (a rug in Beigel's sense). Such an approach can be found in the UK with Birmingham's Neighbourhood Economics Laboratory [NEIGHBOURHOOD ECONOMICS LAB]. Drawing on the principles of Kate Raworth's Doughnut Economics [DOUGHNUT ECONOMICS], the community group Civic Square envisioned a civic infrastructure for the future, with places built and owned by people actively working on them, and a truly participatory culture.<sup>42</sup> Using their expertise in economics, public policy, architecture, organising, education, and more, the collaboration developed several neighbourhood-scale social infrastructure projects that foreground collectivity and mutual support. Civic Square's co-production projects have included after-school workshops to help young people articulate visions for their neighbourhood rooted in climate action; weekly community garden events and walkshops; and portrait workshops that use physical and digital canvases on which people visualise their neighbourhood and its needs.

Another kind of productive disruption is that found in climate camps such as the Freie Republik Wendland in Lower Saxony, formed in protest against the construction of a nuclear waste repository in 1980, the gathering of anti-fracking campaigners outside an experimental drilling site near Balcombe in Sussex in 2013, or the long-term occupation of land against airport expansion, Grow Heathrow. [CLIMATE CAMPS] These camps disrupt the operation of established 'critical' infrastructure (e.g. energy, transport) and also create their own worlds. Their disruption is intentional: they do not merely question society's values and priorities, but also test other ways of organising, collaborating, and being together. This can be seen clearly in the 15-M Movement, a series of protests, demonstrations, and

We require each other in unexpected collaborations and combinations [...] we become with each other or not at all.  
→ Donna Haraway

occupations in Spain against austerity policies. [15-M MOVEMENT] 15-M became a counter-project to the neoliberal city, demonstrating socio-spatial alternatives rooted in participatory space-making, mutual support, and deliberative democracy. These alternative forms of organisation brought with them new spatial forms. Occupied spaces became prototypes and experiments with the social forms and spatial organisations that the emergent political programmes were generating.

All these examples represent forms of communalisation that break monopolies of control. They find power not only in the product but the networks themselves: infrastructure is understood in its fullness as an active agent, rather than hiding in the background as a supposedly neutral frame. It is brought back into visibility. This includes immaterial or social infrastructure and networks of solidarity, recognising that infrastructure is not necessarily just a *thing* but processes in the making which are actively planned, managed, cultivated, and nurtured.

Dismantling infrastructures of domination requires a major shift: redefining the meaning of infrastructure into something that the modern imagination wouldn't even understand as such—moving from systems that impose violence and control to those that nourish and support. These are other, less prominent, structures of communal care, management, and ownership. Colonial infrastructures rely on acts of severance. Instead of subjugation and exclusion, infrastructures can be reimagined to create space for people and nature in all their variances. The anti-colonial approach compels us to think of infrastructures as opening up many worlds as opposed to an exercise of closing down futures. When interpreted as environments, infrastructures rely on habitat;

Imperialism took my  
Indigenous ocean nation,  
sliced it up, and  
apportioned its control  
around the world. [...] Water, in my world, is  
the great connector, but  
in the hands of Empire,  
it is used to divide,  
displace, and impoverish.  
→ Tina Ngata

their creation is based on diverse human and more-than-human actors, revealing multiple perspectives on their politics, construction, occupation, and even failure. To think in these terms requires a shift from the technocratic idea of self-contained parts to relational infrastructures, moving away from rigid binary oppositions and processes of exclusion towards a dynamic and complex network of relationships and interactions that affect and are affected by different groups of people and the environment. Architecture and climate are at the heart of all this in that these new infrastructures are revealed spatially and relationally.

This form of infrastructure is sometimes described in terms of 'support structures'.<sup>43</sup> This refers not only to the maintenance of life through the provision of caring infrastructures, but also to the importance of infrastructure as a support system critical for the freedom of movement and the right to public assembly. Its role is crucial in shaping social and political life and in facilitating (or not) individual and collective agency: for example, infrastructures that care for both social structures and climate, such as citizens' assemblies, open data, and citizen science.

Support structures are based on collective responsibility, and link to the notion of embeddedness in architecture; things don't exist in isolation but rather are deeply intertwined with the social, cultural, and environmental contexts in which they are situated. To take part in building support structures, architecture needs to continue to reckon with the many ways in which its actions are embedded in networks. An expanded and reimagined version of infrastructure is part of the broader move towards a more relational, situated, subjective, and connected form of spatial practice.

Infrastructure is both relational and ecological—it means different things to different groups and it is part of the balance of action, tools, and the built environment, inseparable from them.

→ Susan Leigh Star

Support structures are vulnerable and dependent on the specificity of places and their relations. They ward off systemic failure and yet are just as likely to fail themselves.

→ H       Fricot et al.

It suggests reconsidering architecture not as an instrument to adjust climate—a filter, threshold, or mediating device—but as a set of processes and lives entangled in climate. Elizabeth Grosz described the human body as being incomplete, potential, unanchored, and uncertain<sup>44</sup>—what if we understood architecture in the same way? We depend on infrastructures, and infrastructures depend on us. Thinking of the world as interconnected ecosystems, not separate islands, and what infrastructure might enable, leads us to understand architecture's connectedness. In the face of climate breakdown, it is crucial to recognise and recover infrastructures as support systems that work *with* the world, alongside, rather than above. This involves drawing from principles of regeneration and a deep understanding of change and temporality, as well as other economic systems. The more-than-human world has infrastructures of its own type, and we can learn from these. Trees support each other, the healthy ones diverting resources to the weakling, using a hidden infrastructure of mycelium as the messenger and delivery system.<sup>45</sup> Wider ecological systems—and so future architectures—exist in states of permanent adjustment and contingency, contrasting with the initial fixity and separateness of human-designed infrastructures.

Making infrastructure otherwise becomes central to a radical process of reassembling: worlds with new ethical foundations for an ecologically and socially just place [NYC STEADY-STATE]; to create shared infrastructures in place of individualised lives [MEHR ALS WOHNEN]; to challenge dominant modes of knowledge production by (re)establishing other ways of learning [INDIGENOUS UNIVERSITY]; to put people before vehicles

This idea of 'support' is quite important not only for the re-theorization of the acting body, but for the broader politics of mobility—what architectural supports have to be in place for each of us to exercise a certain freedom of movement, one that is necessary in order to exercise the right to public assembly.  
→ Judith Butler

Rather than thinking of buildings as things, thinking of them in relationships-with ongoing environments, people, flora and fauna—that exist through time as well as in space, changes the approach fundamentally.  
→ Angelika Fitz and Elke Krasny

in contested urban spaces [SUPERILLES]. This is not simply about replacing existing infrastructure, but shifting what infrastructure means—towards systems born out of relationships rather than authority.

Other futures, other architectures, and other climates—they all require other infrastructures. Given the historical malleability of the term infrastructure, the current cracks in the modernist definition can be filled by new forms. Whereas colonial infrastructures meant hierarchies of sub- and super-, management and subjugation, future infrastructures are more like assemblages of possibility, but also contingency. Architectures intersect with infrastructures—material and immaterial—in ways that can support radical practice over time. If infrastructures are understood as interdependent spatial, social, and ecological relationships, then architecture's role could be to propose the contexts for these relations to come together—and in as many different ways as there are techniques for making a rug.

# INFRASTRUCTURE 'WITH'

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## AS A FORM OF COLLABORATION AND NEGOTIATION

Try to invert the received understanding of infrastructures, away from them being deployed as interventions that act on something, towards seeing them as support networks that work with the situation. Intervening in something is a form of control, while working with it is an act of negotiation and collaboration. Treat infrastructures not simply as technocratic objects, but as social enablers that make connections across material and immaterial conditions. What if infrastructures were designed with the many in mind? What if they enabled, complemented, and supported all our capacities?

READ THE INVISIBLE  
IN THE VISIBLE

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BECAUSE POWER  
LIES HIDDEN

Spatial practice is not only about dealing with what is materially apparent, but also about what might be obscured: politics, power, labour, governance, culture, and so on. Look beyond the given and into its roots; the ways in which invisible forces have led to conditions that counteract climate and spatial justice. What determines these situations you are faced with? And in what ways can you reveal, subvert, and/or redesign the systems to achieve better results?

PLAN  
BEYOND BUILDING

/

BECAUSE THERE ARE SO MANY OTHER WAYS  
OF DOING ARCHITECTURE

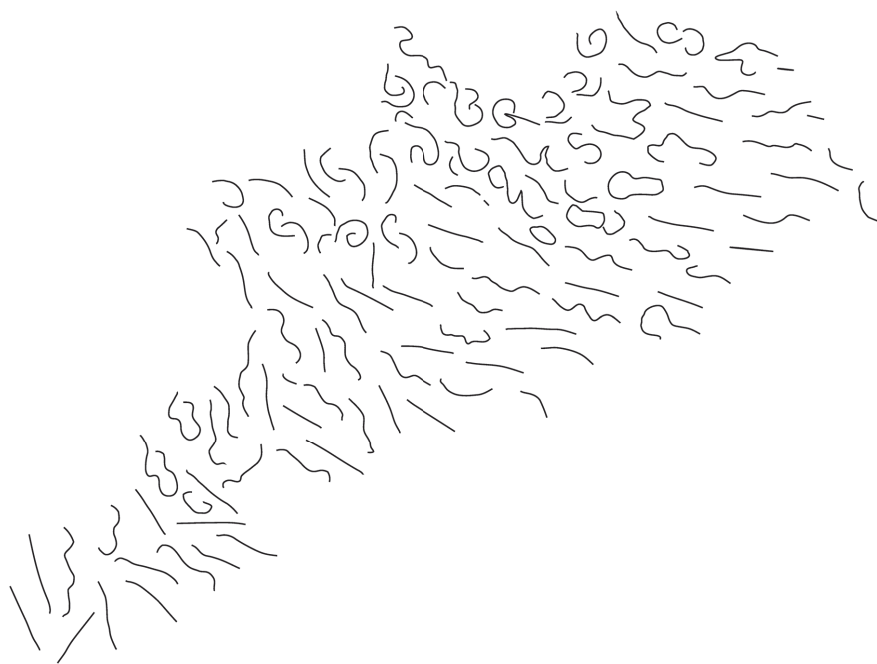
Climate breakdown brings with it new social and environmental relations, which will be accompanied by new spatial formations—sometimes invisible and often to do with process as much as with form. These will need new skills that go beyond normative understandings of architecture to include co-defining problems, reimagining work, organising spatial relationships, and taking care. Continue to re-envision these formations and relations as forms of collective (spatial) agency beyond the building.

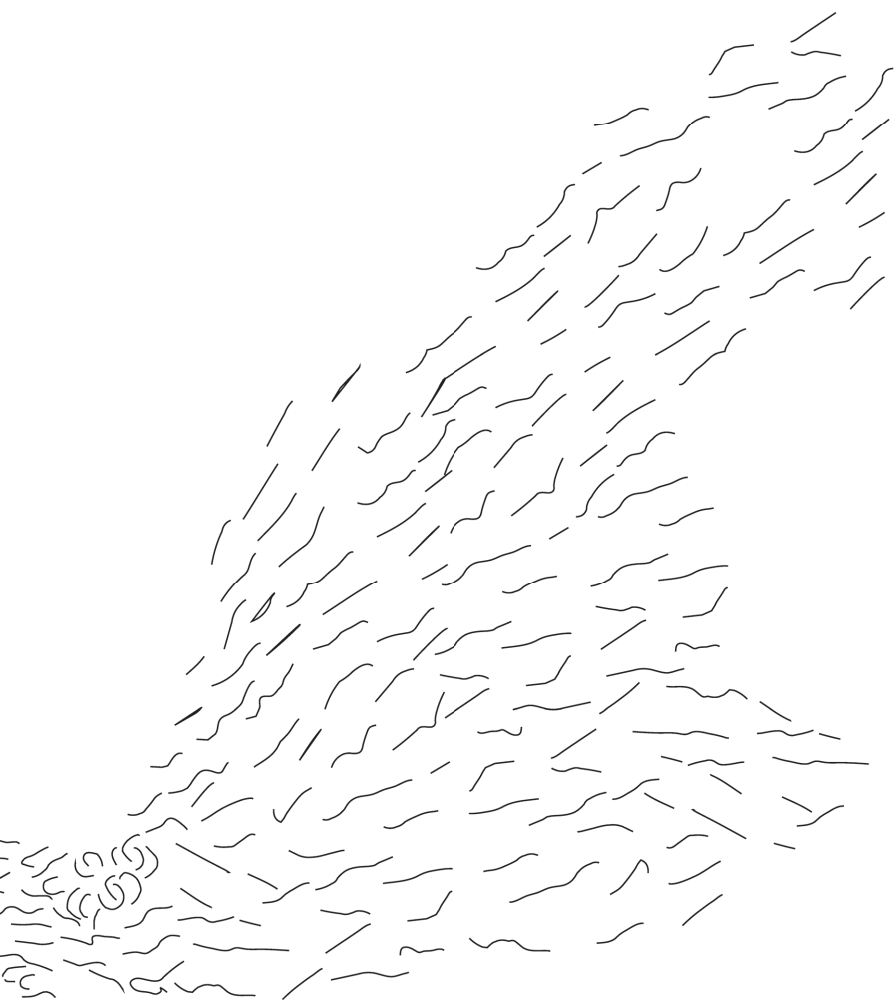
## EXPLORE THE POSSIBILITIES OF THE LOCAL

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## BECAUSE PEOPLE OVERLOOK WHAT IS CLOSE BY

Good practices often start with what is to hand: with where you are and what surrounds you. Solutions are frequently externalised: problems are solved by outside expertise, and issues are addressed by professionals with little connection to local situations or concerns. This overlooks the dormant potential of any situation: its peoples, its knowledges, and the collective wisdom of those who truly relate to the land, its histories, and the present. Leverage existing resources and systems in your community to create positive change, link them to others, and emphasise the power of networks and allyship for support and broader change.





# Resources

There's a big skip at the back exit behind the main building of the architecture school. If you can't find it there, it's probably been moved. But it won't be far. Just look around. You'll find it—you can be sure of it. The skip will be full, generally to the brink—especially at the end of term, when reviews have taken place, and projects have been reviewed and marked. In it are: \*[models, parts of models, small and large sheets of paper, plans and perspectives of designs for new museums, retreats, office buildings, headquarters—but also: conversions of former department stores and factories, decommissioned hospitals and former military sites, repairs on smaller and larger dwellings. Most of what is now in the skip was new not so long ago: grey card (in smooth and rough); thin and thicker MDF boards (generally lasered); styrofoam bits in blue, pink, and white; polyurethane foam; round brass rods; plastics; acrylic tubes; coloured and mirrored polystyrene card; polystyrene foam; polystyrene spheres; balsa board; plasticine; Bristol board; flat brass bars; rectangular strips of beech and pine and birch and mahogany wood; thin aluminium boards; stainless steel wire mesh; copper sheets; cork sheets; lightweight foam board; mahogany and pear tree wood sheets; coloured polypropylene; steel rods; rubber balls; plywood; steel and brass and copper and aluminium wire; modelling clay. Bits stick together thanks to glues: water-based wood glue, epoxy resin and ethyl cyanoacrylate adhesive, rubber glue, high-strength adhesive, carboxymethylcellulose/starch ethyl oxide, spray adhesive made from acrylic polymers or synthetic elastomer. There are some pins in the mix, too; and masking and gaffer and double-sided and crepe and cloth tapes.]\*  
It does not take long for the local waste collection services to arrive. A moment later: the skip is empty. Repeat.

The architecture school skip. A microcosm of architectural practice, it links the wastefulness that sits within the practices of modelmaking to larger building or spatial practices. The skip is representative of the extractivist design regimes that are at the heart of the production of the built environment. Architects often ignore how resources are found, mined, produced, sourced, traded, dealt with, and deployed. However, the stock of architectural materials is not just a collection of abstract or inert objects but something that is embedded in larger stories and relations. Modelmaking is only a small part of the broader architectural story, but it serves to make a point. Models must be *beautiful*. The type of beauty, however, is very particular—one that is solely ascribed to the new and seemingly pristine. Such assumptions can easily be expanded beyond modelmaking to rest within broader architectural or spatial debates, which too often circle around issues of ‘innovative’ aesthetics and technique. In this mode of thinking, other factors and aspects become subsumed, even irrelevant. When it comes to resources—the stuff that makes *beauty*—architectural discussions have not sufficiently focused on the tricky bits: the finite nature of resources; the embodied carbon of a building; the financialised systems of exchange that resources are embedded in; the toxicity of products or their often environmentally problematic provenances.

The overlooking is symptomatic of the way that architects often access building products. Architects pick and choose the stuff they need from catalogues—a practice akin to myopic and mindless ordering sprees of goods from multinational e-commerce giants. Press buy. The order goes out. A shop packs the stuff, arranges delivery. And so on. Soon the empty warehouse shelves are filled again—as if by magic. Two

Capitalism takes the environment essentially as a resource, or as sink and sewer.

→ Iain Boal

The history of mining, like the devastation it leaves in its wake, is commonly overlooked in the strategic amnesia that accompanies stories of technological progress.

→ Kate Crawford

Architecture as a practical activity needs time, money and resources. In fact, a lot of time, a lot of money and a lot of resources. Therefore, architecture is always entangled with the ruling power and its specific economic system. This holds true for all architectural production.

→ Peggy Deamer

things go out, two come in. The imperative of maintaining the flows of the process overrides all other concerns: of where the materials came from and of who produced them. The endless resourcing or re-stocking of our larders, warehouses, silo, and depots inevitably means that planetary boundaries are breached. Earth, in turn, as Isabelle Stenger writes, has turned into a 'resource to be exploited with impunity'.<sup>46</sup> This is not, she says, 'a matter of a crisis that will "pass"'.<sup>47</sup> The responsibility for producing and reproducing this system of non-transparent chains of connections is far from just on the individuals who use it; it is part of a broader condition in which capital masks its means of production and distribution. While everyone can and should behave more responsibly in their use of resources in both a personal and professional capacity, the main target must be the systems that drive the untenable depletion of planetary resources.

It is important to recognise that those items that end up in digital shopping carts, then to be packed and shipped and delivered, are not intangible or abstract at all. To use Kate Crawford's description, they are components of 'massive industrial formations', including 'politics, labor, culture, and capital'.<sup>48</sup> They are made and produced, sometimes from living matter, and always with human force—by people who mine ores, fell trees, extract water, drive machinery, build transportation infrastructures, and design the systems of sale and distribution. Access to and use of resources is, moreover, a product of intense lobbying from vested interests, most obviously from the fossil fuel corporations but also across the global building industry. Thus Cembureau, the European Cement Association, has actively lobbied against the EU's Emissions Trading System to give more favourable conditions for the cement industry, while its

'roadmap' to 2050 net-zero for the cement industry is heavily dependent on untested, and much criticised, carbon capture projects.<sup>49</sup> The sourcing and making of resources are disguised within those chains-within-chains-within-chains. Responsibility for consequences is pushed from one site (or person) to another, if talked about at all. One of the most tragic instances of this occlusion is the Grenfell fire in London, in which 72 people lost their lives [GRENFELL INQUIRY]. The Public Inquiry into the fire showed how the building industry lied about the materials it was promoting. The chain of responsibility was continually broken, which meant that deadly flammable materials were allowed to be used in a construction industry that had been increasingly deregulated. The Inquiry clearly showed how a culture of denial, hubris, and willingness to take chances with people's lives is endemic within the construction sector.<sup>50</sup>

For too long, most architectures have been bound into these regimes of occlusion and indifference in relation to resources. This is particularly true of any architecture that is primarily made from and for financial speculation, in which the choice of materials is reduced to another cell on a spreadsheet. However, in recent years the realisation that the future of Gaia—planet Earth in its mythological framing—and the future of architecture are entwined has gained traction. Almost inevitably, this (re)gained consciousness of architecture's role in climate breakdown has been appropriated by big business. Green labels and building certifications for 'sustainable standards' have mushroomed over the past decade. Tiny houses are disingenuously marketed as solutions to more conscious ways of living, and technological advances promise individuals reduced consumption of water, electricity, or gas.

What would become of design if it were to be based on the fundamental insight that the world does not exist 'out there,' separate from us, but that it co-emerges with every one of our actions, albeit within a complex dynamic of causality, contingency and historical drift?  
→ Arturo Escobar

Consistent with the tenets of the modern project, progress comes with and through technology. But, if technology (which, after all, is made of stuff and materials) is simply seen as a tool to address problems, then it misses the mark—sidestepping the underlying causes. Facing the future entails facing the issue of resources and resource extraction; it entails facing the now, which is stained by the residues of toxic histories which flow irrepressibly through the present. It also entails a very different understanding of the use of technology.

It has been more than 50 years since the slogan ‘Vorsprung durch Technik’ (‘Progress through Technology’) was first used to promote the car manufacturer Audi (now a subsidiary of Volkswagen). It came to define an era of general technological progress, driven by the belief that technology (the highly skilled, expert-type of technology) was the answer to all our questions and societal challenges. Political and industrial agendas were aligned, and the measures used to determine a nation’s economic prosperity were designed to support these flawed indices further. The history of modern architecture reflects these general developments, with technology playing an increasingly prominent role: precise computerised controls promise efficient use of resources; mechanisation and digitalisation of building processes speak of the potential of the end of human imprecision or even error. Technology is seen as this apparently rational, neutral, objective, non-emotional element that no one can argue with. Indeed, we are taught to believe that technological progress makes the world a better place. In the context of climate breakdown, technology has moved up another notch. Clean futures—the electrified ones, in which everything that runs on fossil fuels today is simply being swapped for devices powered by wind, water, and

Technology should be seen neither as an impediment nor a fix to the ecological crisis, but as a pattern of social relationships: what is at stake is the nature of this pattern. Compare an agro-industrial food farm to an organic farm. Both are technologies, human inventions—but their pattern/social relations differ, with the former exploiting labour and natural resources, and the latter nurturing them.  
→ Joel Kovel

sun—have become unimaginable without it. Climate breakdown is now a technical challenge, one that can be designed away. The industrial and political agendas are—once again—aligned. Resources are sucked into this technologically determined worldview, becoming instruments for progress and, in this, detached from their natural origins. Looking at resources through the lens of climate uncovers architecture’s relationship with its companion disciplines: politics and finance. The fates of all three have been historically interlinked. Architecture is the instrument of choice for demonstrating state power: dams, roads, manor houses, parliament buildings, border spaces, settler colonialism, concert halls, sports stadia. In more recent history, architecture has been deployed on behalf of corporate power: financially led urban development, shopping, luxury housing, and workspaces all shape our everyday experiences. Architecture and cities are moulded by money, with buildings serving as securities for other financial instruments. Buildings are Betongold—literally ‘concrete gold’, a term that melds architectural resources with money.

The planetary crisis, however, with an ever-intensifying extraction of resources and the polluting effects of their consumption, renders these financial connections unstable. By placing buildings—and the resources needed to put them together—into networks of economic exchange, other types of connection and value have been lost. These include the cultural, social, and environmental ties between communities and their built environments or methods of construction, which use local materials, knowledge, and labour, but have been replaced by more industrialised, commodified approaches that erode place, identity, and sustainability. In prioritising economic profit, deeper, intrinsic

values that connect people to the land, to their communities, and to the craft of building itself, have been devalued and marginalised.

How to break this cycle to reconnect into other systems and forms of value? If power is based on the distribution, control, and ownership of resources, how can these relationships be reclaimed in an equitable way? How to unlearn supposedly modern (and therefore purportedly progressive) practices and ways of thinking that lock resources into particular ways of doing business and thinking?

The challenge here is huge: to modernity which has emerged out of its association with (burning) fossils; to an identifying of resources with the material, rather than one that is inclusive of the immaterial such as human capacity and capability; to neo-classical economics which ties resources into the structures of scarcity whereby value comes out of the relationship of supply to demand; to practices of separation and abstraction of the world that have blinded us to the connections between things and sites; and, to technology as a harbinger of progress and the (false) promise of and for endless growth. Climate change data, as well as the science around planetary boundaries, show that these narratives are broken at best.

A starting point to address these challenges is to track back to the etymological root of the word 'resource'. The Old French term 'resourse' conveys a source, a spring—something that rises again and has the capacity to recover. This is very different from the lifeless, extractive sense of the modern term. Such a regenerative idea can be found in the Forest Garden movement [FOREST GARDENS], which uses companion planting, whereby species are planted near each other that have mutually beneficial impacts

If we get stuck in scarcity thinking—in terms of framing things, in terms of depleting resources—then we are likely to make a very bad job. We need to tell stories in different ways—to make space for playfulness to find new ways of doing things together. We need to find other ways of looking at work in ways that economics cannot and has not been able to describe.  
→ Dougal Hine

such as natural pest resilience, fertilisation, or nitrogen-fixing. The result is higher food production than in industrial farming and stewarding nature's emergent capabilities within a regenerative cycle. Such principles are applied more directly to the construction sector in the bio-based work of the UK practice Material Cultures [CONSTRUCTIVE LAND], who reimagine the relationship between buildings, landscapes, and materials, always thinking through the regenerative cycles of construction resources. Such work traces material resources back to their natural condition as part of an ecological system. Modernity has closed our eyes to this connection, but it is clear that any future use of resources should be insistent in re-establishing this connection, and so taking responsibility for it.

Seeing the world this way immediately challenges the modern understanding of resources as things to be exploited, exchanged, and discarded. Instead, they become part of a broader ecological network, opening discussions on the critical care of those resources. There are many alternate forms of construction which start with a more responsible use of resources—the appropriate technology approach, design for disassembly, frugal architecture, and the reuse of existing structures. These are shown in, for example, the Heritage Foundation of Pakistan [HERITAGE FOUNDATION OF PAKISTAN], where architect Yasmin Lari has developed an initiative to protect material and skills heritage from globalised interventions. The Foundation employs people to construct community-serving buildings from low-carbon materials, including local lime, unfired clay, mud, and bamboo. The Foundation also supports projects that provide housing, fund local enterprises, and educate women. Through such grassroots initiatives, the

Foundation helps to shift cultural mindsets. It boosts confidence in using local, traditional materials such as mud and clay, which have sometimes been associated with poverty due to international perceptions.

These new spatial formations directly conflict with future-eaters—those structures, buildings, and things that feed on the past and present in ways that make good futures for all impossible. Accompanied by an addiction to excess, the consequences of such practices on the production of the built environment are all too apparent: on the one hand, heaps of building rubble as remnants of buildings that were never designed nor built to last, and, on the other side empty structures made from glass, steel and concrete built to avoid taxes or launder money, or both—the extractivist economy mirrored in and built by extractivist practices. This is where the problem begins, but also where other paths may present themselves. When the apparently endless guilt-free supply of resources has led to a stultifying view of what constitutes ‘innovation’, a shift to other values, discussions, and supplies of resources could also be accompanied by the deployment of ingenuity. Such an approach is embedded in the work of the Sámi artist-architect Joar Nango [GIRJEGUMPI]. Nango’s Indigenuity Project draws on the traditions of resourcefulness and ingenuity found in Sámi and other Arctic-region Indigenous cultures. He collects ways of living that respond to, dismantle, and repurpose objects and systems of the capitalist world. Countering stereotypes of Indigenous cultures that rely on exotic images or folklore, the project presents Indigenous spatial practices as live, contemporary cultures. Central to this work is an understanding of resources as part of a project of *resourcefulness*, in which the material world is embedded in a broader way

Once we reach the limits of efficiency, pursuing any degree of economic growth drives resource use [...] but ending growth doesn’t mean that living standards need to take a hit. Our planet provides more than enough for all of us; the problem is that its resources are not equally distributed. We can improve people’s lives right now simply by sharing what we already have more fairly, rather than plundering the Earth for more.

→ Jason Hickel

of thinking that steps off the treadmill of linear production. Instead of making an existing component or element more economical or efficient, which doesn't necessarily examine why a problem might exist, resourcefulness engenders other approaches. Take a building: if powered in energy-efficient ways, it is seen to be better than one that is not. And yet, questions that go far beyond the technological fix must be asked, starting with whether a building is necessary in the first place or whether other spatial solutions can be found. And if it is deemed essential, then how space is distributed within it equitably, the appropriateness of material consumption, the means of resource extraction, the social and other consequences of a resource's source or use, the effects of a presumed solution on people here and there, and so on. With all this comes a reclaiming of the word 'resourcefulness' and with it 'what might or might not be a resource for the task of learning once again the art of paying attention'.<sup>51</sup>

An urgent implication of such resourcefulness is the decoupling of the use of resources from the modern addiction to endless growth, which is accompanied by a backwash of material extraction and environmental damage. Addressing this head-on, the French scholar and activist Charlotte Malterre-Barthes has been calling for 'A Global Moratorium on New Construction', with the intent to start 'a conversation among architects and planners, but also industry actors, policymakers, activists, and citizens on the role of construction in generating untenable ecological and social injustice and to seek ways to take action'.<sup>52</sup> She writes of the need to pause, take stock, and reflect on architecture's and the architect's role in relation to the systems of production and the resources used. Whilst formulated as a provocation back in 2020, discussions around

new buildings, especially when involving the demolition of an existing building, have become more intense, highlighting the consequences of arbitrary and climate-damaging tearing down practices. This goes hand-in-hand with concrete proposals for existing buildings which should be seen as a resource in themselves, as clearly shown in the work of the French architects Lacaton and Vassal [GRAND PARC]. Their project in Bordeaux, a retrofit and extension of 530 social housing units, was based on the refusal to demolish and a commitment to work with the existing structures. 'It's the opposite of *tabula rasa*', they write. 'In French, we call it 'situation capable'—finding the possibilities offered by the situation'.<sup>53</sup>

Any future use of resources must confront the distance and disconnection of the modern project and, instead, be insistent on establishing connections, as well as taking responsibility for them. Efficiencies in use, technological advances, and more careful practices of producing are important but are not *the* solution because they assume that current modes of living and consumption can be sustained. They cannot. Instead of new-new-new, think of architecture as repair—not only materially but also socially, economically, and politically. Revising what a resource is becomes not only a practice of refusing growth or further extraction from the ground, but a way of recognising the already extracted—what is already there in abundance—as *the* fundamental resource. This calls for an architecture of maintenance that cares for and enhances what is existing, foregrounding the act of repair that question prevalent extractivist paradigms. Such an architecture would necessarily expand the understanding of resources across a network of social, natural and political relationships. It would also place

Worlds of maintenance and repair and the instances of breakdown that occasion them are not separate or alternative to innovation, but sites for some of its most interesting and consequential operations.  
→ Stephen Jackson

Maintenance at any particular site, or on any particular body or object, requires the maintenance of an entire ecology: attending to supply chains, instruments, protocols, social infrastructures, and environmental conditions.  
→ Shannon Mattern

all resources in a temporal framework that is sensitive to where they came from and where they might end up; this is very different to the exchange system of resources, which situates them as instants devoid of a history or a future. Maintenance thinking introduces a thickness to time in which resources are imbued with a life for which the architect and designer become responsible.

None of these approaches to resource use within architecture has yet become standard practice within formal architectural education or broader spatial pedagogy and learning. It is, however, essential for futures that not only unravel current industrial formations, but also imagine, experiment with, make, and implement new use and decay cycles across scales. Placing architecture, and the multitude of things and people that make it, firmly within intersectional spatial perspectives—positions that interlink ethics and care—makes it impossible to ignore the damaging consequences of the current misuse of resources, and the effect of climate breakdown.



KEEP IT  
IN THE GROUND

/

BECAUSE WE NEED TO WORK  
WITHIN PLANETARY BOUNDARIES

Ask right at the beginning: do I need more stuff, is it necessary to bring in the new? Because if you do, somewhere up the line, extraction has happened, ecosystems have been disturbed, and planetary boundaries further pushed. And somewhere down the line, waste will result. How can you at least minimise these consequences of design by keeping it in the ground, and thinking of other ways of addressing the design condition?

SEE TECHNOLOGY  
AS A SOCIAL MEDIUM

/

AND NOT SIMPLY AS A MEANS  
OF SOLVING A PROBLEM

Technology is too often seen solely in terms of science and reason: something that is designed to carry out a task dispassionately. This overlooks technology's wider social, cultural, and environmental biases and therefore impacts. The ways in which technology conditions how different groups of society—humans and more-than-humans—relate to each other, to spatial conditions, and to climate are at best hidden and at worst distorted. Failing to critically engage with the inherent injustice that lies in technical solutionism prevents exploration of technology's real possibilities. See, draw, understand, and work with technology as a medium, but never an end in itself.

THERE IS  
NO WASTE

/

EVERYTHING IS USEFUL

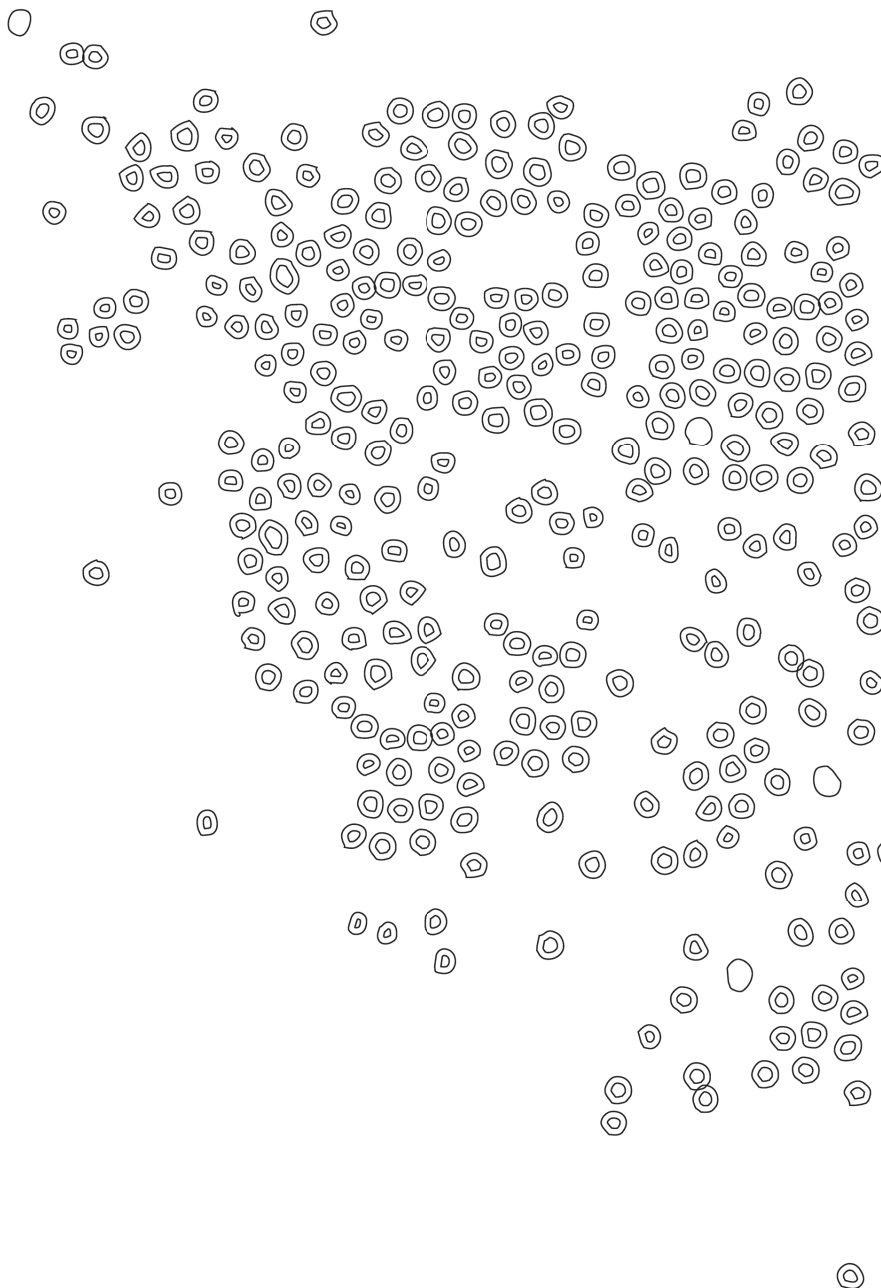
‘Waste not, want not’, says the proverb, urging us to repair, care, reconfigure, accept blemishes, and adapt what we have rather than enter an endless cycle of throwing out the old and replacing it with the new. Think of the future life of what you are designing, avoiding all potential obsolescence, allowing it to evolve over time. Don’t design for wants if they simply fuel consumption and the production of future waste; instead, address needs.

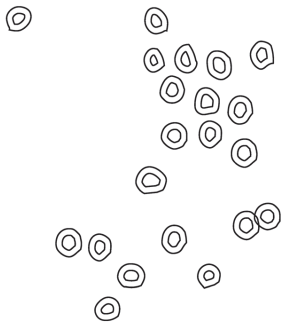
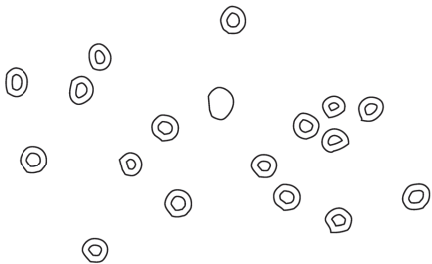
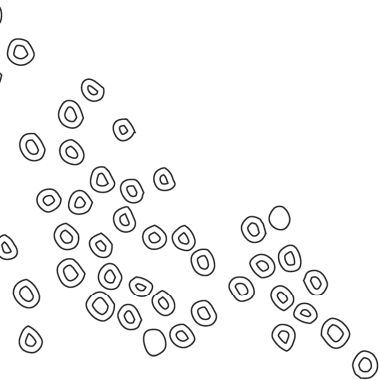
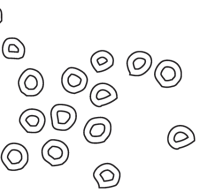
USE  
WHAT YOU'VE GOT

/

## PRACTICE RESOURCEFULNESS

Most of what we need is already there and does not require contriving anew. First, ask if you can work with the given, because the more we reinvent what is to hand, the less we have to take from the world. Take the word 'resourceful' at face value: as the use of the fullness of resources and in terms of its etymology—as a spring, the season of regeneration and a leap into something new.





# WORK

‘Alfred Krupp did so much for his workers’, someone recently proclaimed before going on to praise the multitude of philanthropic undertakings of the 19th-century German industrialist and his family.

The story that unfolded was of a tireless man who presided over an era of massive expansion of the family business and, dissatisfied with his workers’ housing and living conditions, embarked on a programme to change their lives. The company’s lucky workers—or ‘Kruppians’, as they became known—came to benefit not only from the introduction of sickness insurance but, in some cases, from the company’s housing programme alongside schools, bathhouses, and parks. It would be easy to continue this story and throw into the pot a long list of other names of men—Lever, Salt, Cadbury, Ford, Bata, Leverkus—also known for similar acts. Today, stories of their endeavours populate coffee tables and guidebooks, illustrated with photographs of estates and small towns erected near or around formerly sprawling factories, telling a tale of wealthy people who invested in the common good. The environments are pretty and well-cared for; many are now listed as heritage sites. For architects and students, they are sites of pilgrimage, providing evidence of architecture as a tool for positive change.

Yet, that is not the whole story. Take Krupp, a key figure in the long history of a company that is one of the largest—if not the largest—arms manufacturers of the modern era, including the production of weapons for the First and Second World Wars. The company made money, lots of it, producing and selling cannons, guns, submarines, and other war machinery. Stuff made of steel—for which iron ore, coke and alloys are needed—and stuff that was further treated with asbestos, depleted uranium, heavy metals and other toxic materials.

The tale of those philanthropic undertakings cannot be told without understanding the firm's broader business operations. This includes accounting for the mining and shipping of raw materials, the conditions under which these materials were produced, and the environmental damages caused by the various processes. But it is also a story of the polluted and unhealthy environments that workers were exposed to when firing furnaces and handling toxic materials. These companies also created monopolies of overpriced services that their worker-tenants had no choice but to buy. Then there are necessary means—political and otherwise—used to amass and retain fortunes such as the Krupp family's, with scraps of that wealth reinvested in the local workers as a distraction and appeasement (as well as tax breaks...)

The Krupp tale draws attention to the ways in which stories tend to be told, who they focus on, and the more complicated and multifaceted dimensions that unfold when we look more closely at how fortunes were—and are—made, materialised and multiplied. The built environments that have emerged from the business and political dealings of industrialists' investments are entangled with the work of those directly employed by them, and many others who are invisible at first glance. Since climate breakdown is linked to the over-intensive extraction of the earth's resources, then the stories of those whose work and livelihoods are embedded in carbon-intensive processes and their environmental impacts must be recognised as shaping the spaces we inhabit.

Labour and its organisation are often treated as abstract entities and packages of exchange, detached from the real lives of workers and the environments in which they operate. Yet, they are part of broader systems that define the relationships between the human and non-human worlds. Disguising the conditions of labour has accompanied the accumulation of vast wealth, amassed from global industries that thrive on concealing the true conditions of much labour—poorly paid, exploitative, and often invisible. Resources are extracted, shipped along and passed through infrastructures erected by colonial projects, which exacerbate—and continue to exacerbate—the manifold exploitations of nature and people. At the dawn of climate breakdown, colonial powers generated wealth by creating lasting economic dependencies, with the colonised becoming dependent on the coloniser. Reliant on the intensive extraction of natural resources, colonial operations laid the foundations for ongoing environmental problems, including environmental degradation and the ongoing destruction of ecosystems. The environmental

My intention is to try to understand materials as fragments of other landscapes; as the livelihoods and habitats of people who live near them; as connections between the most tactile aspects of a design and the global circulation of matter driven by capitalism.  
→ Jane Hutton

hazards and climate impacts are felt most profoundly by the communities and ecologies in those colonised regions. Meanwhile, those who benefited and continue to benefit from colonial practices, and their contemporary neo-colonial counterparts, emerge comparatively unscathed. These inequalities between the perpetrators and those affected are exposed in the Environmental Justice Atlas, a project that catalogues social conflict over environmental issues around the world as part of a drive for greater transparency [ENVIRONMENTAL JUSTICE ATLAS]. Using an interactive world map on a website, the Atlas functions as a catalogue of issues and a starting point for concerned citizens and activist groups to gain information and see similar groups' work elsewhere. The Atlas highlights claims and testimonies, calling for corporate and state responsibility for climate and social injustice.

The colonial project, which was dependent on forced labour, unsettled and often eradicated local economies. Land grabs displaced and still displace peoples, disrupting local practices that focus on working with the land as a complex being. Mining for rare earths, minerals and precious metals needed to make the new technological world exposes the tensions between the wants of capital and health. Colonial construction projects (from dams to forts, plantations to city halls, railway systems to stockyards) rested on the labour of people exposed to poor and unsafe conditions. The evidence of these kinds of labour surrounds us, fashioned by the amassed capital and power of the wealthiest 1%, who have shaped our cities and landscapes, and thereby climate. The minority influences laws and lobbies to escape or reduce environmental regulations. The carbon footprint of the wealthiest 1% is more than double that of the poorest half of humanity.<sup>54</sup> Dominant architecture and construction industries serve this elite and, like

them, are complicit in closing their eyes to the systems of labour that underlie the production of the built environment. As the Brazilian architect and theorist Sérgio Ferro has been arguing since the 1970s, architecture is made by people, but the increasing fragmentation of the construction industry has disassociated architects from the people who develop and produce materials, provide services, and build buildings—as well as the conditions they work in.<sup>55</sup> A challenge to this intentional turning away comes from the international network WBYA?, which asks the disarmingly simple question: Who Builds Your Architecture? [WBYA?] The group examine the links and distances between architects, their designs, and the labour conditions within the construction industry. By bridging architects and workers, WBYA? builds connections in and between different areas of architectural production, connecting issues of materials, energy, and labour to form a network of solidarity.

Architecture is often perceived as a demonstration of skill or creativity, but it is deeply political. Building methods don't just evolve with new tools, technological advancements, and materials; they change with the way labour is organised and exploited, from designers, contractors, and engineers to builders, craftspeople, and maintenance workers. Dominant architecture is driven by profit, and every step in the process, from design to construction and maintenance, extracts surplus value for those funding it. Architecture's disavowal of its connection to construction labour extends to its internal workings, denying that architectural labour operates under the same economic systems as the broader labour market. The profession frequently distances itself from the realities of labour that underpin its own practice, denying its connection to the broader economic

Architecture is part of a larger entity, which is construction. In turn, construction is included in a larger one, which is political economy [...] The history of architecture, seen from the construction site, is the story of its adaptation to different stages of the exploitation of labour by capital, mediated by the construction within the political economy.  
→ Sérgio Ferro

We might think that design activity is art and not work; we might assume that we offer our spatial gifts to society from some exceptional position outside society itself; we might hope our value to society transcends commerce—but no. We are part of the labor force and, like other laborers, ensnared in capitalism's web.  
→ Peggy Deamer

systems that rely on the same exploitative structures as those that control the broader labour market. The fact that the industry makes use of unpaid and underpaid labour acutely mirrors how extractive industries such as construction are built upon the exploitation of supposedly cheap natural resources.

The exploitation of labour mirrors the other forms of exploitation of capital. This does not mean, however, that these systems are inevitable or essential. When labour—its conditions, mechanisms, and instruments—is understood as part of those processes, when its entanglement is made visible, it also becomes subject to change. Moments of (transnational) labour solidarity, unionisation, and a belief in the power of collective resistance demonstrate that alternatives are possible. In many cases, the reformulation of labour practices goes hand-in-hand with a new relationship between land and climate. Thus, in Brazil, the Landless Workers' Movement was formed in 1984 to defend their rights to land and self-determination in labour [MOVIMENTO DOS TRABALHADORES RURAIS SEM TERRA (MST)]. The movement's central objective is land reform through agrarian laws and policies that would give Indigenous people rights to land for growing food and looking after ecosystems. It forms a clear link between work and ecology, seeing them as interrelated conditions of care and equality. A similar attitude can be found in Sudan, where the organisation Zenab for Women in Development advocates for women's empowerment in relation to their agricultural labour and more sustainable ways of farming [ZENAB]. Zenab's provision of education and tools for women involved in farms and agrarian communities offers a pathway towards the emancipation of those most vulnerable to poverty and climate change.

Industrialised, abstracted, and separated forms of construction lead to industrialised, abstracted, and separated forms and divisions of labour. In the face of climate breakdown, these divisions are no longer tenable. Labour is bound to the conditions that produce climate breakdown, and so, in turn, it can and should be a transformational lever to address the crisis. How, then, do we begin to understand our buildings and cities not just as abstract things but as constructs made by diverse, interconnected kinds of labour? How do we reconfigure work in relation to the instruments of that labour and its means of production? And what are the inherent qualities of those relationships that make those future environments, cities, and buildings genuinely responsible for climate? Such questions are meant as a prompt to reform labour systems as non-hierarchical alliances of diverse and alternative organisations.

The colonial project alienated and exploited labour and severed local knowledge from ecosystems. The work of the Congolese artist Sammy Baloji explores the effects of this legacy in his country [SAMMY BALOJI]. Baloji's work in photography and installation is powerful in its refusal to separate intersections of mining, colonialism, racism, climate damage, and warfare. By looking at how colonial architecture is occupied and sometimes reappropriated today, Baloji also gestures at how contemporary architects, planners, and organisers must create more inclusive spaces—both in former colonial seats of power and their former territories—by designing or repurposing buildings with a sensitivity to climate justice and a commitment not to repeat inequities of the past.

All this is far from abstract. It goes straight to the heart of spatial as well as architectural

production, the re-conceptualisation of which as a process (rather than a product) includes the recognition of architectural labour as something diverse: workers in quarries extracting marble or cobalt, workers on freight trains or ships transporting building components, workers at airports, in lorries, on building sites, in offices, workers cleaning or maintaining buildings. Globalised supply chains and alienated forms of labour create a detachment in which 'out of sight' becomes 'out of mind'. This removal explains how European architects disclaim responsibility for the remote sites of involuntary servitude of labour forces that realise extravagant designs in the autocracies and theocracies of the Middle East. Even after endless stories of racialised, exploited workers often exposed to systematised violence, this remains unacknowledged.

Against the violence of the colonial and capitalist projects, intentional processes of de-alienation can be seen to reconfigure and reconnect anew these harmed and damaged relationships. Local economies turn this upside down; detachment is no longer possible. Localised systems of construction and production go hand-in-hand with a more empowered form of labour and spatial production, which in turn are attuned to the challenges of climate. Thus, in the UK, a local community-led project was launched to rebuild Granby, a Liverpool neighbourhood that had fallen into dereliction [GRANBY FOUR STREETS]. Much care was taken in the Granby renovation work to consider environmental impacts, as well as working with local labour. Making use of existing structures and recycling materials was important, as was involving local people in practical crafts, such as tile-making. In such localised systems there is a direct link between the sites of production, those who

produce and the products that emerge. Space is here not just a backdrop for social actions but is actively produced by social relations—including labour relations.

Emphasising local knowledge gives agency in the creation and transformation of environments. The local serves as a powerful metaphor for resistance, challenging the dominance of centralised, often global, construction firms and shifting power and wealth to the people involved in the building process and their local communities. Utilising local materials (including resources from existing sites) and labour supports systems that establish the relationship between material practices and environmental outcomes. Local materials have, generally speaking, smaller ecological footprints. Localised practices contribute to local economic systems, thereby working against and challenging the exploitative dynamics of global capitalism. This is seen in places like Preston in the UK, where a progressive procurement policy aimed at keeping institutional budgets within the local area generated social and environmental benefits from money already being spent [THE PRESTON MODEL]. The Preston community wealth model offers a path for moving away from extractive economic structures by harnessing local reinvestment as the central strategy. It delivers both immediate local benefits—such as creation of stable, well-paid jobs—and pathways to a more climate-resilient future, including more democratic and resilient local energy systems.

The discussion of architecture, climate and labour is, at heart, one about responsibility but also accountability. This means stopping cherry-picking when it comes to talking and writing about architecture; a building cannot be sustainable when it

serves inherently unsustainable industries. Instead, a reformulation of architecture demands digging into the full story and the bigger picture, questioning the architectural machine—the discipline, the field, the schools—with regards to their continued prioritisation of form, beauty, and aesthetics and their equally continued ignorance of the means and consequences of its production. First, this requires an honest examination of the profession's own labour practices—without putting its own house in order, how can architectural practice engage with the broader issues of social and climate justice?

The various etymologies of labour frame it as a condition of hardship. The Latin term *labor* denotes toil and trouble. The German *Arbeit* derives from orphan, servant, slave. In French, *travail* originates from the name of a medieval torture rack. In all this harsh language, labour is dehumanised and with this made available for manipulation in both the material and immaterial worlds. However, as humanity faces a collective existential crisis, the bodies and minds of others need to be seen in terms of solidarity rather than exploitation. Everyone is vulnerable in the face of climate breakdown, but none more so than the precarious workers and dwellers. The humanisation of labour thus becomes an important project of empathy based on the principles of social and climate justice.

Working towards and enabling more ethical and transparent labour practices would overcome the lack of accountability in the production of the built environment. The current alienation of the labourer on site is also the alienation of the architect, whose lack of accountability extends to users—and, most importantly, results in alienation from the consequences of actions on the planet, and a detachment from engaging with their causes. Climate justice necessitates

The story of architect's meteoric and singular rise is a sexy one: it puts all the power in the hands of its protagonist. In cultures still enamoured with bootstraps and their elevating powers, it feels true. It places enormous significance on one's own ability to control outcomes. In this story, there is no pregnancy, no student debts, no cancer diagnosis, no sick parent, no cost-of-living crisis. There is no life, only achievement or underperformance.  
→ Jess Myers

labour practices that respect human rights and planetary boundaries. Reuniting workers with the materials and means of production re-engages labour power as an active agency capable of making ethical and ecological decisions. Knowing materials—their properties, their production, and the consequences of their use—shapes decision-making. Transparency in the supply chain promotes accountability. Developing collective forms and types of governance connects workers with their work. Local productions support local economies and reduce dependencies on global and often non-transparent supply chains. Labour power, currently in the thrall of capital, is here transformed into an active agent capable of making ethical and, thereby, ecological decisions.

We can take cues here from practices and projects which emphasise that climate justice stems from labour justice, such as the various initiatives around the unionisation of architectural labour [ARCHITECTURAL UNIONS]. The key demands here concern pay, workload and, crucially, greater democracy in architectural practices, allowing workers to have a say on issues relating to how architectural offices approach climate and social justice. Where monopolies and the industrial complex control forms of labour and dissociate labour processes, future practices need to work towards dismantling these, building up alternative types and forms of organisations that focus not on the profits for the few but on mutual support in terms of other people and the planet [THE LUCAS PLAN]. This can be achieved in small pockets, for example by creating cooperatives or similar ventures that prioritise collective values and collective benefits. More effective, though, would be to connect with other organisations and initiatives that fight for labour rights and to understand this act of connection, along with the collective activism that stems from it, as a form of labour itself.

I don't think we need to apologize for having a limited range of professional skills, we ought to accomplish with those skills what we can accomplish, but we also need to recognise what we can't do. If we want to deal with issues of capitalism we have to use our skills in coalition with other groups, otherwise we deal only at the margins.  
→ Peter Marcuse

Any discussion of labour is also deeply connected to race and gender. For example, the historical development of agricultural technologies created a male-made and male-oriented social structure in which men appropriated the bodies and labour of women and colonised peoples while exploiting nature through increasingly intensive agriculture and industrialisation. In contemporary society, the labour of women who have caring responsibilities is written out of economic measures and thereby deemed unproductive. The culture and economics of architectural practice disadvantages women, who are far more likely to leave the profession than men. And so on. As the feminist economic geographers Julie Graham and Katherine Gibson have written, 'marginalized, hidden and alternative economic activities' can nurture more ethical orientations to the world, including labour practices such as volunteering, self-provisioning, and care.<sup>56</sup> Gibson-Graham's approach to diverse labour forms and economies invites everyone to imagine what kinds of cultures and climates they would like to work towards and within. The reconfiguration of labour, therefore, is also about reforming values. This is seen clearly in the principle of Bayanihan, a traditional Filipino practice of mutual support that demonstrates a shift towards participatory approaches and solidarity [BAYANIHAN]. Traditions of mutual support have enabled people to work together and help each other, highlighting the strength and resilience of communities. They illustrate other ways of living and working together in a socially and environmentally equitable way.

Climate responsibility entails not just understanding the implications of materials and techniques, but also exposing work and labour as a matter of politics that requires intersectional thinking and doing. The power

Thinking about the labour of maintenance and care is so important here—valuing existing, often invisible care work better, and expanding and reorganising our communities around new ecologies of care at all scales. Shifting the basic value propositions upon which our social and economic relations and therefore ecological relations are grounded.  
→ Jon Goodbun

While remaining grounded in concrete possibilities, the demand has to be enough of a game changer to be able to provide an expansive perspective. [...] it is important to note that the demands that merit the label 'utopian' are necessarily larger in scope than their formulation as policy proposals would initially indicate.  
→ Kathi Weeks

of a demand lies in its ability to expand the imagination and to be both realistic and transformative. Challenging the status quo is a creative act that opens up space to imagine multiple ways of being, working and acting. It is about rethinking the foundations of our society, imagining—and acting upon—those imaginings for alternative political futures, and diverse economic systems, ones reinforced by diverse social and spatial relationships. Joining the growing movement towards unionisation, understanding and rethinking labour conditions not just in architecture but across sectors is a first step towards these futures. It requires recognising undervalued labour, such as the often-invisible work of care and maintenance, as well as fundamentally reimagining how this labour is organised and valued. This shift is not a mere add-on to existing frameworks, but a foundational reorientation of social, economic, and ecological relationships.

In architecture, particularly within academic institutions, the dominant narrative often insists that change is impossible. When students put forward bold visions and demands, experienced professionals tend to respond with scepticism, seeing the profession as trapped in an inevitable cycle of increasing pressures and dwindling possibilities. Yet, the cracks in this system are becoming more apparent, and movements led by students and workers are increasingly challenging this inertia. A strong labour movement in architecture can do more than secure better wages; it has the potential to redefine the profession by understanding and engaging with its broader social, political, and ecological implications.

## ASK WHO PRODUCES AND REPRODUCES THE WORK

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## AND ADDRESS VULNERABILITY

It is all too easy to lift design out of its systems of production and thereby turn a blind eye to what and who has produced what you do. Think, therefore, about the many hands that go into what you are designing. Ask questions and address the vulnerabilities of others within the processes—because climate justice is always accompanied by social justice. If the work that you do puts other people into perilous, risky and precarious positions, then it is exploitative. It doesn't matter how far away that exploitation is from you—you are implicated. While your profession might not have sufficient ethical codes, this does not mean that you cannot operate ethically yourself and address conditions beyond the apparent limits of your discipline.

## BE ACCOUNTABLE

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### UNDERSTAND THE IMPACT OF YOUR ACTIONS

So much stuff is made at the expense of something, someone, or somewhere else—distant externalities deliberately kept apart from what we do, so we lose sight of them. To be accountable means taking responsibility: for the work itself and the workforce; for the places and structures you design; for the resources being extracted; for the ecologies you are part of. It means acting with ethics, working in intersectional ways, acknowledging and cooperating with others. Most of all, it demands always tracing the impact of your work in relation to planetary boundaries.

## BUILD ALLIANCES OF SOLIDARITY

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## AND WORK ACROSS HIERARCHIES

The challenges of climate breakdown cannot be confronted alone, cannot be addressed with single-issue approaches, and cannot be taken on within the strict disciplinary structures that perpetuate blinkered approaches. Mobilise to work across those boundaries, expertise, cultures, and hierarchies! Support and grow multidimensional networks and alliances. This will help to make new bonds, acknowledging that we are all in this together and that everyone has a role to play.

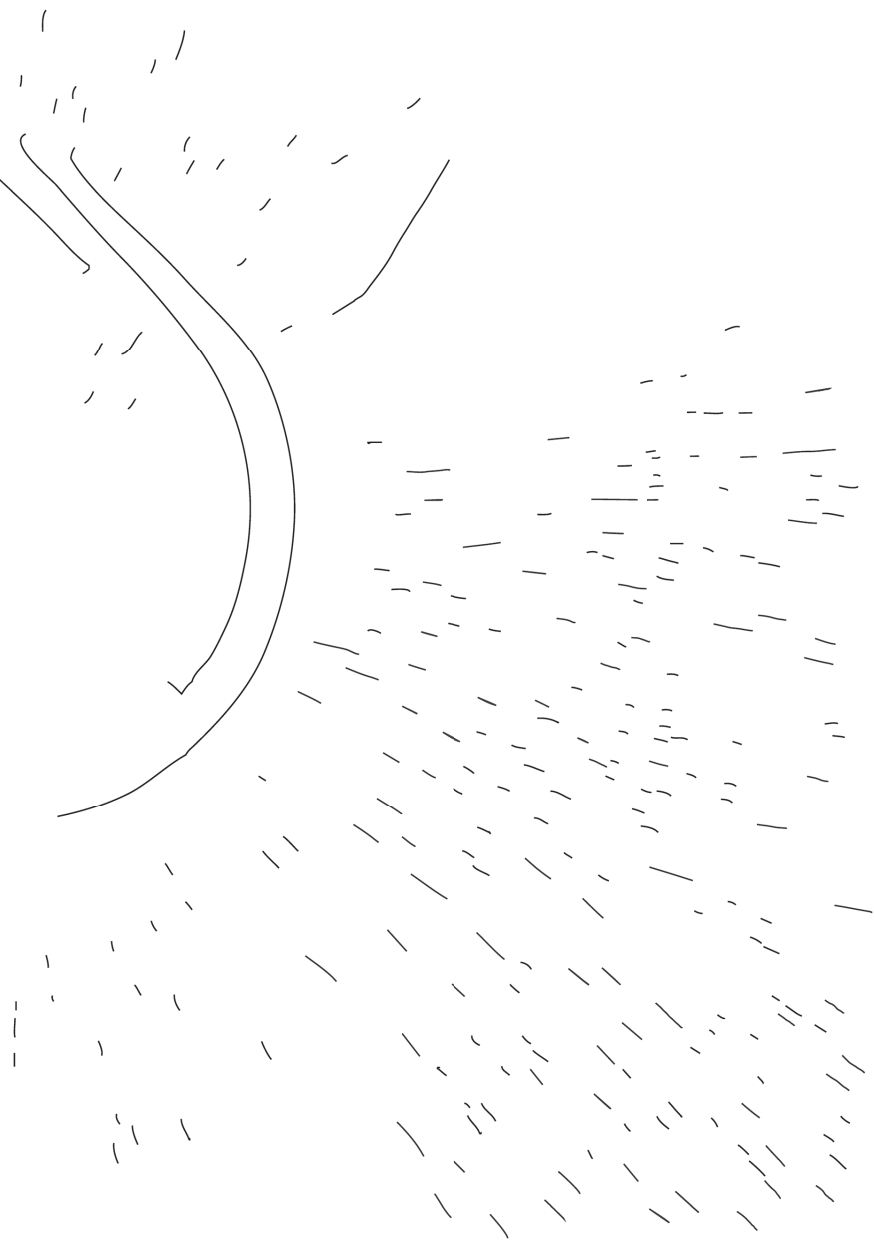
REDISTRIBUTE  
DECISION-MAKING

/

FORM POLICY  
FROM ALL SIDES

Too often decisions are made by those in power who have a vested interest in maintaining the status quo and bolstering the forces that have created climate breakdown. Try instead to redistribute decision-making across disciplines and different perspectives—to those who are often excluded but have most at stake, to those whose voices have been suppressed, and to the cultures that have been oppressed. Include all those who are affected by what you do, not just those who are pulling the strings.





# POLICY

In the 1989 film *In Which Annie Gives It Those Ones*, written by Arundhati Roy and partly based on her studies at the School of Planning and Architecture in Delhi, Roy's character Radha confronts the question of architecture's relationship to politics in a conversation with her professor. Having dismissed her project investigating the disparity of income between architects and construction labourers as 'this year's bleeding heart thesis', the professor continues: 'Do you really think the jury is interested in all this claptrap? ... I know how you feel; we all feel the same: guilt. But that's separate from your professional skills as a designer. Don't confuse the two! The jury wants results: plans, sections, elevations, details'. 'That's exactly what I've been trying to say', Radha replies. 'I mean, plans and sections and elevations—of what? Piggy banks pretending to be buildings. ... It's time to get behind that, you know? To find the mechanism that lies underneath that. To see why what's happening is happening'.

Architecture has long ridden this tension between a set of familiar skills and the opportunity—and responsibility—for broader strategic engagement with ‘the mechanism that lies underneath’. Those mechanisms are often determined and controlled by policy. How, then, should architects, designers, planners, engineers, politicians, developers, contractors, labourers, community organisers, residents, families, educators, children, students, cleaners, activists, gardeners, economists, mechanists, and others engage with policy? To some on that list, policy is a familiar tool. To others, it is an inaccessible set of procedures. To only a few is it easily worked with. Perhaps it is this inequality of understanding that too often disables policy as a site of intervention for the reimagining of both architecture and climate. Both are overseen by policy, so it should be a fruitful area in which to intervene productively. In terms of climate especially, the significant moments when it enters public consciousness and media attention are the release of reports by the Intergovernmental Panel on Climate Change (IPCC), and major summits such as the Conference of the Parties (COP), as part of the United Nations Framework Convention on Climate Change (UNFCCC). What emerges from these forums are policies in terms of new protocols and commitments, such as the 2015 Paris Climate Agreement, which came out of COP 21. These are instances of policymaking at the highest levels, indicating how policy becomes the primary tool required to address climate breakdown. At the same time, these events exclude large swathes of human (and other) experience from the conversation about what form such policy should take. This happened quite literally during COP26 when representatives of civil society groups were locked out of plenaries, discussions, and negotiations (while lobbyists from fossil fuel concerns were allowed access to the main areas).<sup>57</sup>

Architecture is already political, the point is to change its politics.  
→ Jonathan Charley

The exclusion of multiple voices from forming climate policy is consistent with how policy operates in other areas. Policy is generally seen as a remote citadel whose language and operations are alien to most citizens. That perception of policy as dour, dull, and disconnected is shaped by who gets to make it and what interests they are acting in. Policy wonks, lanyard melts, and pen pushers are terms of ridicule for those who appear overly concerned with these mechanisms and, in this, have lost sight of both the aims and implications of policy. The policymakers' resultant disconnection from the real world reinforces the idea that the world of policy is marginal, an abstraction and reduction of reality, not an area for ordinary people to be interested in.

The very structures of policy screen the power of the policymakers. Left as something to be made by a technocratic establishment, policy is always bound to serve only specific interests, safeguarding the status quo. This is most apparent in the contradiction between the bold ambitions of some climate policies, such as a commitment to 'net zero' and the vested interests of the institutions that promote them. In a growth-oriented economy, the concept of net zero is antithetical to the broader aims of the system, so it will only ever be achieved via deception and creative accounting such as with the offshoring of carbon emissions to other countries.

There is too often the impression that policy is obscure, narrow, and only concerned with specific forms of action to the exclusion of others.<sup>58</sup> This impression of policy as something that can only bring restrictions, rather than enable new possibilities, disengages precisely those who should be engaged in using policy as a tool of

imagination. Policy in most areas is too often bound up in the normative, single-authored, conservative format of problem-solving: merely offering technical tools to solve individual problems based on specific value structures and quantified by peculiar metrics. The technocratic nature of much policy presents itself as a neutral mechanism, lifted above the tides of politics or everyday concerns. Climate breakdown is not simply a technical problem to be solved, but a new and ever-shifting set of conditions to be negotiated and renegotiated with. It therefore demands a different kind of approach to policy: one that is less absolute, something in continual formation.

The traditional definition of policy is based on the enactment of good government, in the sense of a set of principles ‘adopted or proposed as desirable, advantageous, or expedient’ to society as a whole, but also as something formalised within and advocated by an authoritative body.<sup>59</sup> This definition begs several questions. What is ‘good’ or ‘desirable’? Here, only those in power can determine it. Who or what is society? How are these ideas formalised, and how is this structure inherently resistant to change? All policies are value-laden but those values are not made explicit. What or who is a particular policy protecting or serving? If made only by establishments, it is likely that policy will protect those establishments in a specific form rather than advocate for fundamental change.

Policy as the maintenance of the status quo points towards another sense of the word: policy as an instrument of protection, as in an insurance policy, which commodifies the future and manages risk. In relation to climate, the prevailing policies of resilience, mitigation, and adaptation act merely as

The financial commoditisation of the future and the identification and indemnification of risks and uncertainty associated with modern industrial society, and even the routine material practices of the designers of computational technology, such as prototyping [become] part and parcel of routine scientific, technological and policy practices.  
→ Alex Wilkie, Martin Savransky, and Marsha Rosengarten

protection of the status quo rather than deal with underlying causes. Here, policy manages *against change*, and protects specific interests. Thus, the property industry is shielded behind infrastructures of resilience and the fossil fuel industry hides the continuation of extraction behind mitigating masks of carbon capture. While climate is an inherently relational and intersectional problem, much of climate policy carries a legacy of separation with, typically, the proposals of individual governmental departments developed in isolation from others.

Against the common reading of policy as disconnected, technocratic and protective, what if it could become a place for the forming of collective fictions: making them together, thinking holistically, and presenting counterpropositions? What if policy were a form of narrative and projective framework, as opposed to a dry instrument of government? If you open it up, policy might become a form of analysis as well as projection, a means of imagining new worlds by undoing underlying structures.

If policy is both a medium through which to imagine the future and a mechanism to bring it about, then it is something that all should have access to and take part in. The remoteness and lack of accountability of much policy arises from its top-down beginnings. If policy comes from a collective position, then it has a greater chance of having a more comprehensive agency and relevance. This is a possibility apparent in many already-existing examples from spatial practice, civil society, and activist groups that engage with policy in ways that are at once creative, critical, and highly pragmatic. Most powerfully, climate assemblies [CLIMATE ASSEMBLIES] around the world are a form of participatory democracy

Technology will save us. Capitalism is good at technology. So let's just keep the show on the road and hope for the best. This delusional strategy has reached its limits. Simplistic assumptions that capitalism's propensity for efficiency will stabilize the climate and solve the problem of resource scarcity are almost literally bankrupt. We now stand in urgent need of a clearer vision, braver policy-making, something more robust in the way of a strategy with which to confront the dilemma of growth.  
→Tim Jackson

that challenges the top-down nature of so much climate policy.<sup>60</sup> Policy is most potent when it engages in grounded projections: in beginnings rather than endings, in openings rather than certainties, and in immediate, real-world choices rather than predictive speculation. Opening up futures through policy is quite different to determining and managing them. But the fetish of policy in its modernist form—centralised, technocratic, and solutions-based—is being thoroughly misused in order to suppress such open imagination.

In the sense of belonging to a community and society, policy is the means for collective betterment. Design and policy can intersect here, with design acting as a claim or directive to manifest the collective will and imagination. Ramia Mazé's study of the relations between design and governance in Cape Town shows how broader political formations—the interface between state and populace—can be grounded in and through design in a manner that incorporates a multitude of stakeholders.<sup>61</sup> This kind of policy-linked design work involves multi-vocal strategic planning, thinking beyond immediate need and instead setting out future goals and frameworks, but also by not reducing politics to representation. By thinking connectedly and contingently about what follows from one to another, a different form of design-as-policy emerges. The Transition Town movement, for instance, emerged from a community-led strategy for disconnecting local economies from fossil fuels whilst building international networks of solidarity and cooperation [TRANSITION TOWN TOTNES]. In order to decarbonise, local groups had to confront broader issues of climate breakdown, intervening in systems such as food, energy, tourism, education and health whilst emphasising the importance of individual transformation as part of the transformation of society.

There is a tremendous gap between public opinion and public policy.

→ Noam Chomsky

As a framework that holds multiple concerns and principles, more open forms of policy and bureaucracy begin to stand for representation, fairness, and the affirmation of a broader set of interests. This protected citizenry must also go beyond the purely anthropocentric, with policies to represent the more-than-human. Notably, the draft Chilean constitution of 2021 was based on a core principle of bioethical solidarity, emphasising the rights of nature [CHILE'S CONSTITUTION]. Its first article states that it 'recognises as intrinsic and absolute' the 'dignity, freedom and substantive equality of human beings and their indissoluble relationship with nature.'<sup>62</sup> This example is consistent with the broader concept of the rights of nature [RIGHTS OF NATURE]. The movement recognises that ecosystems such as forests, rivers, oceans, and wetlands have the right to exist and flourish, independent of their value to human beings. If taken seriously, these rights would fundamentally regraft the roots of European politics, which is based solely on the rights of man. The power of both these examples lies in the fact that they do not prescribe policy but describe a set of principles on which subsequent policy needs to be based. The technocratic version of policy (on which so much modern politics is based) disguises its principles under an instrumental veneer—whereas starting with principles is much more potent, particularly when the principles establish ethical parameters for policy to follow.

The ethical dimensions of policy are particularly apparent in housing, where tenants' rights and needs often conflict with the market. In 2021, a citizens' referendum successfully mobilised support for housing justice in Berlin, advocating for the expropriation of major private housing companies [DEUTSCHE WOHNEN]. The grassroots campaign sparked public discourse and highlighted the urgent

The transformation of housing policy requires a renewed underlying economic framework that articulates, captures, and promotes the ways in which ambitious goals can be collectively set and met.  
→ Dan Hill and Mariana Mazzucato

need for affordable, equitable housing. It also generated a broader conversation about the intersection of spatial practice, social equity, and climate consciousness in shaping the future of the urban built environment and the need for radical policies to address the climate crisis. In the USA, groups such as the Black Dirt Farm Collective [BLACK DIRT] and Sweet Water Foundation [SWEET WATER FOUNDATION] directly challenge histories of racial segregation embedded in existing land policies in the USA. They propose new structures of collective inhabitation and cultivation of the earth, redefining ways of thinking about regeneration towards nurturing personal, social, and planetary health—to sustain life in its broadest sense, and not simply to generate economic value.

Policy is most effective as a relational device: defining cross-sectional and transversal working, bringing unexpected things into conversation, finding new ways of connecting—and at the same time creating new fields of knowledge. Individual policies need to be framed by a wider mandate, vision, and ethic, which conjoins them. The structure of contemporary politics tends to locate policies in ministerial siloes, but there are examples which dissolve institutional barriers to create policy which responds to interlinked environmental and social challenges. In Spain's Balearic Islands, a new housing office, Instituto Balear de la Vivienda, brought together previously separate functions of planning, design, and economics under a single policymaking banner [INSTITUTO BALEAR]. The aim was to make affordable and generous social housing using ecologically sound materials and practices. This necessitated redesigning all kinds of procurement, labour, and policy frameworks, operating across disciplinary boundaries.

In Preston in the UK, the 2008 financial crash prompted the incoming council three years later to experiment with community wealth building when existing financial models based on growth and attracting external investment (the same models that generate climate breakdown) were failing [PRESTON MODEL]. A strategic change in procurement policy meant that the primary public purchasers in the city (the local authority, university and health provider) shifted their supply chains from global corporations to regional providers. Harnessing local reinvestment as a central policy delivered immediate local benefits in creating stable, well-paid jobs and more democratic and resilient local energy systems. These examples suggest that progressive policymaking needs to combine restrictive aspects (i.e. procure only locally, reduce carbon use) with a range of enabling aspects (support local employment, provide low carbon incentives). Such approaches foreground ways of being creative with policy, rather than seeing it solely as a form of bureaucratic restriction. It is this creative and transformational use of policy, alongside the multiplication of their individual agency, that should make it such a fruitful area for architects and designers to work with.

One of the most striking aspects of a 2021 joint campaign in the UK to broaden the scope of Part L—a suite of guidelines on how to meet building regulations relating to energy use—was its proactive engagement with policy as a means of design rather than seeing policy as a set of restrictions that reduces the agency of architects. The Part L campaign led by the Architects Climate Action Network (ACAN) and London Energy Transformation Initiative (LETI) saw policy as a vital site of architectural agency—one in which architects can and should be involved [ARCHITECTS' CLIMATE

MOVEMENTS]. Their joint campaign bolstered the climate aspects of the new regulations. They recognised the overwhelming ways in which architecture and climate are determined by policy, and that in order to change both in a meaningful way, policy needed to change. There are many more examples of how architects have engaged with policy, encompassing the analytical, absurd, and imaginative—whilst also implicitly critiquing existing policy structures. The work of *Recetas Urbanas* (Urban Recipes) pushes the boundaries of urban law and politics to the point of absurdity in order to find new spatialities.<sup>63</sup> Its founder, Santiago Cirugeda, often pushes existing regulations to the limits to create new urban situations. The Brooklyn-based Centre for Urban Pedagogy engages people creatively in understanding and remaking the instruments of policy that make the city. They do this ‘by collaborating with community organisations, schools, visual designers, and teaching artists, to make information about the public policies, processes, and systems accessible.’<sup>64</sup> In the UK, David Knight and Finn Williams’ *Sub Plan*—part of wider research into the complex relationship between planning policy and society at large—digs into the gaps of current planning policies, exploring the limits of current legislation to come up with sometimes extreme, but perfectly legal, proposals.<sup>65</sup> All of these examples represent a kind of strategic engagement that is not part of the standard toolkit of spatial practice—engaging with the bad in order to make it better, finding loopholes and leaks.

How does one use spatial knowledge and thinking to inform policy? Michael Sorkin’s *Local Code* takes the designer’s intervention in policy one step further by using spatial thinking to invent new forms of policy [LOCAL CODE].

The project is an architectural project presented as a series of rules—rights and obligations—for a hypothetical future city.<sup>66</sup> Using language and code as design tools, the volume provokes readers to rethink future scenarios and design practices. Sorkin turns the traditional relationship between design and policy on its head; rather than design being prescribed and restricted by policy, he invents new codes as a form of design. Codes and rules are shown to be a form of design that is not universal but has the potential to respond to and reflect the needs and desires of communities at different scales. A similar approach is found in the Greek architect Aristide Antonas' project Archipelago of Protocols.<sup>67</sup> Antonas proposes various protocols and codes for inhabiting the derelict spaces of Athens, introducing legal temporary occupancies of the abandoned city centre that should be accepted and controlled by a municipal authority. A real-life version of this approach can be seen in Barcelona's Superilles zoning policies [SUPERILLES]. The scheme created pedestrianised areas for green space, community events, cycling, and walking—resulting in an improvement of both environmental and social aspects of life in the city. As an experiment in imagining otherwise, superblocks are exemplary in envisioning an urban fabric whose social structure is transformed by the spatial change of removing cars.

Describing the cascading levels of policy that determine what gets built before an architect is ever involved, Finn Williams describes the need for more strategic engagement as 'swimming upstream'.<sup>68</sup> It would be a mistake, though, to see engaging with policy as purely a form of increasing control and influence. In terms of architecture and spatial practice, the critical point is to see policymaking process—both working within existing policies and designing new ones—as a creative means of design. This is not only in relation to new

A building can be taken as the tip of the design iceberg; not least in the sense that it can help us read the larger (socio-economic, political and legal) conditions that underlie it.  
→ Fran Tonkiss

buildings. Retrofirst, a UK campaign led by journalist Will Hurst to champion retrofit and reuse over demolition and rebuild, targeted regulatory, professional, and financial structures, recognising the significant ways these determine built outcomes [RETROFIRST].

Engaging with policy is, most productively, about understanding it as a structure that might either restrict or enable imagination and action. In *Experiments in Imagining Otherwise*, Lola Olufemi relates architecture to structures of language and sees in both repressive and emancipatory potential. She argues for the use of the imagination as a means of breaking the binds of existing structures. The idea of scenario-building is also an exercise in imagination. Scenario-building emerged from a concern about the limited nature of scientific methods in dealing with increasingly complex problems. They are an alternative to solution-based approaches which, like architectural projects, are based upon definite conditions and lead in a determinist manner to definite futures. Instead of certainty, scenarios emphasise the role of policy in opening up to the unexpected, and of creative practice within the formation of policy.<sup>69</sup> They invoke imagination to depart from the status quo, are open-ended, post-normal, and retain uncertainty. There is always something productive about saying 'what if...'. Rob Hopkins' *Ministry of Imagination Manifesto*, 'harvested' during four years of making the podcast *From What If to What Next*, is a collection of hundreds of policy proposals on subjects from city planning to migration, education, energy, and health.<sup>70</sup> In its sheer scale, it seems to confront the kind of disinterest and apathy that traditional policymaking might inspire.

The language we use, builds [...] a linguistic structure that defines the realm of the possible, that implicitly tells us to want less, to expect that total reconfiguration is out of the question. Like a poorly designed building, linguistic structures affect how we think, breathe, move and act. The mould sticks to our skin. We are familiar with a particular kind of linguistic structure: the preservation of a system of organisation that places capital before all else. This system ties our hands and feet together.  
→ Lola Olufemi

Paolo Freire's concept of critical hope suggests that hope is a fundamental aspect of progressive world-building, rooted in critical understanding of existing conditions. That means understanding policy—both its constitutive part in the troubles of the present and its possible mobilisations in more hopeful futures. Freire understood that critical hope is extinguished by the reductive view of policy as just a form of prescription or assistance, a means for governments to hand down benefits to a passive populace, and not a form of imagination in which they could themselves engage. If we are to rethink architecture in relation to climate breakdown, then this must include policy. Only by avoiding past mistakes that saw policy as outside of architecture, as only restrictive, and as something authoritative and fixed, can the future be reimagined. If, as Arundhati Roy infers, policy is the mechanism that lies underneath, then real agency and potential are to be found in remaking those mechanisms to create policy that is enabling, compelling, democratic, relational, unfinished, and open.

Without a vision for tomorrow, hope is impossible. [...] Tired and anesthetized, in need of everything, [oppressed people] are easy prey for aid-and-assistance policies that further immerse them in a mind-narrowing daily existence.  
→ Paulo Freire

LISTEN CLOSELY  
TO GAIA

/

MORE-THAN-HUMAN  
POLICY

Entangle with Gaia, that network of living organisms that fashion the world's environments. We need to overcome modernity's separation from this essential support system. To do this, reprogramme your sensibility to be alert to the beyond-human and the way that any design or policy might impact upon the fragile networks of the living world.

SEE EXPERTISE  
EVERYWHERE

/

AND WORK IN COALITIONS  
THAT COME TOGETHER AROUND A CONCERN

Expertise is often shrouded in mystery as something that is only acquired in specialised settings, the domain of disciplinary elites. In fact, expertise is everywhere, arising out of everyone's daily familiarity. The knowledge that comes with this is often discredited as mere experience, a lower rank of expertise that does not enter the realm of professional work. We all experience the impact of climate, so start by recognising expertise in the everyday and as an equally valid form of knowledge. How might practice, research and decision-making become better equipped to include diverse perspectives on complex problems?

## FORGE CONNECTIONS ACROSS DISCIPLINES

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## RELATE EVERY POLICY AND ACTION TO ANOTHER

Think across all disciplines and scales, because climate breakdown impacts across the spectrum from the cellular to global systems. The fragmentation of decision-making into specialisms hinders the ability to make connections between scales and settings, where a decision in one area cascades a series of interrelated consequences in others. Rather than focusing on solving isolated problems, emphasise and work with the relational aspect of decisions and their connections.

TAKE CARE OF  
THE BIG AND THE SMALL

/

BECAUSE CLIMATE  
TRAVERSES SCALE

The enormity of climate breakdown calls for plans to address it at a planetary scale. But climate is not only a mass of global averages and patterns—climate is also local, experienced in, and affecting, everyday life. Taking care of climate at the scale of an individual interaction is as vital as at the scale of whole ecosystems, because climate traverses scales.





# CULTURE

Culture defines us doubly. It shapes who we are: 'One is not born, rather becomes, a woman', as Simone de Beauvoir famously states. It also moulds how we see and engage with the world. The two, our internal and external worlds, are presided over by the tides of culture. Dominant cultural attitudes are implicated in all aspects of our lives, including the engagement with climate breakdown and the way that architecture is shaped. If a particular cultural frame determines a worldview, it is very difficult to see beyond the prescriptions and limitations of that frame, even if the conditions within that view are deteriorating as fast as they are right now. The dominance of certain cultural positions limits the potential to engage with climate breakdown or the reformulation of architecture meaningfully. Culture operates at many levels, and so any reappraisal needs to acknowledge the pervasiveness of current conventions and the way they close our eyes to other ways of imagining the future.

Culture is ordinary.  
→ Raymond Williams

In the dominant Eurocentric tradition, architecture is monitored by very specific cultural expectations. Boundaries are set to define and then protect the profession. Educational criteria are set, gateways into the profession are defined, and institutes are regulated with codes of conduct. Within these walls, strange rituals, particular values and specific methods perpetuate unchecked. It is hard to break through or even look over these bounding walls because, in that act of transgression, one's identity as an architect may be challenged. Just when architecture needs other ways of proceeding in the face of climate breakdown, it remains captured within its fixed cultures.

Perhaps no Calvinist system of thought ever made use of the insecurities of people more effectively than did the culture of professionalism.  
→ Burton Bledstein

As with many aspects of contemporary life, architecture's culture is predominately viewed through the lens of modernity. The same is true

of the way that climate is understood. There are many different readings of modernity, but most trace back to the insistent separation of humans from more-than-human. Once this conceptual division is made, the balance between humans and the planet is upset. Nature, and those who respect and steward it, are classified as savage and primitive. Under the rules of modernity, and the accompanying colonial mindset, these must be ordered to be tamed and so made civilised. This is an act that crosses philosophical, political, economic, colonial, and cultural standpoints. The more-than-human domain becomes available to serve human desires. With this, the natural world is subjected to relentless extraction to fuel the endless growth on which modern economics depends. The 'natural' sciences assume the right to assimilate nature into artificial systems. Architecture from the nineteenth century onwards is clearly situated in this divide, based as it is on extractive systems of production and the design of controlled enclosures that environmentally and sensually separate humans from the dynamics and rhythms of the earth.

In these ways, the binary of society/nature becomes a defining motive of modernity and one which violently disrupts the equilibrium of the planet. The modern paradox is that the more the human systems of capital and corporatism have tried to dominate nature, the more nature has unleashed an uncontrollable fury. The insistent separation of humans from Earth is a crucial driver of climate breakdown because it sanctions the extraction and exploitation of natural systems and induces a cultural mindset that distances humans from the effects of their actions. This is part of a broader condition of disavowal, which comes when the impact of climate breakdown induces such a severe state of anxiety and

A true culture manifests  
itself in fresh colour,  
white linen, and clean art.  
→ Le Corbusier

Nature continually  
threatens to break down  
the water-tight com-  
partments which culture  
seeks to impose on it.  
→ Michael Thompson

helplessness that it is sometimes easier to turn away from the crisis, even knowing it is there. Disavowal sees and plays with the threat, turning it around to persuade others that impacts can be minimised. This is what happens in certain approaches to climate and architecture, with eco-modernists and techno-boosters turning away from the dark perils of breakdown and its causes towards shimmering futures of progress. The images of the techno-boosters convey a rosy future, which is actually better (free energy! happy shiny people!); the engineers depict a dispassionate life of survival (we can design and build our way out of this). But in their flight from the present, none of them look enough in the rear-view mirror, leaving the underlying roots of climate breakdown unexamined and undisturbed, allowing the crises to perpetuate.

Disavowing vulnerability to the ravages of breakdown is little more than a form of climate denial, but it is disguised by holding out the promise of freedom from the threat. Architecture plays an active role in this disavowal: on the one hand, providing seductive images of future possibilities that distract from the very real symptoms of current ecological collapse; on the other, presenting itself as a form of solution. Trees are transplanted on concrete skyscrapers as a distraction. A token rammed earth wall is used as a reception desk in the corporate office. Mirrored apparitions rise out of a scorched desert. All of these (and many more) offer false visual promises that the world can be saved, while in fact disavowing the intense vulnerabilities produced by climate breakdown. The claims of 'sustainability' associated with this denial only heighten the deceit.

Disavowal is also artful. It can cleverly bend, reverse and warp the truth, and fraudulent thinking flourishes in this state of mind.  
→ Sally Weintrobe

Within the culture of modernity, climate is severed from its historical constitution and

treated as another thing to be measured and subjected to human control. A technocracy is deployed to mitigate the effects of climate breakdown, resulting in numerous partial and disjointed fixes when what is required is a complete reorientation of the relationship between human and more-than-human worlds. The culture of modernity thus frames the world in a way that is incompatible with what is needed to engage productively with climate breakdown. It lays out a picture described by the language of adaptation, resilience, and sustaining, with humankind at its centre. The very words conjure up a calming sense that humans will be able to fix the world, allowing the underlying behaviours and systems to continue seamlessly. Too often, they shift the burden of responsibility onto the individual, implying that every one of us is accountable for the mess we are in, thereby displacing attention from the real corporate and political perpetrators.

The cultures of modernity are further played out within professional settings. Dominant cultural attitudes, and the broader economic and systems that oversee them, determine the architectural profession's behaviours, actions, and priorities. A singular canon of architecture is established, for which an endless variety of styles is merely a superficial cover to underlying stasis which allows a mainstream culture to persist. Architecture is expected to deliver the aesthetics of the new in order to signal endless linear progress. In relation to climate, both these forms of expertise are damaging. Newness leaves in its wake all the effects of material extraction, including carbon release and toxic residues. The 'solution' of a building is little more than sticking a band-aid over a wound. The band-aid might presume to deal with particular symptoms but does not acknowledge the relational causes underlying

By teaching and transmitting just one culture, that of the dominant classes, and by defining excellence and achievement in terms of that culture, the educational system of necessity favours those for whom the dominant culture is as natural, familiar and easy as walking.  
→ Garry Stevens

the crisis. Every band-aid is held up as a sign of progress, but because they are disconnected, partial and often short-lived, they lack the power to effect wholesale and lasting change.

This monoculture of newness, band-aiding, and solutionism is maintained through various disciplinary means, including award systems, exhibitions, publications and the accreditation of education by professional bodies. On a regular basis, architectural awards are handed out to new buildings (of concrete, of steel, of glass) which manifestly have a high carbon load. An endless round of Congresses, Biennales and Triennials suggest that things are ever moving forward without looking back, and at the same time producing huge carbon emissions as people and stuff are shipped around the world (often talking about climate breakdown and sustainability). Mainstream media has ignored the contribution and complicity of architecture in climate breakdown for too long. The influence of the media in shaping architectural culture is evident, but so is its dependency on what is produced by the profession; architectural culture is generated by chasing each other's tails, as architects seek media approval, and the media rely on standardised architectural production for copy. When this chase becomes a vicious circle, protecting and perpetuating internalised concerns, architecture loses its external relevance and ability to act meaningfully in the face of the crisis.

The limits and damaging impacts of current cultural and disciplinary norms demand that we rewire our cultural assumptions, individually, professionally, and societally. A starting point is to return to the original meaning of culture as a form of nurturing the land and its inhabitants. This understanding implies that humans have a bond with the earth and its

A perpetual association with newness resonated with the broader cultural ideology of modernity. Similarly, distancing this new material [concrete] from the potentially dirty associations of general vernacular mud [from which concrete is made] was also crucial given the other broad preoccupations of modernist architectural culture during this period, such as hygiene, whiteness, etc.  
→ Jon Goodbun

This [architectural] culture, expressed most vividly in the Modern Movement, has reverberated through architectural practice and education for over a century, and has made it uniquely difficult for architecture to allow itself either to recognise its place in what is now an environmental crisis, or to do enough about it.  
→ Susannah Hagan

critters. Such a culturing relationship of mutual reliance, human with the more-than-human, is very different from modern agriculture with its extractive domination of the natural world. The connection between culture and land is made explicitly in the work of Malian farming cooperative Somankidi Coura [SOMANKIDI COURA]. The cooperative members use cultural tools of theatre, radio, photography, and film to raise awareness about the social and ecological importance of permaculture in bolstering communities in the wake of colonial occupation, economic migration, drought, and increasing climate breakdown.

Everything and everyone is vulnerable in the face of climate breakdown, though the impacts are uneven. Any revised cultural position has to acknowledge the inequalities that climate breakdown produces, and with this abandon the myth of universal culture. Shifting cultural horizons from one of human control to one of nurturing and responsiveness to others means that humans are decentred, but not at the cost of human responsibility. A culture of care results, with care for others (human and more-than-human) assuming priority to looking after oneself. This suggests a return to a culture of interconnectedness. The decentred human is not an enfeebled version but rather one that is situated as part of a vibrant network of living beings and things.

The implications for the discipline of architecture are that the architect moves from being a remote figure of expert authority handing down solutions to being part of a community of mutual dependency. The interdisciplinary approaches now taken for granted across the built environment professions are not sufficient, because they still maintain expert boundaries. A call for mutual dependency is one which connects

We say that humans have the least experience with how to live and thus the most to learn—we must look to our teachers among the other species for guidance. Their wisdom is apparent in the way that they live. They teach us by example. They've been on the earth far longer than we have been, and have had time to figure things out.  
→ Robin Wall Kimmerer

the architect and other professionals to other citizens in a manner that acknowledges a shared but uneven vulnerability. Being responsible to and with others and the earth does not mean abandoning specialist knowledge, but implies understanding it as part of a constellation of other knowledges—in particular those that foster interconnectedness and stewardship. This is the approach taken by the Indigenous University in Colombia, which stimulates ongoing dialogue about environmental and territorial issues as a kind of weaving together ‘bio-cultural’ knowledges [INDIGENOUS UNIVERSITY]. Highly localised in its situation, yet global through its outreach, the Indigenous University presents an alternative to dominant models through its profoundly ecological and social grounding.

The key cultural shift required to enable this new sensibility is the dissolving of the dualisms that define modern culture—not only society versus nature, but also of mind versus body, and reason versus emotion. The modern privileging of each of the former over the latter leads to a severed worldview that distances humans from the very conditions on which they depend. The unravelling of dualisms has been at the heart of much feminist thinking, particularly that which intersects with ecological concerns [ECOFEMINISM]. Eco-feminism has a critical role to play in forming alliances between those human and more-than-human aspects of the world that have been overlooked, exploited, and dominated by patriarchal systems. Only with such a realignment of forces can climate justice be accompanied by social justice.

Arturo Escobar’s formulation of *Thinking-feeling with the Earth* also collapses the dualities, eroding the distancing effect of humans from the planet.

The hyphen in *Thinking-feeling* gives equal resonance to humans and nature, mind and body, reason and emotion. The *with the Earth* gives mutual agency to the Planet. The hybrid constitution of the resulting conditions is very different from the ordering and purifying principles of modernity. It establishes a very different understanding of culture from which to develop action and thinking. Escobar associates the values and behaviours that arise out of a *Thinking-feeling with the Earth* approach with those of the Indigenous communities of the Global South that have been overwritten and exploited by Eurocentric culture [THE MOVEMENT FOR THE SURVIVAL OF THE OGONI PEOPLE, ZAPATISTA CARACOLES, MOVIMENTO DOS TRABALHADORES RURAIS SEM TERRA]. Culture in these other contexts is best understood as describing a process that develops over time and in relation to context. As a processual noun, culture describes an ever-developing set of practices that change over time. Such an understanding of culture therefore encourages thinking about time and change, which is vital to considering the long history of climate breakdown and colonial/extractive capitalism in relation to architecture. This demands that architecture look to its role in the production of climate breakdown and the other violent impacts of modernity. Taking a critical view backwards is not how architecture has traditionally operated, but doing so offers a genuine new beginning and understanding.

For architecture to consider incorporating cultural principles from another time and place is counter to its obsession with progress and its flight from the past. Indigenous practices, associated as they are with non-expert, contingent and contextualised methods simply do not fit into the monocultural demands of the profession. These cultures are judged

Perhaps the best starting point for our purposes here is the saying that the contemporary conjuncture is best characterized by the fact that we are facing modern problems for which there are no longer modern solutions.  
→ Arturo Escobar

Culture is one of the two or three most complicated words in the English language. [...] inhabit, cultivate, protect, honour [...] Culture in all its early uses was a noun of process: the tending of something, basically crops or animals.  
→ Raymond Williams

and then dismissed, based on the way they look (which does not meet the strictures of architectural taste) rather than the way they engage with the world. Indigenous practices are incredibly sophisticated in their engagement with human and more-than-human worlds.

If one thinks of architecture as relational structures that form relationships with environments and people, then there is much to learn from these cultures. Not least is to relearn the art of sharing. This involves not only sharing among humans (to escape the individual urges of *homo economicus*) but also extending it to the relationships between humans and more-than-humans.

Only through a reformulation of cultural norms can new approaches to knowledge, economy, land, resources, infrastructure, labour, and policy be reimagined. Embracing broader cultural perspectives is, at heart, an act of imagination, allowing us to think otherwise. Climate breakdown demands that we imagine other ways of living together with a ravaged planet. This, in turn, calls for a shift in cultural sensibilities, and with it a reinvention of how architecture might be imagined: as the rebuilding of spatial and social relations between humans and the more-than-human.

The climate crisis is  
a crisis of culture and  
thus of imagination.  
→ Amitav Ghosh

## EMBRACE THE IMAGINATION

/

### IN ORDER TO DEVELOP NEW WORLDS

Don't be afraid to use your imagination: it is essential as a means to unravel the structures that have shut down the possibilities to think otherwise. New imaginaries are vital in exploring alternatives to current dominant paradigms. But it is not the glorified imagination of the individual genius, nor is it the unfettered imagination of pure speculation. It is an imagination that works out from the given, that projects on behalf of others, that finds new constellations of hope.

HOLD SPACE AND STUFF  
IN COMMON

/

BECAUSE WE ALL SHARE THIS WORLD

Think through how what you do will encourage mutual access to space, land, and other resources. Treat the world and its constituent elements as resources to be shared, not as commodities to be traded. Commoning is a way of resisting the insistent passing of land, resources, and services into private hands. It creates economies of collective ownership that go against extraction of profit from planetary systems, maintaining spaces for collective practice and decision making.

FIND THE GAPS  
IN THE PRESENT

/

BECAUSE THAT IS  
WHERE THE FUTURE LIES

The world may appear as an intractable wall of power in the face of which meaningful climate action might appear hopeless, but even in the most trenchant conditions there are fissures. Look for them and open them up. The future is not a script to be written from scratch: it exists in these gaps in the present, where new formations need appreciation and support to thrive. These gaps might not always be obvious, might be obfuscated by other things, but they hold hope for other futures. Focus on finding those sites—alternatives and other ways that are edited out of the histories written by dominant institutions—in order to find a future.

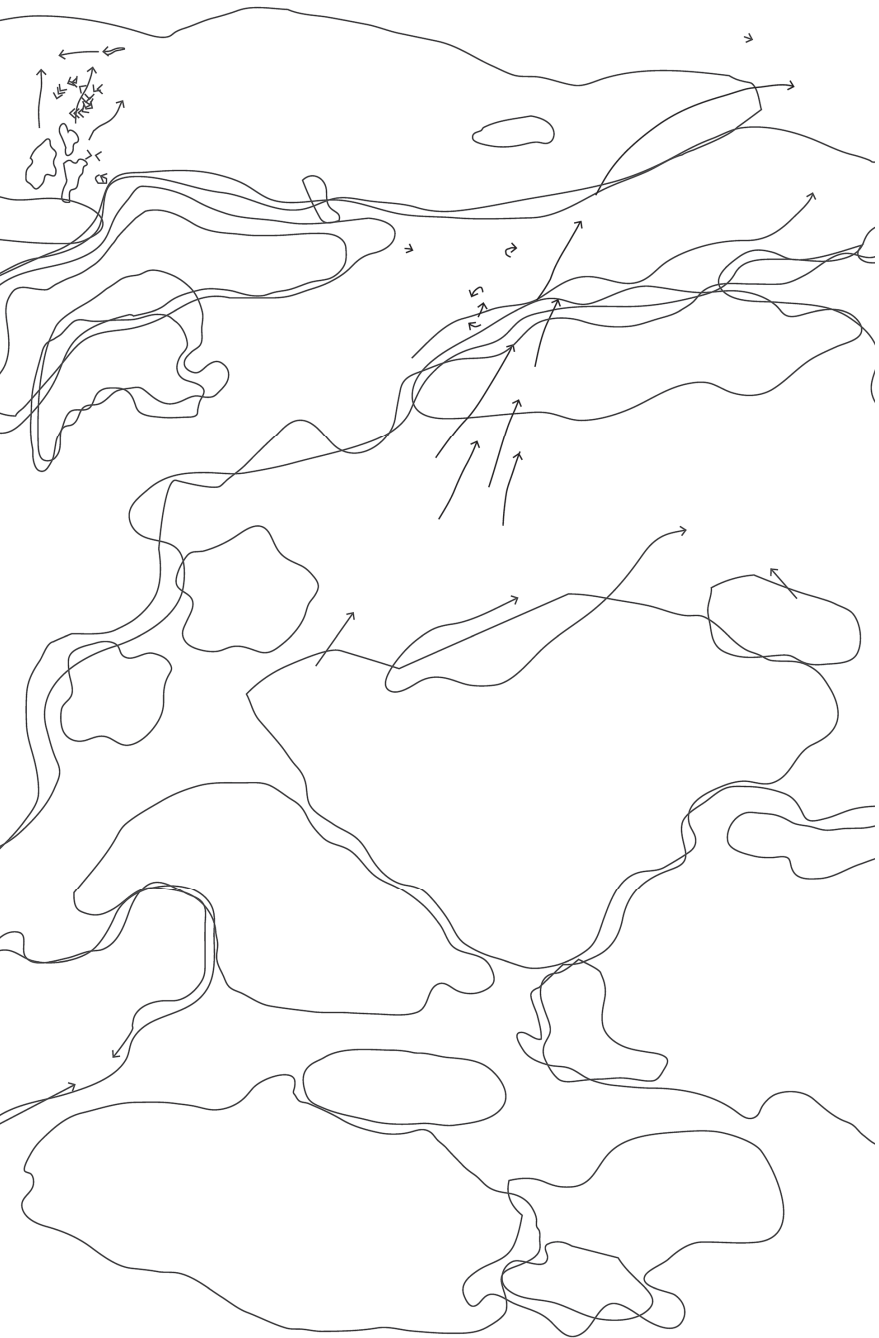
SENSE THE POSSIBLE  
IN THE IMPOSSIBLE

/

BECAUSE THINGS  
DO CHANGE

In the context of climate action, it may feel that everything is conspiring to shut down opportunities, that as Lola Olufemi says: ‘the structural limits of this world restrict our ability to articulate all that the imagination is capable of conceiving’. Push through the barriers of the purportedly impossible in order to find what is possible, because otherwise nothing will change. The imagination becomes essential here as a way of seeing beyond, finding new potentials, and re-envisioning how to live together on this ravaged planet.





## REMEMBERING THE FUTURE

It is too often more expedient to forget than it is to remember. Forgetting provides a false sense of freedom, in which futures are constructed unbound from the weight of the past. Architecture, as discipline and practice, is guilty of such amnesia. Its self-imposed boundaries often ignore what lies beyond it in an attempt to better control its 'inside', forgetting that architecture is also relational, dependent. Only certain memories are allowed to enter: approved forms, norms, tastes, individual heroes, exemplary techniques, limited geographies, constrained definitions, dominant systems, excessive extraction, autonomy.

Forgetful architecture is a form of protection, secure in its own self-referential bubble while ignoring the externalities that produce the spatial environment. Never has this been clearer than in the face of climate breakdown, which dramatically widens the gulf between what architecture wants itself to be and what architecture really is. Architects want to be saviours. Architecture, through its faith, overclaims what is possible to achieve, forgets its failures and therefore often repeats its hubris, its mistakes, its isolation. The volatility of climate breakdown ruptures the comfort of linear progress and challenges any idea that a solution is there, waiting. It challenges the short-termism and fetishisation of the new that is architecture's default mode, because planetary boundaries do not suddenly disappear; they are here to stay in whatever compromised state. Architecture is left vulnerable, because climate breakdown disrupts and makes vain the agency of an individual discipline.

Architecture does not exist in isolation. It is part of a complex system of interdependencies of human and non-human agents; relationships that make its very existence possible. Climate exposes us all: we are forced to confront it and its constitution. To deal solely with the symptoms of the breakdown is simply another form of denial because it avoids root causes and allows the crises to continue unchallenged. Like archaeologists, we need to dig backwards, uncovering, filtering, exposing... and only then move forwards.

In this scenario, memory is both disturbance and restitution. How can we possibly talk of equitable futures unless we remember the inequities and oppressions of the past? To face these memories and the conditions that gave rise to them is the first necessary step. Climate breakdown asks us to work forwards and backwards, imagining and projecting ourselves into the future under threat, in order to comprehend the violence that surrounds us. Only then can we learn how best to intervene.

‘Perhaps the universe is a memory of our mistakes’, writes Jeanette Winterson in *The Stone Gods*. However, remembering is much more than an uncomfortable prompt. It is also a means of bringing to the surface practices and relations that have been overlooked by the mainstream, architectural and otherwise. The future is not a script to be written from scratch; it can be found in the new and fragile formations that are already emerging that need support and understanding. The future is where these nascent possibilities can be rearranged and brought together to develop new relations, founded on a critique of the status quo in order to move intentionally away from it. The future already exists in practices dismissed as errant—in a billion fugitive, creative expressions. Because the centre has failed us so tragically, hope must emerge from elsewhere, in the spaces that have been forgotten, in memories that are yet to be erased. In this way we will remember the future.







- 1 See Barnabas Calder's book, *Architecture: From Prehistory to Climate Emergency* (London: Pelican, 2021).
- 2 'A problem has a solution: you can fix it, and it goes away, leaving the situation much as it was before. A predicament has no solution; it is something you have to live with. You can do a better or worse job of living with it, but you cannot make it go away'. Dougald Hine, *At Work in the Ruins: Finding Our Place in the Time of Science, Climate Change, Pandemics, and All the Other Emergencies* (White River Junction, VT: Chelsea Green, 2024), p. 30. Hine is here following the formulation of the US essayist and archdruid John Michael Greer.

## KNOWLEDGE

- 3 This term was coined during a conversation between anthropologists and ecologists in Aarhus, Denmark, in October 2014. See Donna Haraway, Noboru Ishikawa, Scott F. Gilbert, Kenneth Olwig, Anna L. Tsing, and Nils Bubandt, "Anthropologists Are Talking – About the Anthropocene", *Ethnos*, 81.3 (2016), pp. 535–64.
- 4 See also Sandra Harding, "'Strong Objectivity' and Socially Situated Knowledge", in *Whose Science? Whose Knowledge?* (Buckingham: Open University Press, 1991), pp. 138–63.

- 5 For a critique of the underlying premises of Green Capitalism see: Adrienne Buller, *The Value of a Whale: On the Illusions of Green Capitalism* (Manchester: Manchester University Press, 2022).
- 6 Andy Merrifield, *Magical Marxism: Subversive Politics and the Imagination* (London: Pluto Press, 2011).
- 7 For a detailed analysis of the impacts of growth see: Jason Hickel, *Less Is More: How Degrowth Will Save the World* (London: Penguin, 2020).
- 8 See Oxfam International, *Climate Equality: A Planet for the 99%*, (2023), <https://policy-practice.oxfam.org/resources/climate-equality-a-planet-for-the-99-621551/>. GDP vs Extraction graph in United Nations Statistics Division, "Goal 12": <https://unstats.un.org/sdgs/report/2019/goal-12/>.
- 9 "Planetary Boundaries", *Stockholm Resilience Centre*, 2012, <https://www.stockholmresilience.org/research/planetary-boundaries.html>.
- 10 See for example: "GDP Alternatives: 7 Ways to Measure a Country's Wealth", *Ethical Network*, n.d., <https://ethical.net/politics/gdp-alternatives-7-ways-to-measure-countries-wealth/>.
- 11 Herman E. Daly, *Steady-State Economics* (Washington, D.C: Island Press, 1977). See also Herman E. Daly, *Beyond Growth: The Economics of Sustainable Development* (Boston: Beacon Press, 1996).
- 12 See Claudia Gastrow, "Aesthetic Dissent: Urban Redevelopment and Political Belonging in Luanda, Angola: Aesthetic Dissent", *Antipode*, 49.2 (2017), pp. 377–96.
- 13 Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge: Cambridge University Press, 1990).

- 14 A work presented at the 18th International Architecture Exhibition of La Biennale di Venezia, *The Laboratory of the Future*, in collaboration with the archaeologist David Wengrow.
- 15 Forensic Architecture, and David Wengrow, *The Nebelivka Hypothesis*, exhibited at the 18th International Architecture Exhibition of La Biennale di Venezia, *The Laboratory of the Future*, 2023, [https://content.forensic-architecture.org/wp-content/uploads/2023/04/The-Nebelivka-Hypothesis\\_FA-Wengrow\\_Book.pdf](https://content.forensic-architecture.org/wp-content/uploads/2023/04/The-Nebelivka-Hypothesis_FA-Wengrow_Book.pdf)
- 16 Ibid.
- 17 As Shubangi Swarup writes in her novel *Latitudes of Longing* (New Delhi: HarperCollins India, 2018), p. 86: 'the earth is as fidgety and temperamental as a senile old man. The ground [...] is a superficial crust floating on top of a fluid interior.'
- 18 Anna Krzywoszynska and Greta Marchesi, "Toward a Relational Materiality of Soils", *Environmental Humanities*, 12.1 (2020), pp. 190–204.
- 19 Lucia Allais, Maur Dessauvage, Lucia Galaretto, and Catherine George Weilein, eds., *Architecture and Land in and out of the Americas* (New York: Buell Center, 2023).
- 20 Bruno Latour, "Is Europe's Soil Changing beneath Our Feet?", *Groupe d'études Géopolitiques*, September 2022, <https://geopolitique.eu/en/articles/is-europes-soil-changing-beneath-our-feet/>
- 21 Stuart Shapiro, "Caught in a Web: The Implications of Ecology for Radical Symmetry in STS", *Social Epistemology*, 11:1 (1997), pp. 97–110. Aastha D., "Conversations on Architecture and Land in and out of the Americas: Land, Law, Labour", *Stir World*, 11 March 2023, <https://www.stirworld.com/think-opinions-conversations-on-architecture-and-land-in-and-out-of-the-americas-land-law-labour>
- 22 Allais, Dessauvage, Galaretto, and Weilein, *Architecture and Land*, p. 55.
- 23 Aastha D., "Conversations on Architecture and Land in and out of the Americas: Land, Law, Labour", *Stir World*, Mar 11, 2023. <https://www.stirworld.com/think-opinions-conversations-on-architecture-and-land-in-and-out-of-the-americas-land-law-labour>
- 24 Cornelia Vismann, "Starting from Scratch: Concepts of Order in No Man's Land", in *War, Violence and the Modern Condition*, ed. by Bernd Hüppauf (Berlin: de Gruyter, 1997), pp. 46–64.
- 25 Amitav Ghosh, *The Nutmeg's Curse: Parables for a Planet in Crisis* (London: John Murray, 2021).
- 26 Alastair Parvin, *A New Land Contract*, (London: Open Systems Lab, 2023), <https://medium.com/open-systems-lab/a-new-land-contract-684c3ba1f1b3>
- 27 Fraser MacDonald, "Wild Beasts", *London Review of Books*, 43.18 (2021).
- 28 Mindi Schneider and Philip McMichael, "Deepening, and Repairing, the Metabolic Rift". *The Journal of Peasant Studies*, 37:3 (2010), pp. 461–84.
- 29 Anna Krzywoszynska and Greta Marchesi, "Toward a Relational Materiality of Soils", *Environmental Humanities*, 12.1 (2020), pp. 190–204
- 30 Mason, Olivia, and James Riding, "Reimagining Landscape: Materiality, Decoloniality, and Creativity", *Progress in Human Geography*, 47.6 (2023), p. 776
- 31 Adrienne Buller and Matthew Lawrence, *Owning the Future: Power and Property in an Age of Crisis* (London: Verso, 2022).

## INFRASTRUCTURE

- 32 Damien Gayle, "Five Just Stop Oil Activists Receive Record Sentences for Planning to Block M25", *The Guardian*, 18 July 2024, <https://www.theguardian.com/environment/article/2024/jul/18/five-just-stop-oil-supporters-jailed-over-protest-that-blocked-m25>
- 33 Rafico Ruiz, *Slow Disturbance: Infrastructural Mediation on the Settler Colonial Resource Frontier* (Durham, NC: Duke University Press, 2021).
- 34 Ruiz, *Slow Disturbance*, p. 6.
- 35 This process is particularly well-described in Rashid Khalidi's *The Hundred Years' War on Palestine: A History of Settler Colonial Conquest and Resistance* (London: Profile Books, 2020).
- 36 Anna Engelhardt and Sasha Shestakova, "Crimean Tatar Infrastructures of Decolonial Care", *European Review*, 30.4 (2022), pp. 532–44.
- 37 See Crimean Solidarity, "Sejtumer Sejtumerov," *Crimean Solidarity*, n.d., <https://crimean-solidarity.org/polit-prisoners/profile/sejtumerov-sejtumer-5>.
- 38 Daniel Rosbottom, "Florian Beigel Obituary", *The Guardian*, 13 September 2018, <https://www.theguardian.com/artanddesign/2018/sep/13/florian-beigel-obituary>
- 39 Ideas of architecture as background support are covered in: Tatjana Schneider and Jeremy Till, *Flexible Housing* (London: Routledge, 2008).
- 40 Legacy Russell, *Glitch Feminism: A Manifesto* (London: Verso, 2020).
- 41 Keller Easterling, *Extrastatecraft: The Power of Infrastructure Space* (London: Verso, 2014).
- 42 Civic Square, *The Final Year*, 2018, <https://civicsquare.cc/2018/10/29/the-final-year/>.
- 43 See Céline Condorelli, ed., *Support Structures* (Berlin: Sternberg Press, 2009).

- 44 Elizabeth Grosz, "Bodies-Cities", in *Sexuality and Space*, ed. by Beatriz Colomina (New York: Princeton Architectural Press, 1992), pp. 241–54.
- 45 Peter Wohlleben, *The Hidden Life of Trees: What They Feel, How They Communicate: Discoveries from a Secret World* (New York: HarperCollins, 2017).

## RESOURCES

- 46 Isabelle Stengers, *In Catastrophic Times: Resisting the Coming Barbarism*, trans. by Andrew Goffey (n.p.: Open Humanities Press, 2015), p. 41.
- 47 Ibid.
- 48 Kate Crawford, *Atlas of AI. Power, Politics, and the Planetary Costs of Artificial and Design Intelligence* (New Haven: Yale University Press, 2021), p. 9.
- 49 InfluenceMap, *European Cement Association (CEMBUREAU)*, n.d., <https://lobbymax.org/influencer/CEMBUREAU-The-European-Cement-Association>.
- 50 See Peter Apps, *Show Me The Bodies: How We Let Grenfell Happen* (London: Oneworld, 2022).
- 51 Isabelle Stengers, *In Catastrophic Times: Resisting the Coming Barbarism* (n.p.: Open Humanities Press, 2015), p. 67.
- 52 Charlotte Malterre-Barthes, "A Global Moratorium on New Construction", n.d., <https://www.charlottemalterrebarthes.com/practice/research-practice/a-global-moratorium-on-new-construction/>.
- 53 Andrew Ayers, "Retrospective Lacaton & Vassal", *The Architectural Review*, (July 2019), pp. 77–86.

## WORK

- 54 Oxfam International, "Carbon Emissions of Richest 1 Percent More than Double the Emissions of the Poorest Half of Humanity", 2020, <https://www.oxfam.org/en/press-releases/carbon-emissions-richest-1-percent-more-double-emissions-poorest-half-humanity>
- 55 Sérgio Ferro, *Architecture from Below: An Anthology*, ed. by Silke Kapp and Mariana Moura, trans. by Ellen Heyward and Ana Naomi de Sousa (London: Mack, 2024).
- 56 J.K. Gibson-Graham, "Diverse Economies: Performative Practices for Other Worlds", *Progress in Human Geography*, 32.5 (2008), pp. 613–32 (p. 616)

## POLICY

- 57 Nayifa Nihad and Adriana Abdenur, "Civil Society Participation at COP26: Barriers and Contributions", *Together First*, February 2022, [https://together1st.org/blog/civil\\_society\\_participation\\_at\\_cop26\\_barriers\\_and\\_contributions](https://together1st.org/blog/civil_society_participation_at_cop26_barriers_and_contributions).
- 58 Hannah Knox, *Thinking Like a Climate: Governing a City in Times of Environmental Change* (Durham, NC: Duke University Press, 2020), pp. 161–63.
- 59 Oxford English Dictionary, 'Policy, n.o, Sense 1.4' (Oxford: Oxford University Press, 2023).
- 60 KNOCA, *Knowledge Network On Climate Assemblies*, n.d., <https://knoca.eu/>.
- 61 Ramia Mazé, "Design (Govern) Mentalities: Implications of Design and/as Governance in Cape Town", in *Design and Democracy: Activist Thoughts and Examples for Political Empowerment*, ed. By Maziar Rezai and Michael Erlhoff (Berlin: de Gruyter, 2021), pp. 13–27 (p. 17).

- 62 ConstitutionNet, *English Translation of the Draft Political Constitution of the Republic of Chile*, July 2022, <http://constitutionnet.org/vl/item/english-translation-draft-political-constitution-republic-chile-july-2022>.
- 63 Santiago Cirugeda, *Recetas Urbanas*, n.d., <https://recetasurbanas.net/>.
- 64 Center for Urban Pedagogy, *Mission*, n.d., <https://welcometocup.org/what-we-do>.
- 65 David Knight and Finn Williams, *SUB-PLAN: A Guide to Permitted Development* (London: Architectural Association, 2009).
- 66 Michael Sorkin, *Local Code: The Constitution of a City at 42°N Latitude* (New Jersey: Princeton Architectural Press, 1993).
- 67 Aristide Antonas, *Archipelago of Protocols* (Barcelona: dpr-barcelona, 2016).
- 68 Studio Swinnen, *I Prefer Not To - Finn Williams*, YouTube, 2018, <https://www.youtube.com/watch?v=LFoqrSai30U>.
- 69 Renata Tyszczyk, "Culture and Climate Change Scenarios: The Role and Potential of the Arts and Humanities in Responding to the '1.5 Degrees Target'", *Current Opinion in Environmental Sustainability*, 31 (2018), pp. 56–64.
- 70 Ministry of Imagination: *An Imagination-Based Manifesto for Times That Need One*, ed. by Rob Hopkins, 2024, [https://www.robhopkins.net/wp-content/uploads/2024/04/Ministry-of-the-Imagination\\_compressed-1.pdf](https://www.robhopkins.net/wp-content/uploads/2024/04/Ministry-of-the-Imagination_compressed-1.pdf).

## REFERENCES

The references provide the full bibliographic details to the quotes in the side column of the text.

AASTHA D., "Conversations on Architecture and Land in and out of the Americas: Land, Law, Labour", *Stir World*, 11 March 2023. <https://www.stirworld.com/think-opinions-conversations-on-architecture-and-land-in-and-out-of-the-americas-land-law-labour>

ALLAIS, LUCIA, MAUR DESSAUVAGE, LUCIA GALARETTO, AND CATHERINE GEORGE WEILEIN, eds., *Architecture and Land in and out of the Americas*. New York: The Temple Hoyne Buell Center for the Study of American Architecture, 2023, p. 63.

ANDRAOS, AMALE, "What Does Climate Change? (For Architecture)", in *Climates: Architecture and the Planetary Imaginary*, ed. by James Graham. New York: Columbia Books on Architecture and the City; Zurich: Lars Müller Publishers, 2016, pp. 297–303 (p. 299).

BERLANT, LAUREN, "The Commons: Infrastructures for Troubling Times\*", *Environment and Planning D: Society and Space*, 34.3 (2016), pp. 393–419 (p. 393).

BHANDAR, BRENNAN, *Colonial Lives of Property: Law, Land, and Racial Regimes of Ownership, Global and Insurgent Legalities*. Durham, NC: Duke University Press, 2018, p. 26.

BLEDSTEIN, BURTON, *The Culture of Professionalism*. New York: W. W. Norton, 1976, p. 102.

BOAL, IAIN, "Specters of Malthus". *CounterPunch*, 2007, <https://www.counterpunch.org/2007/09/11/specters-of-malthus-scarcity-poverty-apocalypse/>

BROWN, MARVIN T., "A Civic Economy of Provisions", in *The New Systems Reader: Alternatives to a Failed Economy*, ed. by James Gustave Speth. London: Routledge, 2021, p. 58.

BULLER, ADRIENNE, *The Value of a Whale: On the Illusions of Green Capitalism*. Manchester: Manchester University Press, 2022, p. 78.

BUTLER, JUDITH, "Rethinking Vulnerability and Resistance", in *Vulnerability in Resistance*, ed. by Judith Butler, Zeynep Gambetti, and Leticia Sabsay. Durham: Duke University Press, 2016, p. 9.

CAFFENTZIS, GEORGE, AND SILVIA FEDERICI, "Commons against and beyond Capitalism", *Community Development Journal*, 49, suppl. 1 (Jan 2014), pp. i92–i105 (p. i94).

CARSE, ASHLEY, "Keyword: Infrastructure - How a humble French engineering term shaped the modern world", in *Infrastructures and Social Complexity*, ed. by Penelope Harvey, Casper Jensen, and Atsuro Morita. London: Routledge, 2016, p. 29.

CHARLEY, JONATHAN, "GLAS", *glaspaper*, 02 (2001), p. 2 (p. 2)

CHOMSKY, NOAM, "Contradictions in US Foreign Policy", *The Brown Journal of World Affairs*, 14.2 (2008), pp. 229–39 (p. 231).

CODE, LORRAINE, *What Can She Know?: Feminist Theory and the Construction of Knowledge*. Ithaca, NY: Cornell University Press, 1991, p. 70.

COWEN, DEBORAH, "Infrastructures of Empire and Resistance", *Verso*, 2017, <https://www.versobooks.com/en-gb/blogs/news/3067-infrastructures-of-empire-and-resistance>

CRAWFORD, KATE, *Atlas of AI. Power, Politics, and the Planetary Costs of Artificial Intelligence*. New Haven, CT: Yale University Press, 2021, p. 9.

CUPERS, KENNY, "Coloniality of Infrastructure", *E-Flux Architecture*, September 2021. <https://www.e-flux.com/architecture/coloniality-infrastructure/412386/editorial/>

CUSICANQUI, SILVIA RIVERA, "The Potosi Principle: Another View of Totality", *Hemispheric Institute*, 2010. <https://hemisphericinstitute.org/en/emisferica-11-1-decolonial-gesture/11-1-essays/the-potosi-principle-another-view-of-totality.html>

DEAMER, PEGGY, ed., *Architecture and Capitalism: 1845 to the Present*. London: Routledge, 2013, p. 18 ('Architecture as a practical activity...').

———, *Architecture and Labor*. London: Routledge, 2020, p. 2 ('We might think...').

EASTERLING, KELLER, "An Internet of Things", *E-Flux Architecture*, 31 (2012), <https://www.e-flux.com/journal/31/68189/an-internet-of-things/>

ENGELHARDT, ANNA, AND SASHA SHESTAKOVA, "Crimean Tatar Infrastructures of Decolonial Care", *European Review*, 30.4 (2022), pp. 532–44 (p. 536).

ESCOBAR, ARTURO, *Designs for the Pluriverse: Radical Interdependence, Autonomy, and the Making of Worlds*. Durham, NC: Duke University Press, 2018, p. 1 ('Design is central...').

———, "On the Ontological Metrofitting of Cities", *E-Flux Architecture* (2022), <https://www.e-flux.com/architecture/where-is-here/453886/on-the-ontological-metrofitting-of-cities/> ('What would become of design...').

———, "Thinking-Feeling with the Earth: Territorial Struggles and the Ontological Dimension of the Epistemologies of the South", *Revista de Antropología Iberoamericana*, 11.1 (2016), pp. 11–32 (p. 15) ('Perhaps the best way...').

FERRO, SÉRGIO, "Summary of 'History of Architecture Seen from the Construction Site'", *TF/TK*, n.d., <https://www.tf-tk.com/resources/summary-of-history-of-architecture-seen-from-the-construction-site>

FINEMAN, MARTHA ALBERTSON, "The Vulnerable Subject: Anchoring Equality in the Human Condition", *Yale Journal of Law and Feminism*, 20.1 (2008), pp. 1–24 (p. 8–9).

FISHER, MARK, *Capitalist Realism: Is There No Alternative?*. Winchester, UK: Zero Books, 2009, p. 23.

FITZ, ANGELIKA, AND ELKE KRASNY, eds., *Critical Care: Architecture and Urbanism for a Broken Planet*. Cambridge, MA: MIT Press, 2019, p. 38 ('Architecture as a modern...') and p. 28 ('Rather than thinking...').

FORENSIC ARCHITECTURE, *The Nebelivka Hypothesis*, 2023. <https://forensic-architecture.org/investigation/the-nebelivka-hypothesis>

FOSTER, JOHN BELLAMY, *Marx's Ecology: Materialism and Nature*. New York: Monthly Review Press, 2000, p. 164.

FOSTER, JOHN BELLAMY, JOHN MOLYNEUX, AND OWEN MCCORMACK, "Against Doomsday Scenarios: What Is to Be Done Now?", *Monthly Review*, December 2021, <https://monthlyreview.org/2021/12/01/against-doomsday-scenarios>

FREIRE, PAULO, *Pedagogy of the Oppressed*, trans. by Myra Bergman Ramos, New York: Continuum, 2001, p. 72 ('Knowledge emerges...').

———, *Pedagogy of the Heart*, trans. by Myra Bergman Ramos. London: Bloomsbury, 1997, p. 43 ('Without a vision...').

FRICHOT, HÉLÈNE, *Creative Ecologies: Theorizing the Practice of Architecture*. London: Bloomsbury, 2019, p. 7.

FRICHOT, HÉLÈNE, ADRIÀ CARBONELL, HANNES FRYKHOLM, AND SEPIDEH KARAMI, "Our Infrastructural Loves: Architectural Pedagogies of Care and Support", *Journal of Architectural Education*, 76.2 (2022), pp. 52–69 (p. 58).

GHOSH, AMITAV, *The Great Derangement. Climate Change and the Unthinkable*. Chicago: University of Chicago Press, 2016, p. 9 ('The climate crisis...').

———, *The Nutmeg's Curse: Parables for a Planet in Crisis*. London: John Murray, 2021, p. 38 ('These elite orthodoxies...').

GIBSON-GRAHAM, J. K., "Cultivating Community Economies", in *The New Systems Reader*, ed. by James Gustave Speth and Kathleen Courrier. London: Routledge, 2021, pp. 410–32 (p. 415).

GOODBUN, JON, "Gregory Bateson's Ecological Aesthetics - an Addendum to Urban Political Ecology", *Field*, 4.1 (2011), pp. 35–46 (p. 46) ('Spatial environments...').

———, "Mud and Modernity", *ARENA Journal of Architectural Research*, 1.1 (2016), p. 4 ('A perpetual...').

———, "There Isn't Just One Green New Deal", in *Making Futures*, ed. by Markus Bader, George Kafka, Tatjana Schneider, and Rosario Talevi. Leipzig: Spector Books, 2022, pp. 75–79 (p. 77) ('Thinking about the labour...').

GUATTARI, FELIX, "Transdisciplinarity Must Become Transversality", *Theory, Culture & Society*, 32.5-6 (2015), pp. 131-137 (p. 135).

HAGAN, SUSANNAH, *Revolution? Architecture and the Anthropocene*. London: Lund Humphries, 2022, p. 9.

HARAWAY, DONNA, *Staying with the Trouble: Making Kin in the Chthulucene*. Durham, NC: Duke University Press, 2016, p. 4.

HICKEL, JASON, "Why Growth Can't Be Green", *Jason Hickel*, 2018, <https://www.jasonhickel.org/blog/2018/9/14/why-growth-cant-be-green>

HILL, DAN, AND MARIANA MAZZUCATO, "Modern Housing: An environmental common good" *Council on Urban Initiatives*. (CUI DP 2024-02). *UCL Institute for Innovation and Public Purpose Working Paper Series*, IIPP WP 2024-03.

HINE, DOUGAL, *Economies of Scarcity*. Audio recording, Backdoor Broadcasting Company, 2011, [http://backdoorbroadcasting.net/archive/audio/2011\\_05\\_11/2011\\_05\\_11\\_Scarcity-Exchanges\\_DougaldHine\\_talk.mp3](http://backdoorbroadcasting.net/archive/audio/2011_05_11/2011_05_11_Scarcity-Exchanges_DougaldHine_talk.mp3)

HROCH, PETRA, "Deleuze, Guattari, and Environmental Pedagogy and Politics", in *Deleuze and Guattari, Politics and Education: For a People-Yet-To-Come*, ed. by Matthew Carlin and Jason Wallin. London: Bloomsbury Academic, 2015, pp. 49–76 (p. 55).

HUTTON, JANE, *Reciprocal Landscapes: Stories of Material Movements*. London: Routledge, 2020, p. 5.

JACKSON, STEPHEN, "Rethinking Repair", in *Media Technologies: Essays on Communication, Materiality, and Society*, ed. by Tarleton Gillespie, Pablo J. Boczkowski, and Kirsten A. Foot, Inside Technology. Cambridge, MA: The MIT Press, 2014, pp. 221–40 (p. 236).

JACKSON, TIM, *Prosperity without Growth: Economics for a Finite Planet*. London: Earthscan, 2009, p. 188.

KIMMERER, ROBIN WALL, *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants*. Minneapolis: Milkweed Editions, 2013, p. 9.

KLEIN, NAOMI, *This Changes Everything: Capitalism vs. the Climate*. London: Penguin, 2015, p. 23.

KNOX, HANNAH, *Thinking Like a Climate: Governing a City in Times of Environmental Change*. Durham, NC: Duke University Press, 2020, p. 17.

KOVEL, JOEL, *The Enemy of Nature: The End of Capitalism or the End of the World?* London: Zed Books, 2007, p. 172.

KRZYWOSZYNSKA, ANNA, AND GRETA MARCHESI, "Toward a Relational Materiality of Soils", *Environmental Humanities*, 12.1 (2020), pp. 190–204.

LATOUR, BRUNO, "Is Europe's Soil Changing beneath Our Feet?", *Groupe d'études Géopolitiques*, September 2022, <https://geopolitique.eu/en/articles/is-europes-soil-changing-beneath-our-feet/>

LE CORBUSIER, *When the Cathedrals Were White: A Journey to the Country of the Timid People*. London: Routledge, 1947, p. 46.

LEOPOLD, ALDO, *A Sand County Almanac: With Essays on Conservation*. Oxford: Oxford University Press, 2001, p. 204.

MARX, KARL, *Capital: A Critique of Political Economy*, trans. Ben Fowkes. London: Penguin, 1976, p. 926.

MARCUSE, PETER, "What Has to be Done—The Potentials and Failures of Planning, History, Theory, and Actuality, Lessons from New York", *AnArchitecture*, No. 14 (March, 2005), pp. 36–40. (p. 38).

MATTERN, SHANNON, *Maintenance and Care: Fixing a Broken World*, November 2018, <https://placesjournal.org/article/maintenance-and-care/>

MERRIFIELD, ANDY, *Magical Marxism: Subversive Politics and the Imagination*. London: Pluto Press, 2011, p. 112.

MOORE, JASON, *Anthropocene or Capitalocene? Nature, History, and the Crisis of Capitalism*. Oakland, CA: PM Press, 2016, p. 6 ('The Capitalocene...') and pp. 2–3 ('For capitalism...').

MYERS, JESS, "Together We Build: Organising Architectural Labour", *The Architectural Review*, 2 February 2023, <https://www.architectural-review.com/essays/keynote/together-we-build-organising-architectural-labour>

NGATA, TINA, "Ocean in Our Blood: The Maori Fight for Water and against Empire", in *Perspectives on a Global Green New Deal*, ed. by Harpreet Kaur Paul and Dalia Gebrial. Berlin: Rosa-Luxemburg-Stiftung, 2021, pp. 92–93.

OLUFEMI, LOLA, *Experiments in Imagining Otherwise*. London: Hajar Press, 2021, p. 43.

OGBORN, MILES, *Spaces of Modernity: London's geographies, 1680–1780*. New York: Guilford Press, 1988, p. 91.

ROGOFF, IRIT, "Walking to School Through a Camp: A Short Tale of Infrastructure", *E-Flux Architecture*, April 2020, <https://www.e-flux.com/architecture/education/322662/walking-to-school-through-a-camp-a-short-tale-of-infrastructure/>

SHIVA, VANDANA, "Monocultures of the Mind", in *Creative Management and Development*. London: SAGE Publications, 2006, pp. 199–217 (p. 200).

STAR, SUSAN LEIGH, "The Ethnography of Infrastructure", *American Behavioral Scientist*, 43.3 (1999), pp. 377–91 (p. 382).

STENGERS, ISABELLE, Introductory Notes on an Ecology of Practices, *Cultural Studies Review*, 11.1 (2018), pp. 183–196 (p. 186).

STEVENS, GARRY, *The Favored Circle: The Social Foundations of Architectural Distinction*. Cambridge, MA: MIT Press, 1998, p. 191.

THE RED NATION, "The Red Deal: Indigenous Action to Save Our Earth", *Progressive International*, 19 April 2021, <https://progressive.international/wire/2021-04-19-the-red-deal-indigenous-action-to-save-our-earth/en>

THOMPSON, MICHAEL, *Rubbish Theory*. Oxford: Oxford University Press, 1979, p. 91.

TONKISS, FRAN, *Cities by Design: The Social Life of Urban Form*. Cambridge: Polity, 2013, p. 8.

WARING, MARILYN, *Counting for Nothing: What Men Value and What Women Are Worth*. Toronto: University of Toronto Press, 1988, p. 26.

WEEKS, KATHI, *The Problem with Work: Feminism, Marxism, Antiwork, Politics, and Postwork Imaginaries*. Durham, NC: Duke University Press, 2011, p. 220.

WEINTROBE, SALLY, "The Difficult Problem of Anxiety in Thinking about Climate Change", in *Engaging with Climate Change*, ed. by Sally Weintrobe. London: Routledge, 2012, pp. 33–48 (p. 38).

WILKIE, ALEX, MARTIN SAVRANSKY, AND MARSHA ROSENGARTEN, eds., *Speculative Research: The Lure of Possible Futures*. London: Routledge, 2017, p. 3.

WILLIAMS, RAYMOND, *Keywords: A Vocabulary of Culture and Society*, Rev. and expanded. London: Fontana, 1983, pp. 87–88 ('Culture is one of...').

———, *Raymond Williams on Culture and Society: Essential Writings*, ed. by Jim McGuigan. London: SAGE Publications, 2014, p. 2 ('Culture is ordinary...').

WILLIAMS, ROSALIND, *Infrastructure as Lived Experience*, 2012, <https://www.youtube.com/watch?v=MfjkQjwoVHs>

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Architecture is Climate reimagines the very foundations of architecture in an age of crises. Rejecting outdated paradigms of endless linear growth, technocratic fixes, and the separation of humans from nature, this provocative and hopeful book argues that architecture must be fundamentally rethought—not as the design of objects, but as a practice entangled with climate, politics, history, and social justice.

Through eight key themes—knowledge, economy, land, resources, infrastructure, work, policy, and culture—Architecture is Climate explores how climate breakdown reshapes every aspect of architectural thinking and doing. Drawing on diverse voices, and grounded examples from around the world, it offers not just a critique of the status quo but a vision of other possible architectures—and climates—already in the making.

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