

Intensive Care: Architecture in the Climate Crisis

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Abstract

The world many of us think we know is in catastrophic decline due to man-made climate change, caused by over-extraction. This polycrisis has been described as 'code red' in recognition of the severity of the emergency. The earth is sick. Humans should tread with care.

How can changes to the way we think about the built environment help to significantly reduce CO2 emissions and reverse the cataclysmic degradation of the natural world?

The Climate and Biodiversity Emergency demands that the production of space is radically altered from colluding with the extraction economy to becoming a regenerative process. For Daniel Wahl, global warming is mass extinction. He invites us to reflect that humanity has stolen from the future by plundering materials from deep within the earth and we must learn, through nature, to live ecologically. This inevitably means building less, repairing and nurturing more; truthfully the end of architecture as we know it.

It is time to (re)learn how to construct a fundamentally different approach to the way humans 'make' the world calling for a circular economy where materials are nutrients and are used over and over. The concept of 'cradle to cradle' is one that embraces these ideas and calls for man-made objects, including buildings, that are designed to be repaired, re-purposed and re made. In the same way that the body is able to regenerate when cared for, so should our own creations. All of which is possible, but demands a complete reversal of the extraction economy should we care to adapt.

Wake Up

“There is now also a non-zero chance (1%) of at least one year exceeding 2°C in 2025-2029.”
World Meteorological Organization (2025)

The world many of us think we know is in catastrophic decline due to man-made climate change, caused by over-extraction, exacerbated by greed and delay. This polycrisis has been described as ‘code red’ in recognition of the severity of the emergency. The earth is sick. Humans should tread with care.

How can changes to the way we think about the built environment help to significantly reduce CO2 emissions and reverse the cataclysmic degradation of the natural world?

The convergence of Anthropogenic climate change with existing structural tensions in late-stage capitalism presents a critical juncture for global governance systems. Empirical evidence suggests that established institutional frameworks may prove inadequate for managing the scale and speed required to affect meaningful transformation, creating just conditions for potential phase transitions in political-economic organisation.

The Climate and Biodiversity Emergency demands that the production of space is radically altered from colluding with the extraction economy to becoming a regenerative process. For writer Daniel Wahl, global warming is mass extinction. He invites us to reflect that humanity has stolen from the future by plundering materials from deep within the earth and to learn, through nature, to live ecologically. This inevitably means building less, repairing and nurturing more; truthfully the end of architecture as we know it. Architects cannot ignore the distressing truth that our world has been created through the destruction of habitats and a tangle of interconnected dependencies we barely understand, resulting in the death of so many beings. Yet the overriding sense within the construction industry is to build our way out of the problem; a clear case of denial.

Denial

If caring is to recognise responsibility and concern, the opposite is disregard and neglect. Indeed the meaning of the word ‘care’ derives from the Middle English ‘caren’; to grieve or become anxious. Climate denial is the rejection or downplaying of the scientific consensus on climate change, particularly the extent of human influence on global warming, the severity of its impacts, or the need for action. It reflects the deliberate or ideological dismissal of well-established science, often fuelled by misinformation, vested interests, or confirmation bias. It is a position that prioritises short-term gain and comfort over long-term survival.

In his 2004 book, *Climate Denial*, Tad DeLay goes further, suggesting that denial is not just about disputing facts such as human-caused global warming, but manifests as a broader set of behaviours and societal structures driven by capitalist imperatives. In other words it is embodied in the architecture of our world view.

Importantly it also includes behaviours that rely on ineffective solutions such as carbon offsets, recycling, or hybrid cars that may assuage guilt while avoiding systemic change. Even those who believe in climate change often engage in denial by clinging to pseudo-solutions and failing to confront the radical changes needed. He refers to this system as an ‘ecocidal engine’. In this reading it is critical to understand the economic apparatus of capitalism which has a global reach and accepted as ‘the way of the world’. The power of neoliberalism has been to become invisible and frictionless to the extent where it no longer requires understanding, but has transformed into an way of life that is indistinguishable from consumption. These societal

issues are a direct result of the neglect by those with power, for whom the project of progress and growth has been prioritised over an approach that nurtures and nourishes life on earth. Again, the root cause is the supremacy of pro-market thinking, where the impetus to create value has dominated discourse and debate through political frameworks evolving to become received wisdom. Therefore, to accept climate change as a product of an extractive economy, is to reject the status quo.

The American Activist Bill McKibben has been raising concerns over the scale and urgency of the climate crisis for over 40 years. In his book *Falter*, he warns that continued inaction risks pushing the planet past tipping points, such as permafrost melt or Amazon dieback, which would release unstoppable carbon feedbacks. He draws attention to 'Big Oil's' lobbying and funding of denialist campaigns that have delayed policy action. These global fossil fuel companies have spent decades using deregulatory rhetoric about "market solutions" to delay meaningful action. In addition the rise of totalitarian populists often embrace climate denial as part of their anti-elite positioning. As climate impacts worsen and create resource stress, migration, and economic disruption, the authoritarian response scapegoats vulnerable groups rather than address systemic origins. To date the fossil fuel industry has actively funded anti-democratic movements partly because they know democracy, along side climate awareness, is bad news for their business model. McKibben concludes that denial is not only the rejecting of science but an expression of apathy and reliance on inadequate solutions.

In 2025 McKibben published a new book, *Here Comes the Sun: A Last Chance for the Climate and a Fresh Chance for Civilization*, where he calls to harness the power of the sun and rewrite our scientific, economic, and political future. The book unpacks the sudden spike in power from solar and wind energy, and the desperate fight of the fossil fuel industry and their politicians to hold this new power at bay. His argument suggests that in the early 2020s, the cost of producing energy from the sun actually dropped below the cost of fossil fuel. However, this fact was itself denied both by industry and government.

Through documenting how everyday citizens have already installed solar panels and exploring the obstacles that remain in transitioning away from fossil fuels, he makes the case that the technology already exists to make a just transition. It is worth noting that critics of the book question the methodology and the optimism yet often fail to accept the crisis itself; the final form of denial. So what will happen now?

Collapse

While there are reasons to remain cautiously optimistic, the discussion around the short term implications of the climate threat cannot ignore the existential possibility of societal collapse. Climate impacts are accelerating faster than many expect. Reports of "unprecedented" weather events are now annual but often daily. Supply chains, food systems and infrastructure were not built for the volatility now anticipated over the next ten years. Insurance markets are also starting to collapse in high-risk areas, which has sent a ripple through property values disrupting government socio-economic policy. These economic systems premised on infinite growth face fundamental contradictions with planetary boundaries. The materialisation of stranded assets, agricultural system diegradation, and cascading infrastructure failures points towards future financial and societal instability.

In his 2018 paper, *Deep Adaptation: A Map for Navigating Climate Tragedy*, Jem Bendell argues that climate change has progressed to a point where societal collapse is inevitable, likely within the lifetimes of many people alive today. He states that extreme weather events and other effects of climate change will increasingly disrupt food, water, shelter, power, and social and governmental systems, and that these disruptions would likely or inevitably cause uneven

societal collapse. He asks what does climate change mean for us in practice, and how should our lives change in response to an increasingly unstable and unpredictable future?

Bendell introduced the concept of Deep Adaptation as a framework to cope with inevitable climate-induced disruptions. It emphasizes four principles: Resilience (enhancing community and personal capacity to withstand disruptions), Relinquishment (letting go of assets, behaviours, or beliefs that worsen outcomes), Restoration (reviving sustainable practices), and Reconciliation (making peace with mortality and societal changes).

Since the publication he has refined his position, suggesting that collapse is already underway in the form of the erosion of democracy in the Global North alongside extreme weather events. As concerns that ongoing climate change could lead to a possible collapse of human civilisation, the topic of societal collapse has become a legitimate area of academic research. While many of the predictive tools are ever more sophisticated computer models, some earlier scientific models are being revisited. Fifty years ago scientists in the 1970s at the Massachusetts Institute of Technology predicted the fall of society by 2040. All of which is to say that questions around how and why society changes are both urgent, uncomfortable and terrifying.

Care

Architects and professionals play a critical role in addressing the climate catastrophe by designing buildings and urban environments that minimise environmental impact, enhance resilience, and become part of the circular economy. However, this may not be enough to avoid seismic disruption. Often the argument becomes semantic; debating the currency of sustainability as a term, unpicking passive design strategies and the language around net-zero emissions. Perhaps this too is a form of denial?

There is a tension between wishing to make a difference through designing thoughtfully and recognising that the construction industry itself is an instrument of CO₂ production; therefore any building or infrastructure project is only making the problem worse. The activist George Monbiot argues that any product created for the purpose of profit is incredibly toxic to the planet however “green” it claims to be. He goes on to say that these are planet-killing machines and their branding is the science of lying. This leads to high level questions around how value is understood and if necessary, calculated.

The concept of value takes countless forms across different systems. For instance gold is among the most chemically stable and biologically inactive materials on Earth, yet commands enormous worth in human markets. Meanwhile, leaves, earth, seawater and sand carry little economic weight despite their fundamental importance to planetary systems. This reveals a striking contradiction: human economics inverts nature's value system entirely. What Earth treasures as enduring natural resources, industrial societies treat as disposable commodities. Indeed, luxury goods hold no significance for ecological processes. Through this lens, human civilisation appears to operate as a fundamental disruption to the planet's inherent biological and ecological order.

While it appears better to be designing for energy efficiency with net-zero emissions, there is no doubt that valuable resources are being deployed and that CO₂ is being produced in the process. The idea of retrofit is useful when challenging the logic of a new-build over a deep upgrade. A possible future may be in the field of biomimicry where design is seen as analogous with natural processes. Research into mycelium-based products that can be both structural and used for cladding, would mean that buildings are grown rather than produced.

Whether collapse is imminent or further away, there is certainly work to be done in order to increase the recovery potential of cities and homes. The Resilient Design Institute emphasizes “safe-to-fail” designs that adapt to disruptions. These are programmes that aim to restore ecosystems in order to bring back biodiversity and sequester carbon. However, unless supported by nations and business, these experiments will continue to occupy the margins.

Regeneration

Regenerative design emerges from critiques of conventional sustainability paradigms that seek to do less harm, rather than actively restore ecological and social systems. Pioneered by theorists such as John T. Lyle and later developed through biomimicry, permaculture, and ecological economics, regenerative approaches propose design methodologies that work with natural systems to enhance rather than degrade ecological capacity over time. This core belief represents a shift from linear to cyclical material flows that mirror natural ecosystem processes. Within this, co-evolutionary relationships between human and natural systems are prioritised. The act of design is framed for emergence rather than predetermined outcomes on temporal scales that account for intergenerational impacts.

As Michael Pawlyn, founder of Architecture Declares, notes: “Architects must urgently go beyond creating sustainable architecture that minimises damage to the planet and design buildings that help repair it...” Regenerative architecture and urban design have begun to explore carbon-negative buildings and neighbourhoods through biomimetic design, living building materials, and integrated water-energy-food systems.

The idea of an architecture of healing suggests a fundamentally different approach to the way in which the way humans ‘make’ the world, calling for a circular economy where materials are nutrients and are used over and over again. This was clearly argued in the concept of ‘cradle to cradle’, a design philosophy developed by chemist Michael Braungart and architect William McDonough in the late 1990s that fundamentally reimagines how we create products and systems. The concept challenges the traditional linear “cradle to grave” model of production and consumption. It calls for man-made objects, including buildings, to be designed in ways that can be repaired, re-purposed and re-made. In the same way that the body is able to regenerate when cared for, so should architectural creations.

While regenerative principles offer theoretical frameworks for moving beyond sustainability toward net-positive ecological impact, their transformative potential remains constrained by existing political-economic structures that prioritise extractive accumulation over regenerative processes. It proposes redesigning industrial civilisation to function as natural ecosystems which is a profound shift from managing environmental damage to creating regenerative abundance. Positive though this may sound, there is a need to look at another perspective; one that accepts the contingency of chance, place and accepting of the imperfect.

Patchwork

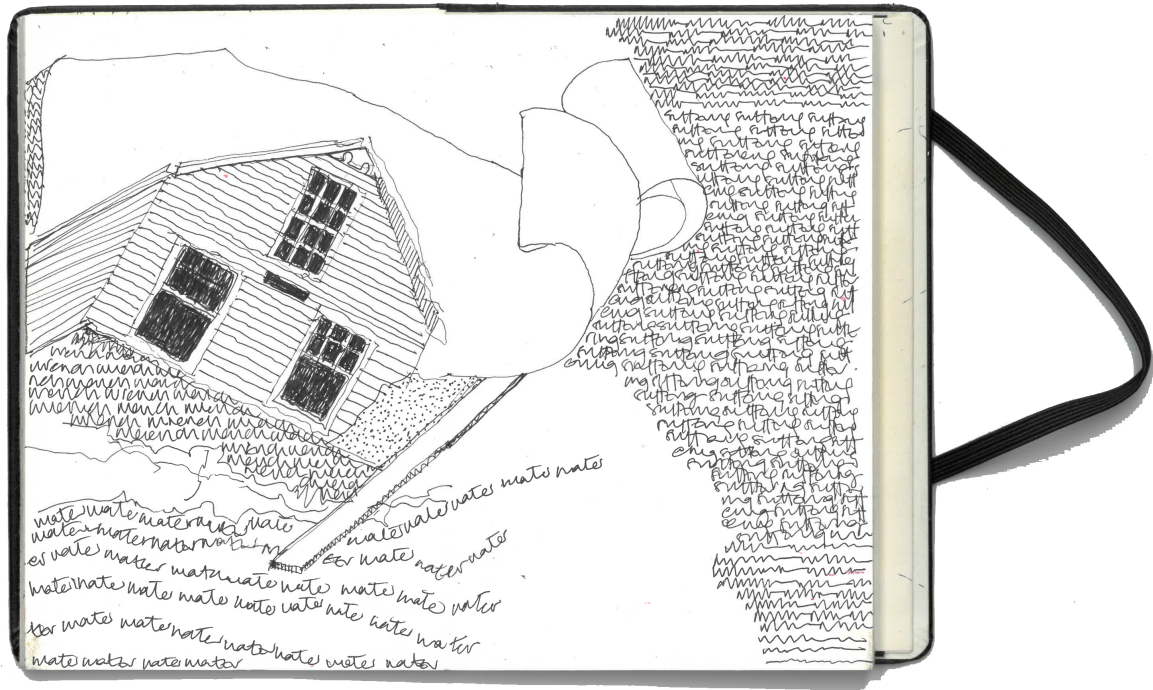
Global cities are not the product of a single design narrative, in the way a few high-profile buildings can be; they are a patchwork created over time. While cradle-to-cradle focuses primarily on material metabolisms, repair architectures incorporate what might be termed “social metabolisms”; the networks of knowledge, skill, and community capacity that maintain and transform built environments over time. The built product of modernisation is not modern architecture but, as Rem Koolhaas describes, Junkspace. The proliferation of shopping centres, airports and hospitals are all examples. These hermetic volumes are designed to provide the consumer comfort, entertainment and spending opportunities. They are endless and can be simply reproduced as interior worlds divorced from context and place.

The narrow gaze of western architecture sees the built environment as a triumph of order, beauty and form. Yet our suburbs, peri-urban edges and rural backwaters are none of these. In myriad ways the global south shows the most likely trajectory of our city making; a patchwork of materials that have been repaired and re-used. Originality of form is not, as much architectural theory suggests, a prerequisite for good design but rather the old expression of modernism itself. The act of collage and composition is therefore a more organic and natural process that assembles and reconstructs fragments into wholes and does not abandon the emotional resonance of the past but transfigures it. This sense of entanglement occupies the intuitive space of the creative imagination reflecting the lived experience of millions. Such a position places transformative practices at the forefront of the conversation; ones that are less about aesthetics and originality for the sake of it, and more about an approach to rehabilitation, longevity and resilience. This jumble of miscellany is no tidy kit-of-parts but more elements of a bio-degradable kit yet to be repurposed through resourceful design.

A transition is necessary where the aesthetics of the built environment in the global north are no longer seen as pristine, new and shouting for attention. An architecture of patchwork which stitches together the old with fragments offer complementary approaches rooted in adaptive reuse, incremental intervention, and temporal stratification. The synthesis of these paradigms suggests possibilities for more tenacious and responsive climate adaptation strategies that work with existing urban fabrics rather than requiring wholesale replacement. Repair-based methodologies offer pathways for extending material lifecycles, reducing embodied carbon impacts, and creating more socially just transitions toward regenerative built environments.

Handle with Care

While the pedagogy of architecture evolves, the agenda is framed either by an academic elite or by professional competencies that continue to reinforce the status of the architect. A new model is needed that places transformative practices at the forefront of the conversation; one that is less about aesthetics and originality for the sake of it, and more about an approach to rehabilitation and longevity. Unless our outdated education systems are reimagined and our biased corporate media challenged, humanity remains stuck in a singular self-harming trajectory unaware of the complexity and threat. As cosmopolitan citizens we can strive to nurture critical, informed, empathic, and socially active pathways. Architects could become physicians who treat the sick environment, operating a practice of care and repair. They will fight to rebalance our presence in the natural world, albeit one that is in freefall. The only way to survive this man-made catastrophe is to accept we are nature and that there is a moral imperative to nurture, repair and revive the earth.



Sketch from *Kissing the Void* retreat with Jem Bendall (James Soane, 2019)

Notes

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