1. Architecture in the Future Imperfect

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**Abstract**

In 1923 Le Corbusier spoke to questions of design, aesthetics and societal revolution calling for change and adaptation. After a century of unprecedented growth, exploitation and extinction his convictions remain ever more pertinent, yet out of reach.

The Climate Emergency demands that the production of space is radically altered, to no longer collude with the extraction economy and instead to become a regenerative process allowing us to live ecologically. This inevitably means building less, repairing and nurturing more. This represents a significant change in the way the built environment is (re)constructed. Critics suggest the uneven cessation of the modernist project has ushered in chaos, discontinuity and disruption. However, it can also be understood as a process that makes us resilient, encouraging innovation which leads to a cycle of relinquishing aspects of our lives that are non-essential to move to a period of restoration. Our world will increasing become a living patchwork, stitching together old and new. The future is imperfect.

**Vis-à-vis**

Le Corbusier published his treatise *Towards a New Architecture* in 1923, proclaiming: “The problem is one of adaptation, in which the realities of our life are in question.”[[1]](#endnote-2) While his manifesto addressed questions of design, aesthetics and theory, it also contains profound reflections on the nature of society. His was a demand for change that rejected past models, and instead mirrored the progress of industrial process and production. These ideas and theories continued to be valued and were absorbed into the DNA of the architectural canon. Whilst the world witnessed unprecedented growth, the resulting extraction and extinction cycle has existentially challenged the realities of life in the near future. What ideas and theories can replace these worn-out mantras? It turns out we cannot build ourselves out of this toxic predicament. Nor can we easily revert to the Holocene. As Miles Richardson suggests in relation to species decline, “Loss is normal, but this is not loss; they are not missing or misplaced. They have been decimated and taken from us, by us.”[[2]](#endnote-3) Architects therefore must challenge their own understandings, emotional bias and ambitions in order to be able to act differently. In a recent interview the starchitect Jacques Herzog suggested, “Corbusier’s urban proposals were really part of an overestimation of his own personality, even if he was a genius.”[[3]](#endnote-4) In other words, the identity of the architect is at odds with the circumstances we find ourselves in.

**(R)evolution**

We have come full circle: Architecture or Revolution?[[4]](#endnote-5) It is time to evolve the ideology of architecture as taught and practiced, that still believes in the power of the individual and the market-led rules of form-making. The Climate Emergency demands that the production of space is radically altered, to no longer collude with the extraction economy and instead becoming a regenerative process. When Timothy Morton describes global warming as mass extinction, he succinctly captures the horrific scale of the situation.[[5]](#endnote-6) He invites us to reflect that humanity has stolen from the future by plundering materials from deep within the earth and that we must learn, through nature, to live ecologically. At the heart of this crisis is the paradox of architecture; where to build, by definition, is to extract and create emissions. We live in an age of consequences and there needs to be a compelling and radically different story to tell around how we use and share natural resources. Specifically our global transactional capitalist economy is widely seen as the only viable model available to humanity in order to thrive. This is not a truth, but rather the belief in a model that has proved successful to those in power. George Monbiot challenges the status quo of the mono-capitalist ideology, arguing that discredited narratives cannot just be discarded, they need to be replaced with a new narrative that is both political and societal.[[6]](#endnote-7) Yet from within the culture of tech-turbo-charged consumerism, it is a struggle to understand politics as a communal activity because we have been programmed to construct our identity as consumers rather than citizens.[[7]](#endnote-8) How might new stories come to be written in the age of climate emergency? While Corbusier’s call to arms remains potent it reflects an entirely different historical and shockingly new geological context; the Anthropocene. Rem Koolhass reflects that, as a polemic, Corbusier’s declarations have been successful, but inflicted enormous damage to the cause of architecture, in the sense that they were so outrageous that it gave an alibi for countless philistine and uncreative authors to make an idea of tabula rasa acceptable.[[8]](#endnote-9)  While in the global north a similar approach was in evidence during the so-called slum clearance by the Victorians, there was a different moral agenda. In these troubled times of climate and global emergencies the practice of architecture must evolve to radically transform our economy, our countryside and our cities. Context is no longer an aesthetic issue but a societal, ecological and ethical one. Architects need to transition from the age of fossil fuel; and that will require (r)evolution.

**The Modernist Project**

One way modernist ideology can be understood is as a model for the ‘temporality of the new’.[[9]](#endnote-10) In other words a relentless quest for invention driven by the market. We have become addicted to novelty, difference and identity. The unchecked growth of humanity has come at the expense of the natural world in favour of creating frictionless man-made environments. Those connected to the world of architecture, building and construction are witnessing the foundation of their design ethos and know-how crumbling. This is a systemic and seismic problem that cannot be solved through ‘doing more better’ or as Corbusier suggested, rejecting the detritus of the past. This requires new paradigm of engagement with each other and the planet which challenges the central thesis of modernism, its mastery and quest for perfection. Globally, cities are polluted and our countryside is despoiled, all in the name of progress and growth. Questions arise in relation to how best to reverse the ravages of modernity while imagining ‘after progress’. Therefore, the interconnected climate and biodiversity crises can be interpreted as the death of modernism, a human centric myth, and could be the beginning of a regenerative age that is in symbiosis with the living world.

Reflecting on the radical and flawed masterpiece of domestic architecture, the Villa Savoye, it is clear how influential the modernist theories it represented remain embedded in the culture of architecture and by extension our imaginations.[[10]](#endnote-11) Yet, looking through the lens of the climate emergency, the house can be seen as a symbol of disconnection; isolated, mechanistic and separated. However, its significance is not as a singular building, but the ideas that were expanded to the scale of the city coupled with modernity’s underlying credo as one of an independent objective reality where the object or building is understood in abstract. The tablua rasa of the Plan Voisin remains the economic and cultural driver of much development in the twenty first century where architecture acts as a tool of capital and the site an opportunity for financial growth.[[11]](#endnote-12) The only ‘sustainable’ aspect of this model is the sustained belief in development itself.

In turn this leads to a situation where, as Peter Buchanan suggests, despite scathing criticisms, form is still the single most celebrated feature of the architectural discipline.[[12]](#endnote-13) The modern city can be read as an obsessive quest for the new, with fragmented free-standing objects that celebrate their own individuality which in turn reflects the trope of the celebrity designer genius. Coupled with the idea of ‘originality’ is the sense of scale and the heroics of building big, which itself is a patriarchal assertion of macho power. A simple but effective critique, ‘whenever something is wrong, something is too big’,is increasingly apt when considering the generative principles for the new city.[[13]](#endnote-14) The current debate took an unwelcome turn when designer Thomas Heatherwick published his own manifesto in 2023, ‘Humanise: A Maker’s Guide to Building our World’, in which he calls out architecture as being boring and the result of one hundred years of modernism. He argues that, “Boring buildings deprive us of crucial sensory information. They cause stress. They make us antisocial. They change how we feel and how we behave.”[[14]](#endnote-15) There is even a website that urges us that it is time to become angry and to *join the movement*. The problem with this reductivist credo is that it advocates the very thing that has led to our disconnect with the planet through favouring starchitects as form-makers thus supporting the anxious attention economy. Critic Cathy Slessor concluded in her review of the book that this is fiddling wistfully while the world burns.[[15]](#endnote-16)

Buchanan further warns that innovation through form making is not the beginning of something new but the terminal climax of an ancient trend, suggesting that if the twentieth century was about man-made technological innovation, the twenty-first has to be about an ethical understanding of the relationship between humanity and the earth.[[16]](#endnote-17) Barnabus Calder argues in his revisionist book, Architecture: From Prehistory to Climate Emergency, that all construction is a product of the energy available to the constructor be it manpower or fossil fuel. This paradigm shift is likely to be uncomfortable and unpopular and is already being framed by some as the curtailment of human rights; as by limiting energy in the form of fossil fuels, the extraction industry will make less profit. Without transforming our behaviours we are looking at the breakdown of civilisation and a world in collapse.

**Future Imperfect**

In language the future imperfect momentary tense states things proposed or anticipated to be done in future. Human collective thinking will have to recognise that the near future is going to be very different from our near past. A new age will need to address a collective sense of purpose; our psychological wellbeing, cultures and spiritual needs. In his 2019 book ‘Falter: Has the Human Game Begun to Play Itself Out?’, veteran environmentalist activist Bill McKibben believes the climate catastrophe is the result of exponential growth and fossil fuel capitalism. Whether it is pollution, ocean acidity, snow melt, food security, social inequality or migration, the troubles have destabilised the planet.[[17]](#endnote-18) His bleak position, as a veteran activist, has been honed over the past thirty years following the publication of his book ‘The End of Nature’. Furthermore the role of technology, genetic engineering and AI are presented as potential existential threats that call into question fundamental assumptions about what it means to be human. A key conclusion is that we find out once again how to make decisions as a society, rather than have a small group of super-wealthy people privately making them for us.[[18]](#endnote-19)

So why is the situation not changing, given that the ethos of the modernist project is embedded in continuous change? Tim Morton suggests one reason is that the climate crisis is a hyperobject; an idea so big it is impossible to grasp like deep time or the event horizon.[[19]](#endnote-20) He speaks of it as something sticky and viscose that we can only see in slices; very physical attributes that connect to the abstract nature of the problem.[[20]](#endnote-21) The implication is that we cannot see it as a whole, only as events or unconnected stories. Architecture can also be understood as a hyperobject in so much as it embraces everything that has been and will be built, as well as a reflection on theories of progress. Often the far future is depicted as dystopian, and yet in our unstable environment you only have to catch the news to learn of another tragedy inflicted on people and the natural world due to unprecedented, record-breaking weather events. We have arrived in this future and there is no going back.

It is easy to imagine the prospect of ever more prosperity and freedom, suggests activist Rupert Read, when looking back on what human beings have achieved.[[21]](#endnote-22) This is the comforting story that is re-told globally on a daily basis. Yet the presence of climate change exposes this imagined future to be a profound illusion. Our storybook is out of date and unrealistic. Thus we return to the need for deep adaptation.[[22]](#endnote-23) And yet the prognosis is less to do with constructing our way out of it, but rather through asking more profound questions about what makes a good life for all beings?

Futurity is the quality or condition of being in or of the future; in other words a fictive universe. This points towards new forms of designing and writing that are explicitly fictional and can be employed as a narrative, parable or fantasy, taking on both allegorical and projective forms in order to scope out possible futures. As in architecture, the written word (re)constructs places, people and their interactions. While some genres seek realism, the role of science fiction, and now climate fiction, is to fire the imagination with ‘what if’s’. In *Ministry for the Future*, Kim Stanley Robinson describes a near future where the climate has catastrophically tipped into chaos.[[23]](#endnote-25) He invents a new civic and economic force for good, which is credible, as well as a plot that imagines architecture for global change. It serves us well to pay attention to these imagined radical futures; after all every design project is a yet-to-be-realised version of tomorrow.

**Regenerative Design**

Science is clear that the only way to stabilise the run-away climatic system is to cease producing CO2.[[24]](#endnote-26) Yet in 2022 fossil-fuel subsidies surged to a record $7 trillion globally.[[25]](#endnote-27) This means we have to redesign the way we produce power, the way we grow food and the way we accommodate ourselves. Notwithstanding the immediacy of these intersecting problems, even if technology could contribute to decarbonisation, it will not have fixed the root cause: an addiction to consumerism and technology. The idea of burying nuclear waste or CO2 through carbon capture merely creates new toxic sacrifice zones and kicks the can down the road. We have to ration our use of finite resources and innovate circular systems that keep us within the safe zone of the Kate Raworth doughnut diagram.[[26]](#endnote-28)

If any proof were needed that the petrochemical and fossil fuel industry still wealds political power, the 2023 COP28 meeting was held in Dubai and chaired by ‘oil man’ Sultan al-Jaber. While the resulting agreement spoke of transitioning away from fossil fuels in energy systems, the consensus among climate activists and scientists was that the language was weak and easily sidestepped. The very next day al-Jaber returned to his day job with ADNOC, announcing that his company would continue to act as a responsible, reliable supplier of low-carbon energy, arguing that the world will need the lowest-carbon barrels at the lowest cost. In theory, the idea of moving away from fossil fuels is understood as necessary, in practice it is stalled using the tired argument that the market will decide. It is the same in architecture. In theory, the construction industry knows it has to change, but in practice the market dictates business-as-usual under the guise of best-value. The culture of extraction to extinction will have to transition to a visionary one that is restorative, just and ecologically stable.

Investigating how we use resources, the cradle to cradle concept was an early promotor of the circular economy and provides a powerful tool to see how it is possible to see materials as both technical and biological nutrients.[[27]](#endnote-29) This idea can be applied to the design of a training shoe through to the design of a city. Key to understanding this is to acknowledge that whilst nature is our only source of wealth, it is finite. Now is the time to protect and ration what is left. Daniel Wahl speaks of reintegration, re-localisation and regeneration as concepts that counter the failure of modernism. He argues for a fundamentally different approach to the way in which we view the way humans ‘make’ the world calling for a circular economy where materials are nutrients and are used over and over.[[28]](#endnote-30) This is not an impossible task, rather it is a challenge to the imagination as well as the end of a rigged economic model.

**After Progress**

‘After Progress’ suggests an age of failure, with modernity in ruins, not least because modernism has come to mean (technological) progress resulting in extinction. This tipping point leads us to consider ‘after architecture’ where the focus of spatial production has to go beyond the object building and into a cycle of nurture and repair. We 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. What needs to change in order to radically re-calibrate our minds into becoming carbon positive and enlightened, creating in an entirely new way? This is a question of leadership for all designers at all scales. It is also crucial that the term ‘architecture’ is not a project for the few, but rather comes to encompass anything and everything that is constructed or made. In so doing we can begin to imagine a web of connected professionals and keepers of specialist knowledge all committed to working together for the common good. The project therefore takes on a moral and social dimension which challenges the hegemony of market driven technological and industrial advances.

Some argue that exponential growth of computer power and the use of parametric design will lead to a golden age of form making and problem-solving. Yet the rise of parametrics as a mode of constructing complex geometries is not a breakthrough but, as Doug Spencer argues, a representation of neoliberal fiction and the flow of spatialised capital.[[29]](#endnote-31) In part this is as a result of the role of the designer as a genius creative, rather than as a co-designer who embraces technology as a tool for efficiency, calculating complex material streams and reducing CO2 emissions. Rather than the imagined utopia of human progress, it has morphed into a dystopia; literally a ‘bad place’. Time and again the architect imagines a future free of contingencies and consequences and thus remains guilty of propagating the myth of self-determinism. As biologist David Graber stated as far back as 1989, writing a review of Bill McKibben’s latest book, ‘The End of Nature’: “We have become a plague upon ourselves and upon the Earth… until such time as Homo Sapiens should decide to re-join nature.”[[30]](#endnote-32) There is no time for nostalgia or looking back, but rather time to commit to future generations and confront the present for all those yet to come.

**Patchworks**

The narrow gaze of western architecture sees the built environment as a triumph of order, beauty and form. And 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 emancipatory 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 and more parts of a bio-degradable kit yet to be repurposed through resourceful design.

**Towards an Ecological Civilisation**

“You are alive at just the right moment to change everything”.[[31]](#endnote-33)

Our degenerative behaviours, rooted in human exceptionalism, have resulted in resource depletion. The global trajectory towards destruction is driven by a fiscal and political system that favours competition and individualism. Turning this around, among many other cultural shifts, will require a belief in collaboration and collective action. Writing in ‘Doppleganger’, Naomi Klein suggests, “change requires collaboration and coalition, even (especially) uncomfortable coalition”. This confronts the notion of architectural practice as the work of a few and the need to engage in ecological conversations and research that cause friction; rubbing against the orthodoxy of expansionism and corporate interests. As we enter an unstable world we will require tools, knowledge and discipline in order to participate in recalibrating the built environment. The re-activated architect will operate a multidisciplinary practice founded on a radical set of theoretical ideas and societal values. Their role is to be accountable, to critically read the city and to offer alternative versions that are more equitable challenging the political and destructive forces at work. New practices will emerge as critiques of the existing patriarchal model, engaging in meaningful alliances, networking and sharing experiences. They will see buildings as a collection of materials and invested energy that require careful management. They will become the physicians who treat the sick planet. Theirs is a practice of care and repair. They will fight to rebalance our presence in the natural world, albeit one that is in freefall. This co-evolution will begin to patch up our ecological overshoot. Architecture and Revolution.

The future is imperfect.

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