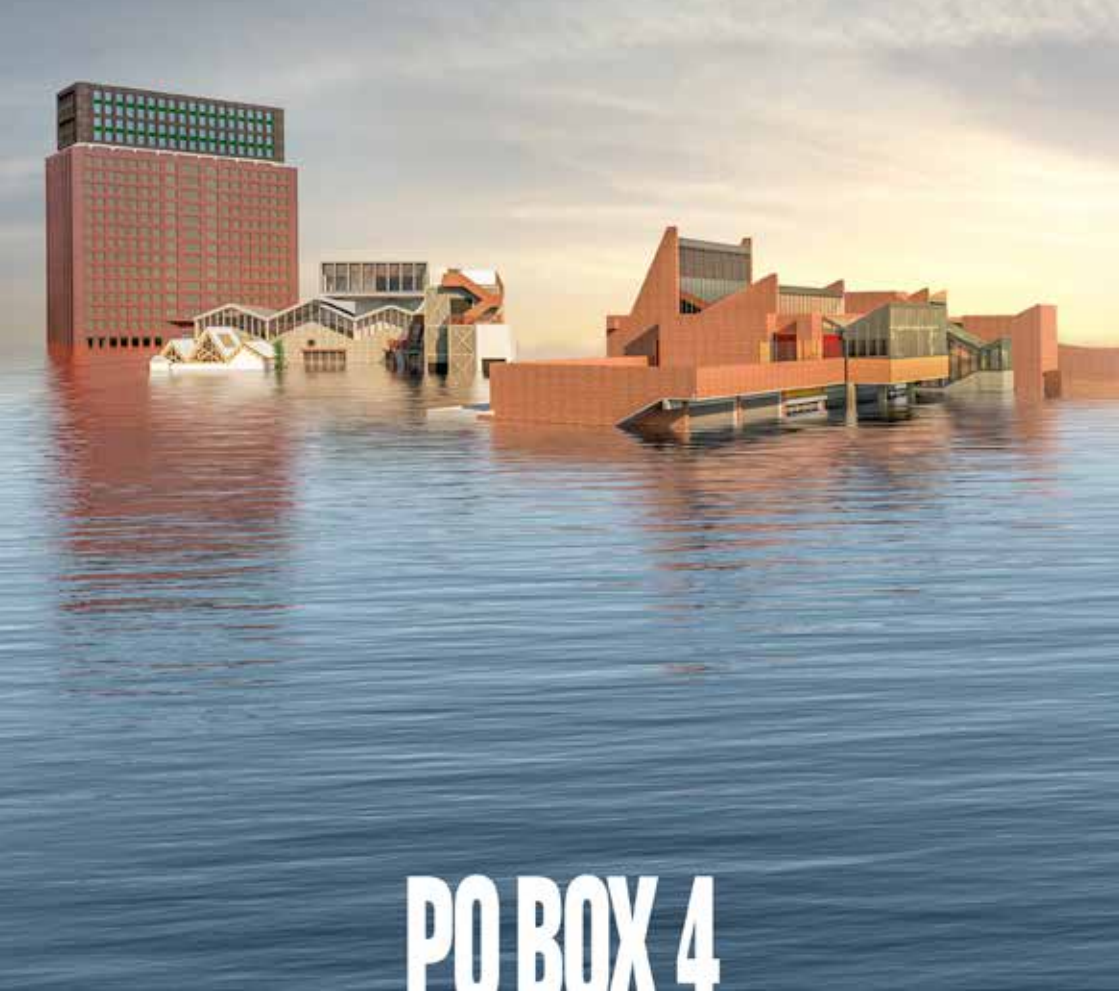


HELP!

2020



PO BOX 4

ARCHITECTURE IN THE AGE OF CLIMATE CRISIS

The below was written at the tail end of 2019. In the wake of Covid-19 change is everywhere and new stories emerging.

Make no mistake, the ecological implications of global consumption and emissions are unfolding day by day. In his recent book 'The Uninhabitable Earth' David Wallace-Wells suggests it is not only worse than we think, but the resulting changes will distort every aspect of human life.

What happens next is hardcore: it involves unwavering commitment to new modes of living and development; uncompromising sustainable behaviours; dedication to meaningful actions with an intensity that has never been so widely adopted. Some

are calling this a 'Marshall Plan'. Since 2018 calls for governmental commitment to a Green Deal and declarations of 'climate emergency' have become commonplace. School children have turned to activism, protesting for change. The RIBA has adopted a new ethical code. The volume has been turned up but will those holding power listen? Architects are part of the problem, often designing aesthetically, whimsically, joyfully but wastefully. When thinking about the use of hardcore - pieces of stone, brick and rubble used to make the base for roads, paths or floors - it is clear using broken buildings in this way is

a broken system. Buildings use precious materials that can only be partly re-used when smashed up. Re-cycling and Up-cycling are not truly circular economies because materials are degraded, and no matter how it is spun this is same-system thinking. However uncomfortable it may seem there has to be a forced break with the past as society faces up to discontinuity. This can be understood as a process that makes us resilient, encouraging innovation which leads to a period of relinquishing aspects of our lives that are non-essential in order to move towards a period of restoration. Learning to live

within the means of the planet is a key part of recalibrating our practices. Whilst the construction of intelligent, modest new buildings may play a part, so too will be adapting existing ones; to opt out of the cycle of seeing new as better and the throw-away trends that have become valued design currency.

At Project Orange we are looking to change, which is why we have created this small zine. We certainly have few answers, but we recognise this is the beginning of the process. It is a rocky road ahead with no guarantees. **JS**



FOREWORD

Rae Whittow-Williams

Project Orange's interest in the relationship between practice-based research and the business of architecture is not new; it has been 10 years since they launched the first issue of PO Box, with each publication presenting a new opportunity to critically reflect on their practice processes via an increasingly ambitious set of values and societal concerns. PO BOX 4 is certainly no exception; it is in fact taking a further step by asking, what *should* it mean to practice architecture in 2020 and beyond?

The impact of the climate emergency on the environment is one of the most important priorities of our time, governing knowledge, power, subjectivity and, increasingly, the production of the built environment. It is the *particular nature* of this ecological problem we are faced with - one that is imbued with deep political, social, scientific, cultural, economic and technological implications - that make it a perfect example of an 'imbroglio'; an incredibly complex situation entangled with misunderstandings and problems that are inherently difficult to fix. We all know that we are at the turning point, that architecture and the processes that create it need to adapt, but the question is, how?

By repositioning the relationship between practice and process, and evaluating processes against outcomes, Project Orange have sought to use the latest issue of PO BOX as a vehicle to determine how they can begin to move the debate surrounding the climate emergency forward. Through a series of reflections and propositions this collection of essays investigates how to meaningfully re-position the drivers and working methods of the practice with 'the way things ought to be', further embedding the relationship between research and practice into the culture of the studio. It is not intended as a solution but a springboard: to work collaboratively as a team, craft a renewed set of practice values, challenge the status quo surrounding city making, inspire action and behaviour change in others, and ultimately forge the path ahead.

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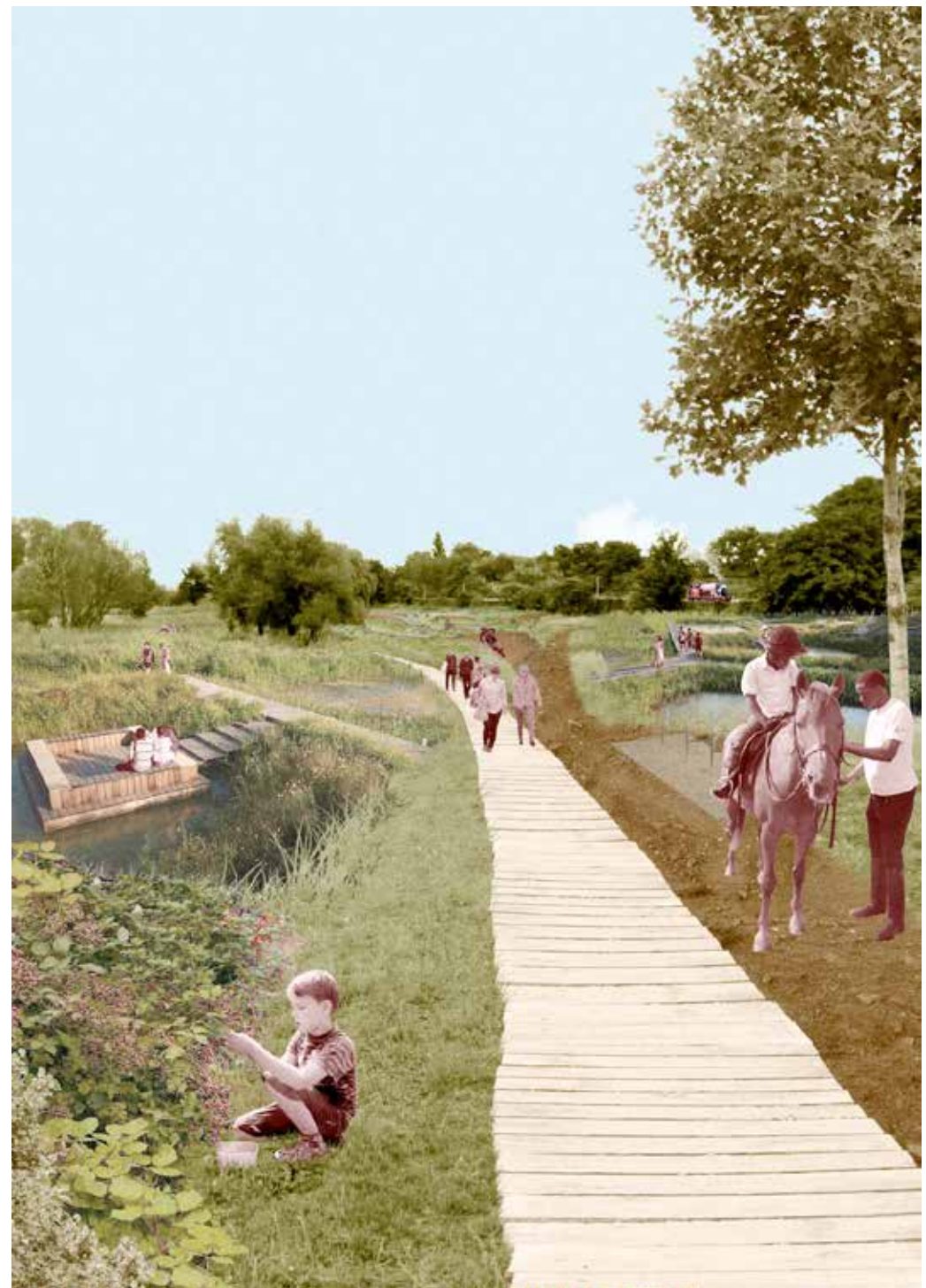
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The poems throughout the publication were written by James Soane while attending 'Kissing the Void', a retreat around the question of deep adaptation and the climate emergency conceived of by Prof Jem Bendell, Toni Spencer and Tina Sharma. October 2019



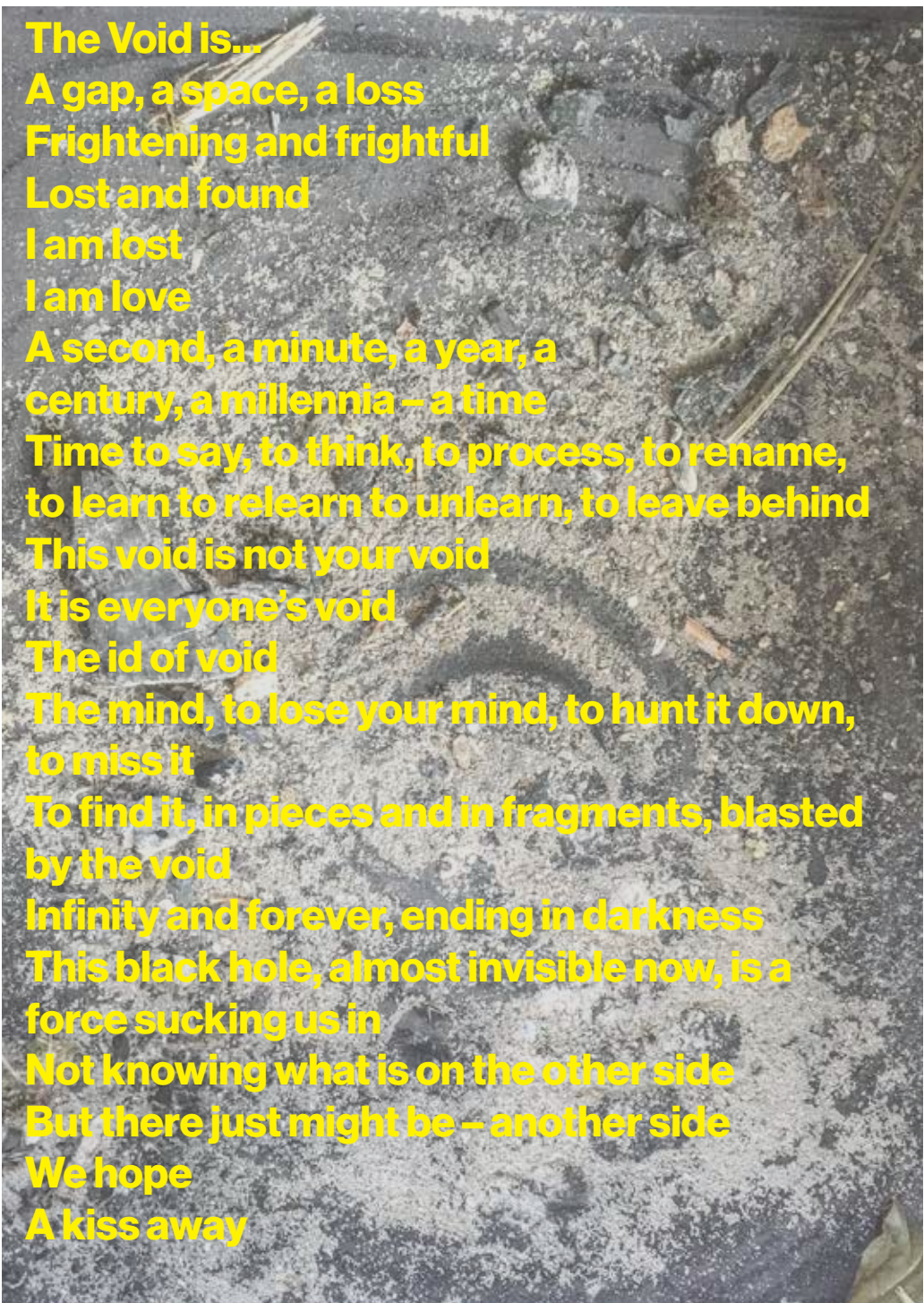
[This page] CLT proposal for new offices in Waterloo
 [Opposite] Collage suggesting wilding of the Golf Course at Thamesmead



I GET SO EMOTIONAL

JAMES SOANE

“Is it OK to feel anxiety: about the climate, about our politics, the state of democracy, about the way we practice? As the architecture of our planet accelerates into a state of environmental degradation and unprecedented change we are likely to experience a complex emotional response.”



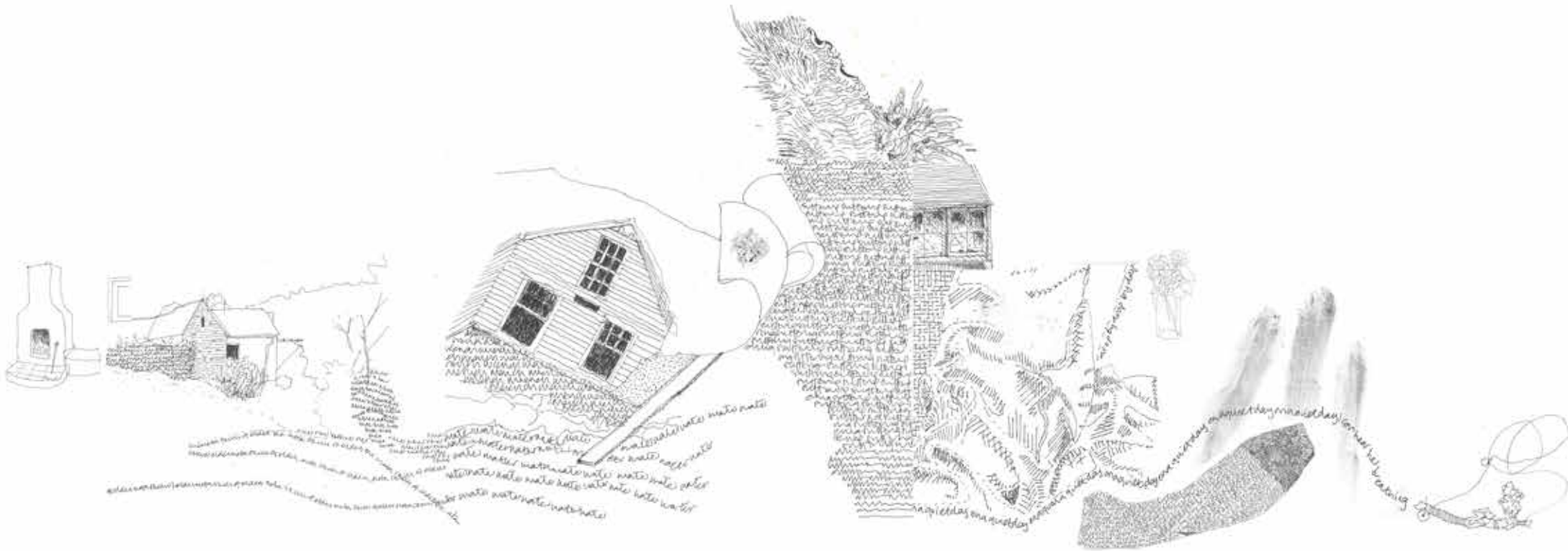
The Void is...
A gap, a space, a loss
Frightening and frightful
Lost and found
I am lost
I am love
A second, a minute, a year, a
century, a millennia – a time
Time to say, to think, to process, to rename,
to learn to relearn to unlearn, to leave behind
This void is not your void
It is everyone's void
The id of void
The mind, to lose your mind, to hunt it down,
to miss it
To find it, in pieces and in fragments, blasted
by the void
Infinity and forever, ending in darkness
This black hole, almost invisible now, is a
force sucking us in
Not knowing what is on the other side
But there just might be – another side
We hope
A kiss away



[Left] Lichen touchstone
String, wood and lichen

In summer 2019 I was asked to write a short piece for the Architecture Foundation and chose to share my thoughts on the way architects might begin to comprehend the climate emergency. Working in both practice and academia (at the LSA) it is clear that there remains an unresolved contradiction between practising architecture and teaching it. Within the school environment it is possible to frame big questions and push boundaries. However, within our practice we are having to figure out a way to change our business, our process and the mindsets of those we work with. Somehow we will get there if we are prepared to be truly open.

Is it OK to feel anxiety: about the climate, about our politics, the state of democracy, about the way we practice? As the architecture of our planet accelerates into a state of environmental degradation and unprecedented change we are likely to experience a complex emotional response. We prefer to believe that our own contributions to the discourse and profession of architecture have been hard fought and that our practices adjust to keep pace. However it can be disquieting when we take notice of our



[Above] Sketchbook collage from
Kissing the Void retreat

inner voices; the ones telling us that everything is not OK, that we fear the future and that we need to act now. Everything we have learned has to be unlearned and much of what we value we will have to let go.

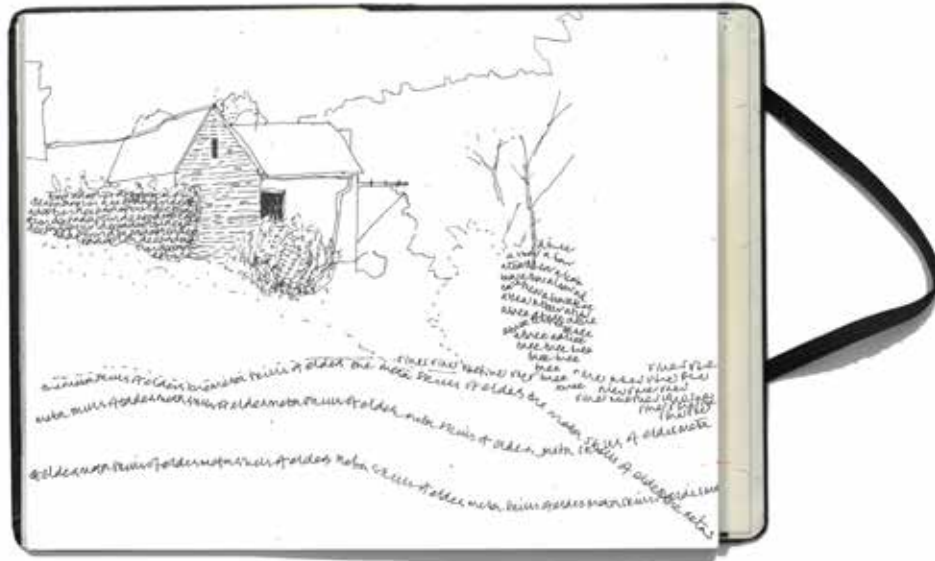
The LSA (London School of Architecture) frames the two year diploma around the question of how to react in a world of climate emergency. This necessarily means taking stock and figuring out what, if any, influence

we may have as architects in the next few decades. One of the truly most disturbing interpretations of the climate science comes from Jem Bendell, Professor of Sustainability Leadership at the University of Cumbria, whose previous career spanned twenty years working in sustainable business and finance. In 2018 he published a paper titled 'Deep Adaptation: A Map for Navigating Climate Tragedy' in which he discusses the inevitable near-term social collapse due to climate change.

He argues that our global connected society remains in denial over the scale and nature of the problem hanging onto a belief that it can be 'solved'. Architects have been trained and have learned to respond to technical and aesthetic innovations. Yet the issue at stake here is the lack of evidence to suggest any country or system is meaningfully reducing CO2 outputs; but there is a great deal of evidence to show that tipping points have already been exceeded and that climate chaos

has been triggered. It is therefore critical that we allow ourselves space to discover and accept the stark scientific data in order to move into a process Bendell terms 'deep adaptation'. Here questions of how to become resilient, both as individuals and communities, as well as to comprehend the scale of societal transformation that will happen need to be deeply understood.

If all this sounds Biblical, that it is because it is. People have been

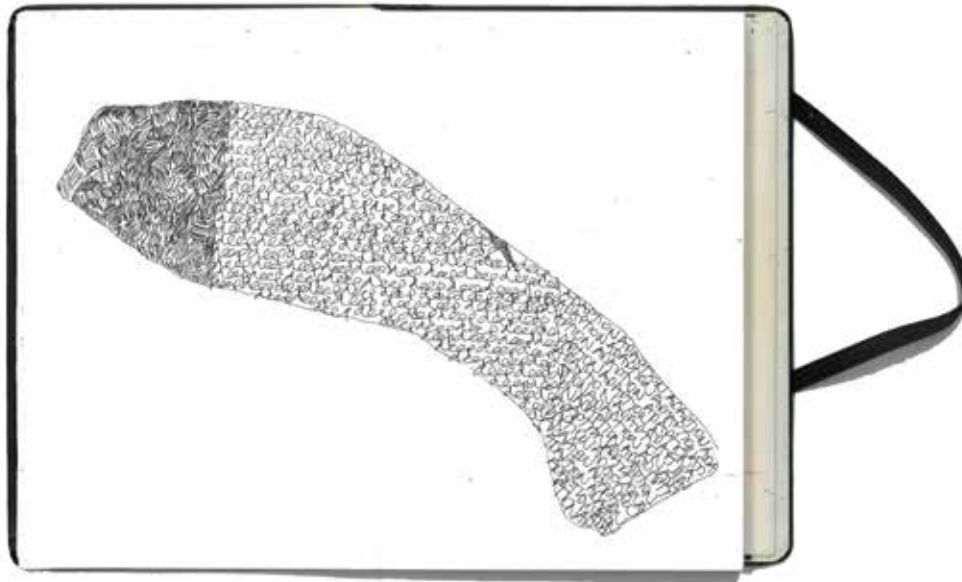


sharing stories of catastrophe and end-of-days for millennia and yet in the generally temperate global North we have come to believe society has mastered its destiny though designing its own future. We call this progress. But what if we have reached the end of progress and the necessary trajectory is de-growth? It is time to figure out which story we believe and in so doing share the sense of loss, grief and pain.

Yet even now, we can begin to write radical new stories. Young people who have taken to the streets this year are showing it is possible to influence the dominant political and economic narratives. Just like our weather, they are disrupting the civic climate. Students at architecture schools are in a unique position to explore, test and share inspiring ideas about futurity. An alternative understanding of our global ecology is already being born, one in which humankind is no longer solely in charge. As a result, our cultural strategies and our architecture will necessarily be very different; our cities will not function in the way they do today and our practices will transform out of all recognition.

There is no doubt that this is a moral and ethical emergency, asking each and every one of us to reflect on our values, our way of living and how we navigate pathways ahead. It is a time to empathise, re-connect and show solidarity with our global citizens. It is a hugely emotional time.

[Left] Sketchbook from Kissing the Void retreat





To bear witness in these times is...

A mistake, an error, a blip, a catastrophe

An un-making of all that has been made

It is a breaking

A huge tear

A tear

An ending of a story

We are being asked to leave now

**The lights are going out and it is very dark
outside**

Where to go?

Where to shelter?

Who shall I talk to?

**When my love and I were separated it
should have been the end**

And yet I am still here

Alone with others

I am paused

NEW NORMAL

DAWA PRATTEN

“COVID-19 (Corona Virus Disease 2019) has provided a crash course in appreciating the natural systems that support our lives. Never before has a walk in the park held such value, and the threat of their closure held such dread.”



Imagining the Highline
in Thamesmead

The Corona Virus Pandemic is the greatest Public Health Crisis we have faced in a century; a threshold event that will define a generation. The long-term impact, after we have beaten this infectious disease, isolation measures have been lifted and our economy has recovered with our lives resuming some semblance of normalcy, will be the change in the way we deal with other existential threats to public health, climate change especially. We simply cannot go back to normal.

COVID-19 (Corona Virus Disease 2019) has provided a crash course in appreciating the natural systems that support our lives. Never before has a walk in the park held such value, and the threat of their closure held such dread. For those stuck in cities, in cramped conditions, with limited or no access to outdoor space, these environments provide a lifeline that was taken for granted in easier times, highlighting some of the many inequalities in our daily lives.

Prior to the 1840's there were no public parks in Britain. The Park, as we know it today, was a Victorian invention, a civic triumph realised as a direct response to the ravages of the Industrial Revolution and the rapid urbanisation of an agrarian society. Parks were created to give the new working class, cloistered in cramped slums and inhospitable conditions, room to breathe. Literally. These 'urban lungs' were designed partly to ward off the miasmas they believed spread death throughout newly urbanised cities. Though the miasma theory proved baseless, the parks still protected against its proven replacement, germ theory, and were

proudly adopted, as proof of Victorian might and the riches of Empire.

To appreciate the direct relationship between urbanism and public health, one need only look to the foundation of the study of Epidemiology (the distribution patterns and determinants of health and disease conditions): John Snow's famed study of the 1854 cholera outbreak in Soho. He mapped deaths in proximity to certain wells, proving cholera's waterborne nature, ending the belief in miasma theory. Whilst this study birthed new levels of sanitation, it also highlighted the necessity of embedding preventative healthcare measures into the way we design cities.

This transition, necessitated by the negative impacts of the Industrial Revolution, mirrors the transition we need to undertake now, as globalisation and urbanisation accelerates exponentially, in symbiosis with climate change. The way we design and inhabit cities will have a vital incomparable effect in mitigating climate change and providing resilience to the disruption it brings. 100-year storms, once in a life time crises and natural disasters are happening with ever increasing frequency and, as we are finding out right now, we are not equipped to deal with them.

The Western world's belief in its own exceptionalism along with its failure to accept the bleak realities of its own fallibility in the face of the climate crisis has led to a developed world that believes it will simply be bailed out of any crisis it finds itself trapped in. Hopefully one impact of the Corona Virus is that the world will realise its own

[Right] Thamesmead GI
Masterplan lake view





mortality and act accordingly.

Hopefully a great deal of effort will go into understanding the effects isolation has had on our social lives and our subsequent total adoption of post-digital communities and platforms, as well as the necessary changes needed to improve the state of housing in our cities and a myriad of detailed design changes at a human scale. However, reconciling our urbanised relationship to the natural environment will be of paramount importance. Whilst the bonds that bind us in a globalised world are increasingly digital, this crisis has highlighted our key dependence on the physical environment and the truly key workers where these digital worlds meet. Someone or something will always have to deliver food and physical goods to our shops and ourselves, dispose of our waste and look after us when we are sick. Similarly, there can be no substitute for the mental and physical health benefits of leaving our homes and embracing the natural landscape with a purpose; our dependence on nature is total.

Whilst governments claim to be on a so called 'war footing' (a maligned and problematic term) dealing with the Coronavirus crisis, advances and adoption of technological innovation in our social lives has been taken on at a wartime pace. It follows that we must also appreciate the advance we need to make in the development of better green infrastructure, in a similar fashion to the Victorian adoption of parks. Our response to this crisis cannot be to simply return to the way things were before, with an insular urban context, full of housing without access to outdoor space or simply enough

to meet minimum space standards. A wholesale reimagining of our relationship to the natural ecosystem around us is necessary.

Project Orange has been working on a number of projects in Thamesmead for several years as part of Peabody's Major Projects Panel. This area of London is deeply fascinating and has one of the most remarkable relationships to nature of any part of the city. Whilst the stereotypical image of Thamesmead, as the dystopian backdrop to the film 'A Clockwork Orange', is one of a monolithic concrete estate, the reality is far removed if you look beyond the brutal exteriors. Nowhere else in London can you find such a wealth of lakes, canals, wetland, waterfront, woods and open green spaces. However, a host of political and societal issues, coupled with mismanagement, has led to its decline. Now, as Crossrail opens, finally linking the area to central London in a way that has been promised and not delivered since its inception, Thamesmead is set to grow at an enormous rate, and the aim is to help make sure any development is based around understanding the ecosystems that currently exist and enhancing them. This is where the Thamesmead Green Infrastructure Strategy comes into play, also known as 'Living in the Landscape'. Project Orange, as part of a large team including landscape architects, economists, engineers, hydrologists and ecologists have collaborated to integrate and prioritise the green and blue natural infrastructures to provide residents, both new and native, an equitable and fulfilling relationship with the natural ecosystems they live alongside, no matter if their home is

[Left] Thamesmead GI
Masterplan Moorings Estate

equitable and fulfilling relationship with the natural ecosystems they live alongside, no matter if their home is in an old tower block, estate or new development. The neighbourhood is governed by green and blue routes - parkland and waterways - rather than roads. Life here is based around inhabitants interacting with nature, in every facet of their existence, be it play, movement, leisure, exercise, rest as well as housing, shelter and home. The economists on the team used Natural Capital Accounting to account for the flow of natural resources in monetary terms in order to give policy makers and developers financial data to underscore the project values. They were able to calculate such things as the saving the NHS would be able to make if people had greater access to green open areas with space for physical exercise, stimulating the mind and body, looking after the health of both.

Thamesmead is a historically deprived area of London, with many inherent social problems. People here cannot escape to the countryside in the event of an emergency. They are stuck where they are. As Emily Maitlis put it so eloquently on Newsnight: "The disease is a great leveller, the consequences of which everyone, rich or poor, suffers the same [...]. This is a health issue with huge ramifications for social welfare, and it's a welfare issue with huge ramifications for public health." The same can be said for the effects of climate change.

As stated by The Mercy Corp, "Climate change threatens the world's poor on a massive scale. Billions of the most vulnerable will face water shortages.

Changes to agricultural cycles will threaten food security across entire regions. Disease vectors, benefiting from global warming, will cover wider areas further impacting health of humans, their crops and livestock. Rising sea levels will displace coastal communities in both rural and heavily urbanized environments. Yet these are only the primary impacts. Massive migrations and water shortages will lead to social tensions that will likely erupt into conflict from community to national scales as 300 million people, displaced by rising sea levels, seek new land and places to live in an ever more crowded world."

The vision for Thamesmead was forward thinking for its day, knowing it was in a floodplain, the Thames river wall was designed to withstand a once in a hundred year tide. However, it was planned for longer, including domestic accommodation raised to first floor level. This had unforeseen negative impacts, with a concrete labyrinth at the ground plane designed around cars and separate raised discreet pedestrian walkways that proved ideal for criminal behaviour. However, there was a generosity embedded within the initial ideas. There is even Abbey Way, a raised green park; a spine that runs from the heart of Thamesmead, south to Lenses Abbey. It also acts as an escape route for the estate's residents in the event of a catastrophic flood. Any future plans need to design with similar generosity and foresight. COVID-19 is age defining, yet it is just the latest public health crisis to shape our built environment. What next?

The world has been given a warning we cannot afford to ignore. We cannot

allow ourselves to return to normal. Urban development and residential design must hold itself to a higher standard, meeting minimums is not nearly enough when it comes to access to public green space. Connecting to nature must be seen as an invaluable preventative health measure and this access must be equitable. Designers need to develop some form of global ethical code that ensures we learn from this disaster and work together, chorally, to embrace the power of landscape in developing resilient and healthy cities for future generations to come.



[Above] Concept collage
Moorings Social Club



When the body leads...

**A stretch, a move turning into moves
An ache, a new pain, an old heart, a dance
Tentatively thought
A sense of longing hoping to be more free
To move away, in the dance
More fluid and more powerful and more delicate
that ever before
The flow of your life is here in every tiny moment
But did you ever know that?
Did you not see that your body faithfully records
every single thing you have ever done
ever thought and ever will do?
Until
Until it has done enough
More than enough, and
Is called by time**

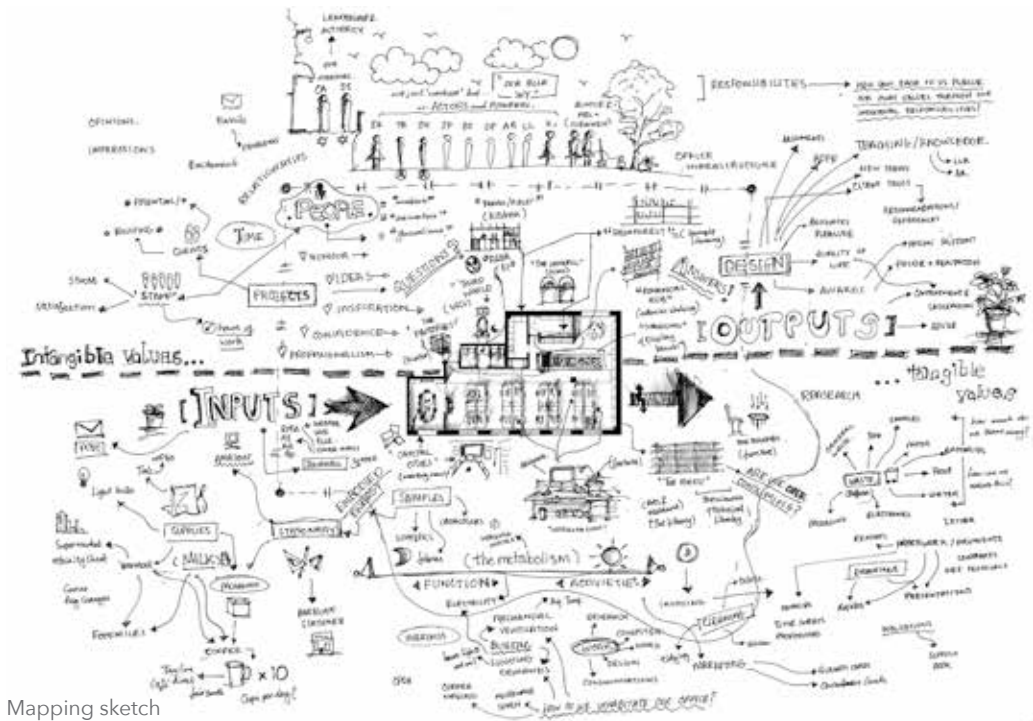
**Your movements will stop
Like everybody's always will
To make way for stillness
No movement
Another is just waking**

THE WORKPLACE ECOLOGY

LESLIE LAM

“As we dive deeper into the Anthropocene, are we heading closer towards extinction? Issues of becoming more environmentally aware to combat climate change have been an increasing concern for the global population...”

30



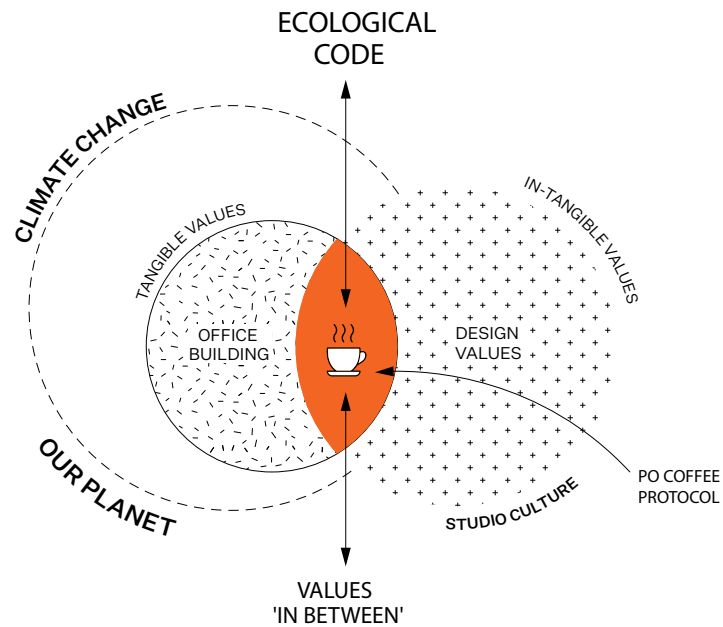
Mapping sketch

As we dive deeper into the Anthropocene, are we heading closer towards extinction? Issues of becoming more environmentally aware to combat climate change have been an increasing concern for the global population, living on a planet dependent on an inter-connected consumption model within this new era of the human epoch. But how does this seemingly complex problem translate to the day-to-day practice of Project Orange as it strives to function in an ecologically efficient way?

Within the conventional image of the architectural profession, buildings (or products) and their associated success are often manifest in the completed building, whilst processes, especially those relating to a practice's environmental ethos and operation, are overlooked. And yet, despite the phrase 'climate change' receiving the

highest number of Google searches in the past decade, 90% of businesses do not have a clear plan in place to tackle the climate emergency (Kin and Co 2009). It is time to critique our workspace environment as well as the wider processes of building design and construction in order to holistically address the climate crisis across the architectural profession. By treating the Project Orange office as its own entity, constructed from a combination of ecosystems, we can begin to develop a code for the studio that sets out key ethical and sustainable values.

I am a strong advocate for the way in which beliefs can affect behaviour. The nudge theory advocates for one to undertake small incremental changes which accumulate to tackle a single larger problem. In this case, we analysed our coffee supply chain to generate a set of values to promote an



ecological studio culture.

"The growing interest in nudges stems from the fact that they usually impose low (or no) cost, because they maintain freedom, and because they can be highly effective. In some cases, nudges have a larger impact than more expensive and more coercive tools." (Guardian 2018)

Different values that exist within Project Orange are a starting point for the development of an ecological studio culture and can be categorised into three areas:

1. Values in the workplace

Tangible components that make up the physical establishment of the office.

2. Design values

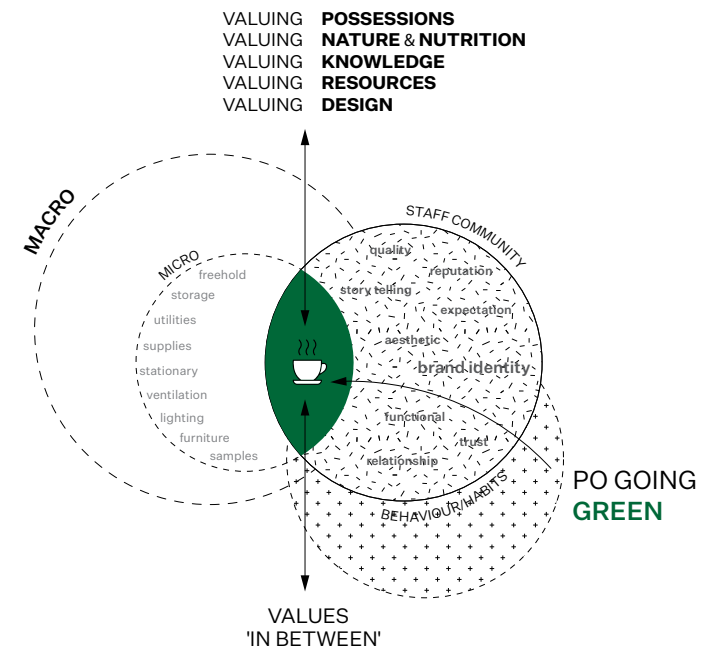
Abstract approaches striving for quality

design that not only focus on detail but which build engagement and faithful relationships between the client and the design team.

3. 'In-between' values

Human responsibilities that maintain the homeostasis of the office.

At the micro scale of the office, the personal behaviours of the team tend to dictate the studio culture, and to a certain extent these intertwine with Project Orange's design values. It is these 'in-between' values that I believe hold the potential to influence workplace culture. The current practice structure delegates to each member of staff a specific responsibility over the upkeep of the office, mitigating the need for the old-fashioned office manager. Doing so allows the office to be maintained in a collaborative and



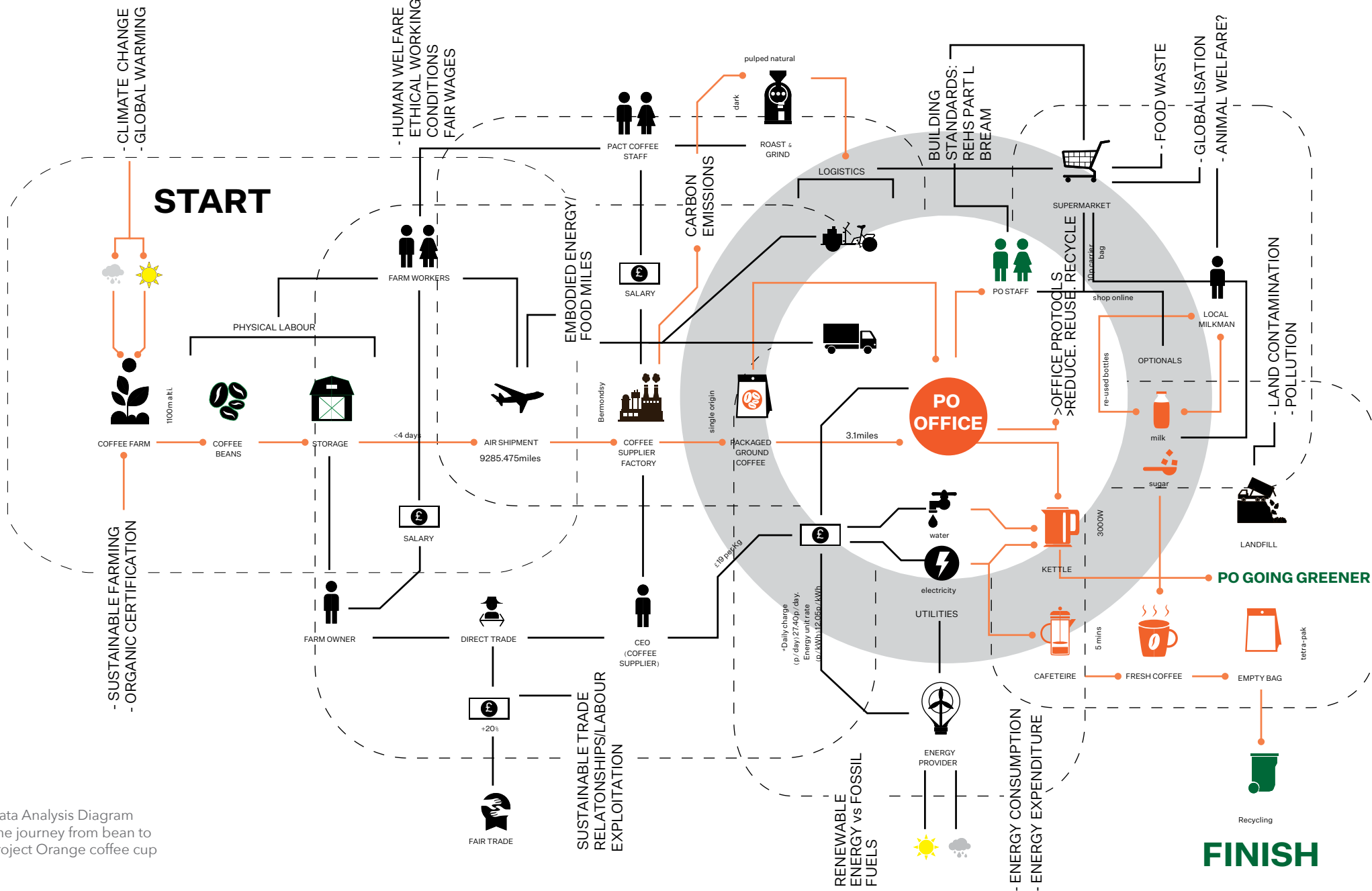
streamlined manner: a foundation to preparing an ecological code of the values within Project Orange.

COFFEE PROTOCOL

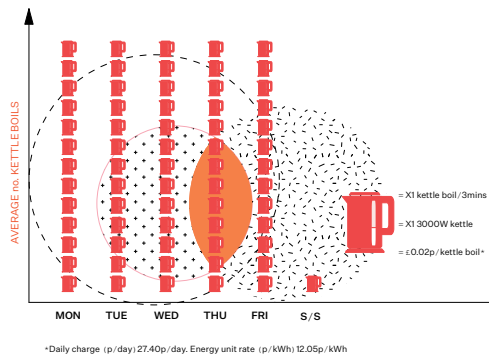
Physically and mentally, coffee consumption proves to be an extremely important element of the office's daily rituals and routines and is a key 'fuel' for staff morale and productivity. It has the highest rate of consumption of office consumables, ranking above A4 and A3 paper, fine liner pens and toilet rolls.

The following focuses on the collected data analysis of coffee beans to cup and as the result a set of studio values are derived from exploring whole life cycle processes and new ethical possibilities, therefore acting as a framework for dictating future values in the practice.

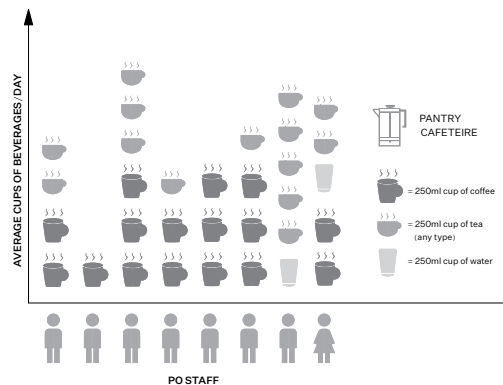
Currently, the studio drinks on average 2.5 cups per day per person and get through approximately 1.5 - 2.0 Kg of ground coffee per month. Although the previous coffee brand consumed by the office was certified Fairtrade and was the first coffee B-Corp company, this coffee had high food miles with its bagged packaging being un-recyclable. Consequently, rather than purchasing coffee from supermarket chains, the studio is now drinking single origin coffee purchased from an independent supplier who trades directly with coffee bean farmers. The direct trading relationship removes commodity traders and distributors from the supply chain allowing farmers to be more profitable in comparison to Fairtrade rates. Therefore, they can grow their farms whilst improving their quality of life and maintaining trust and loyalty with the supplier.



Data Analysis Diagram
The journey from bean to
Project Orange coffee cup



A cup of freshly made coffee is not all about the beans, it requires electricity to power the kettle in order to make hot water as well as optional extras such as milk and sugar. This initiates further analysis in to the office's energy consumption, fuel sources and waste disposal. The office has recently switched energy providers in favour of one which supplies electricity from renewable energy sources. Moreover, requests made to our local milk provider allows us to have milk delivered in re-usable glass bottles in order to reduce plastic consumption.



OUR ECOLOGICAL CODE

The coffee protocol encourages our studio to monitor and fine tune other processes in order to adapt to climate change and the fluctuating social and economic landscape, aiming for sustainable operation methods and design approaches.

Therefore, the following set of values are outlined as a result from the current findings which will be amended and tweaked over time dependent on environmental and social fluctuations. Based on nudge theory, these values will be determined by both realistic and aspirational targets along with small incremental suggestions towards a more sustainable and ecological office environment.

VALUING NUTRITION

Milk has been a staple ingredient in making a cup of coffee and PO receives weekly milk deliveries from a London based supplier. Developing new habits to re-use and reduce, we have requested deliveries to be made in glass bottles and reduced our ordering quantities of milk to correspond with our consumption. Recently there have been suggestions within the office to switch to plant-based milks. Making these nudges may bring nutritional benefits; omitting plastic milk cartons mitigates the possibility of BPA's whilst plant-based milks reduces antibiotics and hormones in conventional cow's milk. Milk is a key component which make up our cup of coffee, therefore influencing our values regarding nutrition, demonstrating how coffee making nudges us to focus on healthier habits to promote our nutrition health.

VALUING RELATIONSHIPS

Making coffee in the pantry is a ritual in a typical working day. In the short time whilst the kettle boils to plunging the cafetière, staff use the opportunity to have spontaneous interactions with each other. The process of making coffee is a tool to build relationships and understand one another's life endeavours. These casual interactions mould our habits to improve proficiencies critical in design projects, such as developing our communication skills with design team members.

VALUING RESOURCES

Once a bag of coffee has been consumed, the packaging cannot be recycled due to the foil inner lining. Our new supplier places the ground coffee in tetra-pak packaging which can be recycled by kerbside recycling facilities. The understanding of materials that aid our transportation of coffee widens our perspective on valuing the planet's finite resources and how small habits to re-cycle can improve ourselves to be more environmentally friendly. The act of recycling our coffee packaging subsequently led our intuition to seek recycling opportunities for other office resources, such as the habit to recycle used pens and using refillable cartridges.

VALUING KNOWLEDGE

The process of searching for a new coffee supplier was fundamentally based on the criteria that it should be environmentally friendly, have low embodied energy and be ethically manufactured. As the process developed, we increased

our knowledge of environmental certifications for companies outside the architectural discipline, and in this case coffee brands. We gained knowledge of the assessment criteria for B-Corp Certification and this therefore gave Project Orange an opportunity to further reflect on our current environmental policy and how we can learn from other initiatives, such as targeting net-zero/negative carbon companies and evaluating our supply chain of building products and material specifications.

Becoming an ecological studio is a multi-faceted process and cannot be achieved overnight. The set of values are the various key 'faces' in which macro scale aims can be gradually achieved through small micro scale actions and developing habits. Through implementing these values, we hope that Project Orange will develop a precedent framework for creating sustainable and ethical workplace environments within our discipline.

[Opposite Top] Power consumption diagram
[Opposite Below] Drink typology diagram



And now...

**Resting and realising
I find new dimensions unknown
Strange spaces
With a different taste**

**Running is not possible
I dance with myself, not seeing the ground on
which my feet stand
Here the light is dimmer
Cantilevered off the abyss
Seeking out crevices, holes and voids
No stars, just sparks from the beginning
Now embers, glowing
Throwing their ancient warmth
Slowly, almost imperceptibly so, turning ashen
Dimming into darkness
Becoming dimensionless**

POPULATION

BILLY CONRAN

“Now, in our overpopulated global society, humans are still migrating to perceived greener pastures. In the modern world this destination takes the form of the financial and cultural centres; in other words our cities.”



"The growth in population and jobs has not been matched by the growth in the number and type of homes London needs.."

New London Plan 2017

For millennia, homo sapiens have adapted to changing climates, migrated, survived and propagated. When the first wave of adventurers left Africa, they could not have known how far their progeny would spread across the world in search of game, safety and greener pastures. Our numbers and

technologies developed slowly up until the Agricultural Revolution. From then on, our population increased steadily around the world as we became adept at harnessing the environment around us to facilitate the all-encompassing growth of our species. But it was not until the twentieth century that things really got out of hand. Fritz Haber's 1909 invention of fertilizer allowed the masses to be fed in greater numbers. This is a key factor in the explosive increase in the population growing from one billion to seven in less than a century. Now,

in our overpopulated global society, humans are still migrating to perceived greener pastures. In the modern world this destination takes the form of the financial and cultural centres; in other words our cities.

It is predicted by the UN that two thirds of the population will live in cities by the year 2050. London is the most populated city in Western Europe and its global economy is, or at least was, the envy of other world cities according to the new London Plan. However like

many cities it is struggling to tackle the enormity of a rapidly increasing population. The GLA has projected that there will be another two million Londoners by 2041. The growth in population is not being matched by the number of available homes; 66,000 new homes, of varying types, are required each year if London is to keep pace with its increasing number of inhabitants. There is high priority to provide genuinely affordable housing as average house prices are now unattainable for the most Londoners. The delivery of these new homes must therefore utilise every available means and incorporate versatile and innovative design solutions.

Tackling the housing crisis is one of the Mayor of London's main priorities. An investment of £4.82 billion for affordable housing was allocated through to 2022, as well as a variety of other programmes and services; however this alone will not be enough to successfully combat the compounded issue of housing delivery. The Mayor's Housing London Strategy is a call to action for all organisations and stakeholders with skin in the game, to collaborate, innovate and reach the housing target.

There can be no one solution. However modular design could provide a partial solution using prefabricated components or CLT construction for a versatile and repeatable building formula that can be utilized again and again and implemented at a faster rate than the accepted construction speed. Almost every industry that manufactures today operates at a considerably faster rate in comparison to a century ago. Think of the automobile, textile and furniture industries. Not only have these



Housing at Ingoldisthorpe

industries exponentially increased their output speed, but they have made the end products far cheaper in the process. Of course while this is not black and white, a glaring exception to the trend of increased production speed and decreasing cost is the construction industry. Today, buildings can be of astounding technical complexity, acting more akin to a machine than an edifice. Many components of these machines are mass produced effectively. However, it is the construction industry's inability to implement mass production throughout the whole process that has hindered its ability to reduce project timelines.

Is mass production advisable for good quality housing? Every project is unique due to contextual constraints. If we incorporate flexibility and customisation into modular design, then perhaps mass production is possible. This was somewhat achieved by the RSHP project PLACE/Ladywell. This Lewisham housing scheme involved prefabricated units manufactured in Nottinghamshire that could be deployed at a number of locations. The 24 homes were installed on the site of the former Ladywell Leisure Centre in a single week. From ground works to practical completion was only nine months. This is a meanwhile use project and has been designed as such. The units can ingeniously be redeployed. The scheme was described by RSHP as "a permanent housing solution in a temporary location."

Open source design is another possible route to take. In Carlo Ratti's book, Open Source Architecture, he argues that the architecture of the future will adapt to the world of free-flowing

information. Building designs will be downloadable, customisable and collaborative. Anyone will be able to modify and personalise their built environment without the conventional need for architects. Cities will become more organic and self-generating yet less regulated. As a version of Darwinian evolution, useful adaptations will catch on and prosper throughout many homes, while ineffective designs will quickly be replaced in a constant stream of natural selection. This idea is rooted in history and essentially how the residential realm was developed before the role of the modern architect became established.

We are some time away from Ratti's reality, perhaps thankfully from a practicing architects perspective. Yet there are some powerful ideas that can be taken from his message. There are many existing projects that place the role of designer within the hands of the end user and resident already. Once such project is Wikihouse, a digitally manufactured building system, where anyone can download a kit of parts, source manufacturing themselves and assemble their own structure. There are still many challenges for making this type of system appropriate for a high density urban context, but we are only at the beginning of this strand of architectural thinking.

Another intriguing low cost housing solution is the Chilean project Quinta Monroy by Elementa where half of a housing unit is provided within the plot of a full unit. This constructed half contains the kitchen and bathroom facilities. Adjoined is an equal area of negative space for future resident development. As the residents moved

in, they could take the spaces and tailor the structure to their needs, customising their space at their own expense and labour, adding colour, texture and life. Through this process not only did the dwellings grow in size and value, but the residents developed a sense of pride, ownership and belonging to their homes. Over fifteen years on from the project's completion, or half completion, each unit has developed a unique character of its own.

In a similar vein closer to home is the London based Naked house, which strives to provide high quality homes at an affordable price. Their approach is to strip back design to the bare essentials, creating homes that the end user develops and makes their own. These homes come with few finishes, fittings or partitions. The occupants create interiors suited to their needs over time but are initially provided with a genuinely affordable home with high environmental performance.

These projects give us clues of how to provide flexible housing at a large scale. Imagine a London based Quinta Monroy-esque project where future flexibility and development is systemically built in. A residential development where the service and shared areas are provided, along with a rough framework for future construction. As people move in, they can download the modular component designs they want to use to develop their own property. Possibly each of these new communities could have an onsite fabricator providing the residents modular components. The community can build itself like Lego.

So how can Project Orange play a role

in providing affordable but high quality homes to tackle the housing crisis? Perhaps we can learn from a custom build project we had an integral part to play in, which was a new residential development that gives the end resident more design customizability. Custom build is seen as one of the ways to help tackle the housing crisis, by allowing people to design and build their own homes on pre-prepared plots.

We recently collaborated with Livedin Custom Build on a housing development in Ingoldisthorpe, Norfolk. There are no completed dwellings on the site but all mains services are provided. The twelve plots have full planning for new homes, each with built-in design flexibility due to the unique planning permission providing the option to change internal layouts, even window positions and external materials. This became possible by working with the local authority to develop a design code and masterplan that satisfied the planning requirements but which gave the end user flexibility: a prompt by the Self-build and Custom Housebuilding Act 2015 in which the legislation sought to make more land available for private homebuilding.

Can these projects be part of the solution to London's housing crisis? Can Project Orange collaborate with developers and local authorities to develop London based custom build projects? This would be a highly complex strategy, but in essence it is possible to design a framework providing key pieces of infrastructure needed for a successful residential development. The next stage is to design a modular and repeatable building system that can quickly be

rolled out within the infrastructural and planning framework. It would need to be a system that can be prefabricated quickly, transported and assembled/ installed on site easily. This would then leave the majority of each individual unit's design and construction to the end user, resulting in a mass produced system of housing spreading about the city where each unit is unique and full of character. This is a highly simplified version of an idea that would be very difficult to implement within the current legislation as it would call for high levels of collaboration with local authorities. There is also the issue of liability if a portion of the design lies with the end user. Perhaps more radical legislation

needs to be in place for this to work? Possibly planned chaos in the building industry is necessary as we all need to begin designing and planning for future adaptation because the world around us is already chaotically changing. Maybe this chaos will have dramatic results for housing design; a challenge that Project Orange are ready to embrace.



[Opposite] Collage of house types
[Below] View across the green





49

-TION

JOSH PIDDOCK

“There is a need for deep and serious conversation
Before we reach a point of irreversible escalation...”



-tion "the action of (a verb)" or "the result of (a verb)"

As I wander the Mare observing the Earth's rotation
Pondering the systems bound within its gravitation
I realise the 21st century anatomy of frustration
A shared feeling of Weltschmerz towards our man-made formation

There is a need for deep and serious conversation
Before we reach a point of irreversible escalation
Division and crises stoking mutual exasperation
Manifesting itself in civil unrest, unheard protest and common sense paralysation

Since the beginning of the Industrial Revolution
Growth has been measured and greeted with adulation
Speculators focussing on an infinite upward direction
Without contemplating the capacity of a finite creation

Concerns raised and levers pulled to stop hyperinflation
Borrowing and lending fuel self-interest, entitlement and indignation
“No such thing as society” was said with exclamation
And so began the slow burn of societal passivation

The crippling fear of living standard and circular flow stagnation
Spawned the never content parasite of mass consumption
Multiplied effects of commodification, manipulation and fiscal capitalisation
All in the name of quick and easy gratification

A question has to be asked of our prioritisation
Choosing ease and bowing to the endeavours of conglomeration
Technology affords unprecedented advances in communication
At the cost of too much trust in the organisation

Money, money, money said a newcomer of Western acclimatisation
Euphemisms and disguised practices like decantation
All in the name of neighbourhood cleansing and gentrification
In public space coins required for urination - is breath the next hobby for privatisation?

Values of individuals underlie the hypocrisy of innovation
Whilst business and politics conjoin in the pursuit of self-serving personal remuneration
The 1% require moral disintermediation
Facilitated by a new measure of the means of production

Change is the currency of status quo cementation
Explained in a language of vague and popular generalisation
False promises and handouts achieve short term electoral placation
Behind the scenes lobbyists orchestrate fantastic first world corruption

Conceit, unfounded reasoning and geopolitical aspiration
Leads to military standoffs and amplification
Provocative war game simulation without vindication
Where is ever the mandate for such a situation?

The macro elevation of global climate annihilation
Acted upon as little as authoritarian regimes without care for human affliction
A blind eye is turned with silence the best form of mediation
Is this really the path forward for civilisation?

The press write anything to sell false interpretation
Condemning human actors without fair explanation
Hacking and invading privacy to obtain sensitive information
Warping and twisting the truth through linguistic ephemeralization

Internationally nations undertake refugee numeration
Framing the dialogue whichever way aids domestic reputation
The others are met with discrimination, alienation and treated like an infestation
What if it were us? Cue mental compartmentalisation

Our collective actions lead to neural network depreciation
Shaking the ground for the next form of exploitation
Alas, it's a permissible level of vibration
All hail the new Silk Road of environmental devastation

The Amazon shrinks through policies of anti-environmental conservation
Big business and its namesake watch on growing despite idling ethical intention
Wriggling through loopholes with vested interests and legal interpretation
Non sacrificial laggards in power lead us all to a Dalek-like extermination

This critique is a single composition
Outlining how much work is still required on systemisation
Exfoliation, renovation and fabrication
To make form follow function and improve iteration by iteration

There is a turning point ahead made possible by the realisation
That we need transparency, rigour and magnification
Diversify, select and amplify should be the modus de l'operation
Keeping an open mind and augmenting our post-capitalist imagination

The science is plain to see without need for long winded cogitation
Our smallest actions have an impact at every daily intersection
A mirror is needed for self cross-examination
To build a new Camino from our re-enlightened foundation

So now is time to sow the seeds of a proposition
To move away from boom and bust cycles and crenellation
To start afresh with value and attitude excavation
Building a world of sustainability and prosperity in balanced proportion

Assets and wealth not the barometer of social evaluation
Because the soul cannot be dressed in faux ornamentation
We shall strive for meritocracy within our democratic representation
Giving opportunity and equality to the population

Past ideas can be revisited with technological alteration
Utilising the power and benefits of noble computation
Tackling the greatest challenges with systems thinking and automation
To heighten accountability and streamline complex murmuration

Attitudes can change to heal the divided nation
Otherwise we face erosion of tradition, self-partition and cultural deterioration
A requirement for dialogue and grassroots leadership with mass mobilisation
Not simply rhetoric, preaching and unthought through declaration

Individuals will consider their action's resource use and deforestation
Mitigating pollution and encouraging pollination
A dual effort of demand and supply in collaborative adaptation
Searching deeper and deeper in an effort to achieve decarbonisation

Industry can turn a problem into a liberally devised solution
A new catalyst for a positive outlook and motivation
Protecting socially valuable assets through forced liquidity coagulation Simultaneously reworking the
framework for value redistribution

Shifting our approach towards fairer taxation
And concurrently rebuilding social contracts with algorithm derived mediation
Can level the playing field of inequality ramification
To turn around the obvious socio-economic class stratification

Our problems are not solely caused by globalisation
Problem after problem blamed on inward migration
Stifle the ignorance using data driven matematikoi to tackle misinformation
Use the truth to highlight rhetoric fenestration

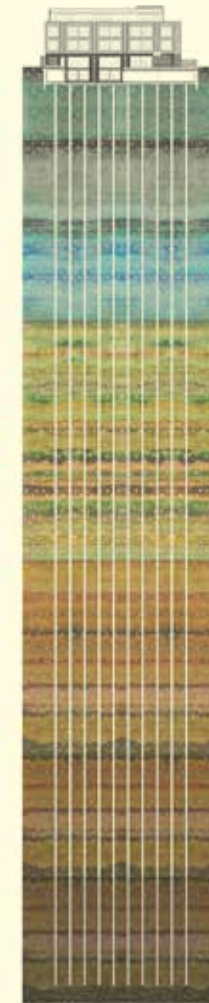
We should look at others with admiration
Respecting rights to opinions and upping our own toleration
Tailoring our behaviour to be open minded and show appreciation
Endeavouring to achieve harmony and unilateral emancipation

News outlets will govern themselves akin to a public benefit corporation
Reducing the focus on negativity, division and cheap fornication
Otherwise they should be treated with greater unilateral condemnation
Boycott all that promote baleful publication

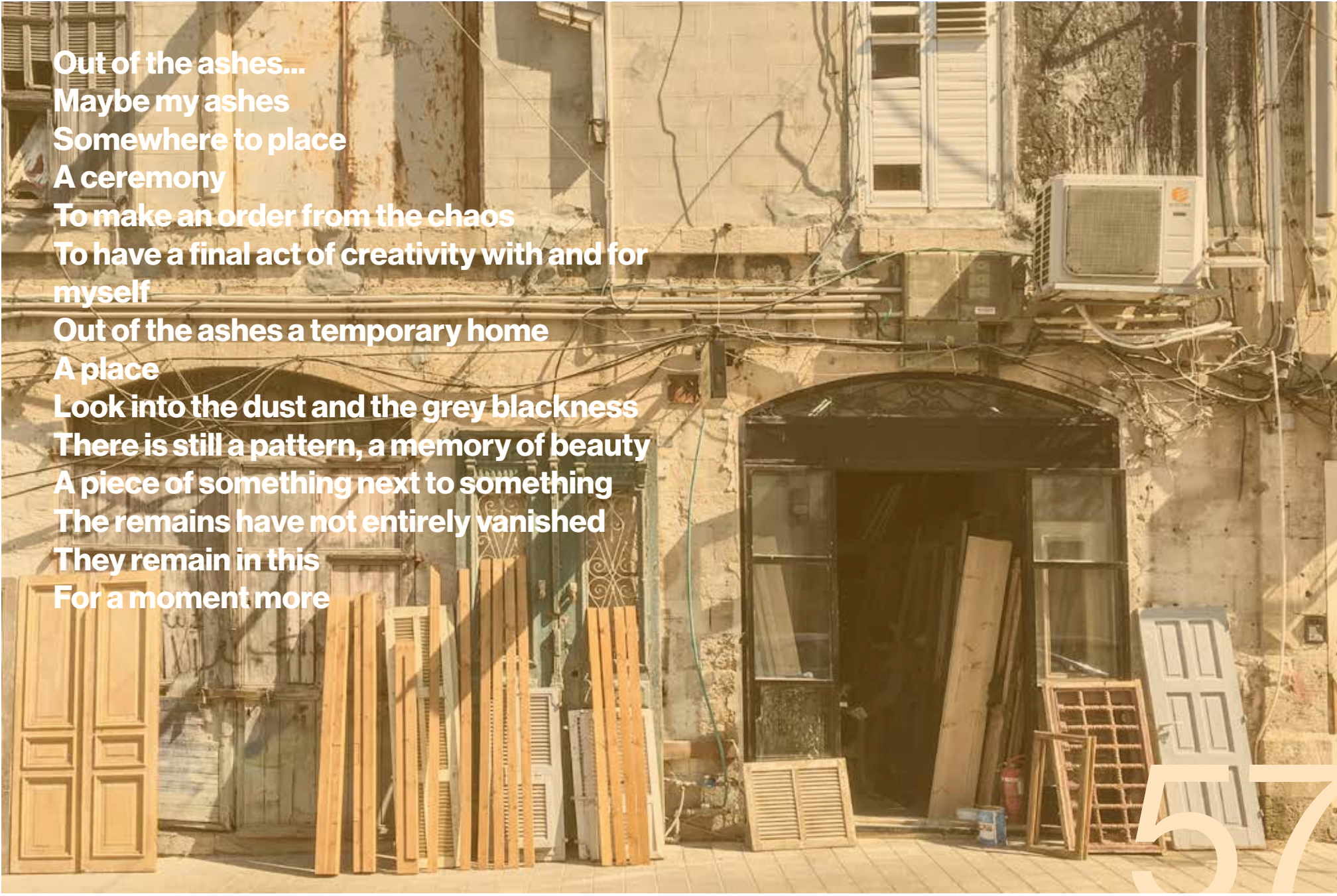
Reward progressive influencers with the highest commendation
Tuning bold mindsets to encourage our single planetary obligation
Correct string-puller behaviour with divestment and financial gestation
Fight fire with fire and win via amalgamation

Practice to design and consume with conscience and avoid temptation
Balance quality and longevity using our own discretion
Reject disposability and adapt methods to beat the enemy with attrition
Be the demand to put down roots and encourage community reunification

This is an open invitation for critical reflection
A challenge of the zeitgeist to catalyse a new construction
A call to use twenty first century energy on starvation, mutilation and greed eradication
To impact our home for the better and ensure climate stabalisation



Project Orange's room2
Chiswick project features a
200m deep ground source
heat pump system in lieu of
traditional resource intensive
heating systems in order to
decarbonise the building



Out of the ashes...
Maybe my ashes
Somewhere to place
A ceremony
To make an order from the chaos
To have a final act of creativity with and for
myself
Out of the ashes a temporary home
A place
Look into the dust and the grey blackness
There is still a pattern, a memory of beauty
A piece of something next to something
The remains have not entirely vanished
They remain in this
For a moment more

“Often architects set their goal to design and build the ultimate picture-book building, as our collective perceived value is reduced to the creation of merely aesthetic considerations.”

THE VALUE OF LEGACY

ALEX ANTONIOU

Architecture should be about legacy; architecture's legacy, not the architect's legacy. The distinction is important. This is not about leaving behind marks of one's presence on Earth as monuments to mortality. This is about passing on valuable places with longevity, to be used again and again without diminishing: a transformation of invaluable space to one that is enduringly valuable. Architecture can perform this role in the built environment.

Often architects set their goal to design and build the ultimate picture-book building, as our collective perceived value is reduced to the creation of merely aesthetic considerations. Is this really all the profession can offer? We are doomed to failure if we consider our role in such a limiting and isolated fashion. It is time to reassess the meaning of value.

What is value, really?

Value is a word, like architecture, that can morph to take multiple connotations depending on the context. Fundamentally, value is a transferable benefit offered by one body to another. Importantly, this benefit can manifest immediately or over time. Hence, a critical factor of inherited value is time itself. In addition, there needs to be a donor and a receiver. There are multiple combinations of parties that can take the form of donor and receiver in the creation of place. Consider the simplest of these relationships; a client as the primary donor and the user as the primary receiver. It is therefore possible to achieve a transfer of benefits from a client body to a user through the creation of a place. Some

value is created through the supply of a space that was not there before as a response to the user's demand. There are benefits to the users, passers-by (or bystanders) who can now inhabit the place, as well as a direct impact on the environment.

But what additional value can architects offer? Architects were once considered master builders, experts of design, with technical prowess and agency on the construction site. They had knowledge on every aspect of the building; a figure of authority. This was understood as their value. This role however has had to adapt. In a world where feudalism has been overtaken by free markets and access to higher levels of education has increased, the architect's role has also transformed, reflected by their diminishing on-site presence.

Today, architects primarily bring qualitative and spatial considerations to a project. It differentiates architects from project managers, contract administrators and building contractors, though of course there are aspects of the above roles the architect can perform. What architects possess more than any member of the construction team is an ability to materialise abstract elements and ideas, enhancing the experience and use of a space, be it a programme that is being designed for now or one which may develop in the future. Through manipulating colour, materials, light and shade, movement and sound into three-dimensional space the user experience is enhanced. Thoughtful design can bring atmosphere and emotion to the spatial realm. It follows that it is important to predict how a building's use will change or develop over time and to consider this change



Duncan Terrace

and adaptability as part of the design process. This is why place and places are valuable; they are adaptable, enduring and perennial reflecting their changeable societal context. Architecture has the power to modify in parallel and it is the challenge of designing adaptable and enduring outcomes that architects need to embrace.

Designing value with legacy

Since place is considered a reflection of context, value is also a mirror of the societal context; it can also evolve over time. How is this manifest in an actual project and what else could affect an appreciation of value? Two recent projects reveal how the studio has attempted to broaden the opportunity

to create value. The first is found in a small private renovation for a London couple, while a far larger project involves the development of the interior design for a large residential development.

Duncan Terrace, Angel, London

As a five storey Georgian terraced house in the conservative Borough of Islington, the design possibilities of this house were quite restrictive. Soon after purchase, the owners of this listed building wished to renovate aspects of the house, represent their own personal style and update the supply of services and network connections which were outdated and problematic. Project Orange were commissioned to design and detail the proposal, while

administering the contract with a main contractor.

We proposed a number of design options to maximise the potential of the site. The existing closet wing of the house was in a very poor condition and offered little useable accommodation. By rebuilding an enlarged extension, the space it now occupied was more useful, giving the house a new 'pottering room', removing garden clutter and providing the users a new activity area. In addition, it gave extra space to heating and water equipment, removing these from inside the house. As the garden was long and had plenty of space for seating, the area created adjacent to the closet wing was enclosed and inhabited with a new, top-lit reading room which was immediately more connected to the outside. The open plan kitchen-come-dining room was renovated using materials which brightened the room, while replacing the existing poor concrete slab with a breathable, more environmentally friendly limecrete floor. This allowed the room to naturally regulate raising damp, protecting the walls from water ingress without the excessive use of extractor fans. The ground floor level of the extension now housed a new laundry area, removing the clutter and the noise of the washing machine from the main house. Above, all the rooms were re-wired and re-plumbed, replacing outdated gravity fed water systems and potentially dangerous wiring thus extending the building's lifespan. Such painstaking work is valued not only by the current occupants but ensures the fabric of the home is fit for purpose for another hundred years.

Triangle, King's Cross

The studio is also involved in one of the development zones forming the redevelopment of the former good yard behind King's Cross station. "Triangle", as it has been named, is a residential development which includes a variety of apartments, communal resident spaces and public areas. Split into three blocks, there is a mix of facilities including studios through to three bedroom apartments, a public gym, creche, retail facilities and a public garden. As part of the design team, Project Orange has worked on the design for the residential apartments, as well as the ground floor shared area accessed via a communal garden.

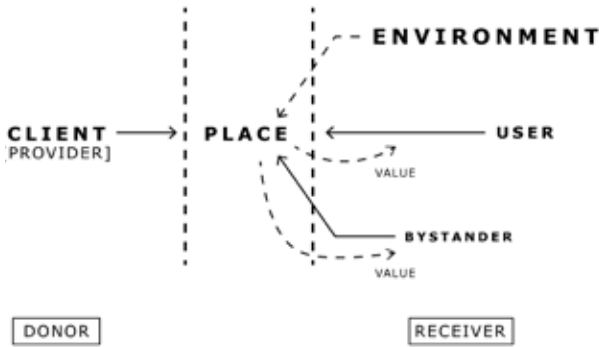
The scheme has developed a site that was largely inaccessible and under-used to create a new place. Internally the concept brings the natural world into the building, offering users and inhabitants a calming environment. The design offers a variety of spaces for working, lounging and playing with resilience and adaptability in mind. Materials were selected for being durable and easy to maintain, extending their lifespan. Specifying natural materials for furnishings has also resulted in a reduction in the use of plastic-based products. Recycled carpets and reclaimed timber paneling reduce the environmental impact and finishes with low VOC emissions are chosen to limit the impact on the planet's ozone layer. Energy-efficient appliances save both power and water consumption. Joinery is mechanically fixed to avoid excessive use of glues or harmful adhesives to allow for easy disassembly in future. These are a selection of design decisions that transfer value to the client, the users

and the environment. As part of the client's management team we ensured that the construction team were able to deliver a project true to the original design and of a high standard.

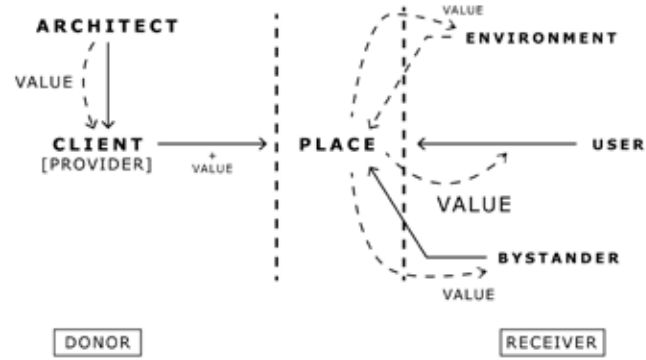
Transferable Values

All value added is time-reliant. The impact on the environment is not one just felt now, but very much in the future. How buildings and spaces age is one that only becomes visible in the future, making durability and adaptability key design factors. Value is not just momentary and transferred to only one party. The architect's goal is to offer value which is maintained or grows over time, and not one that diminishes. In other words, a legacy of value. Architects need to be vigilant, engaged and vocal, remaining aware, accountable and responsible to the wider eco-system. It is essential that all architects consider how they can offer this value to all their buildings' future users. The built environment occupies three-dimensional space and hence exerts an influence on clients, users, bystanders and (most poignantly) the environment. A value legacy is what helps us assess the impact of a project and place. With the environment now in crisis, it is critical to act as its representative. User well-being, space adaptability and the impact on the city are equally important in re-tuning the architect's role.

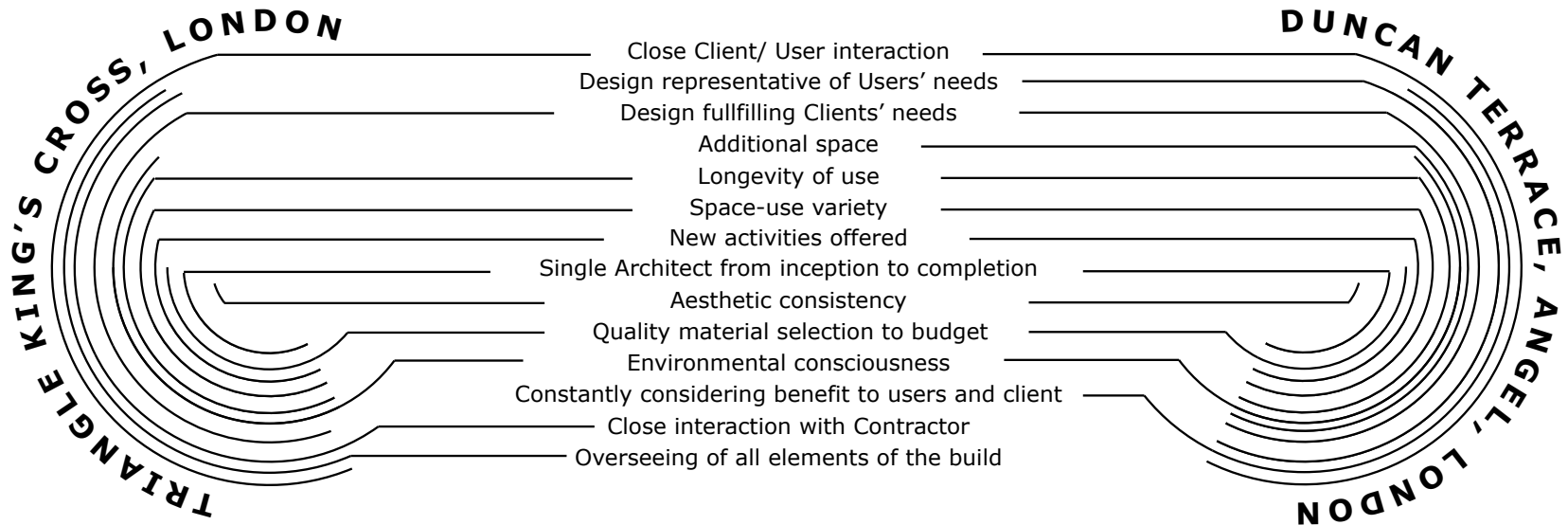
Right
Shared project values

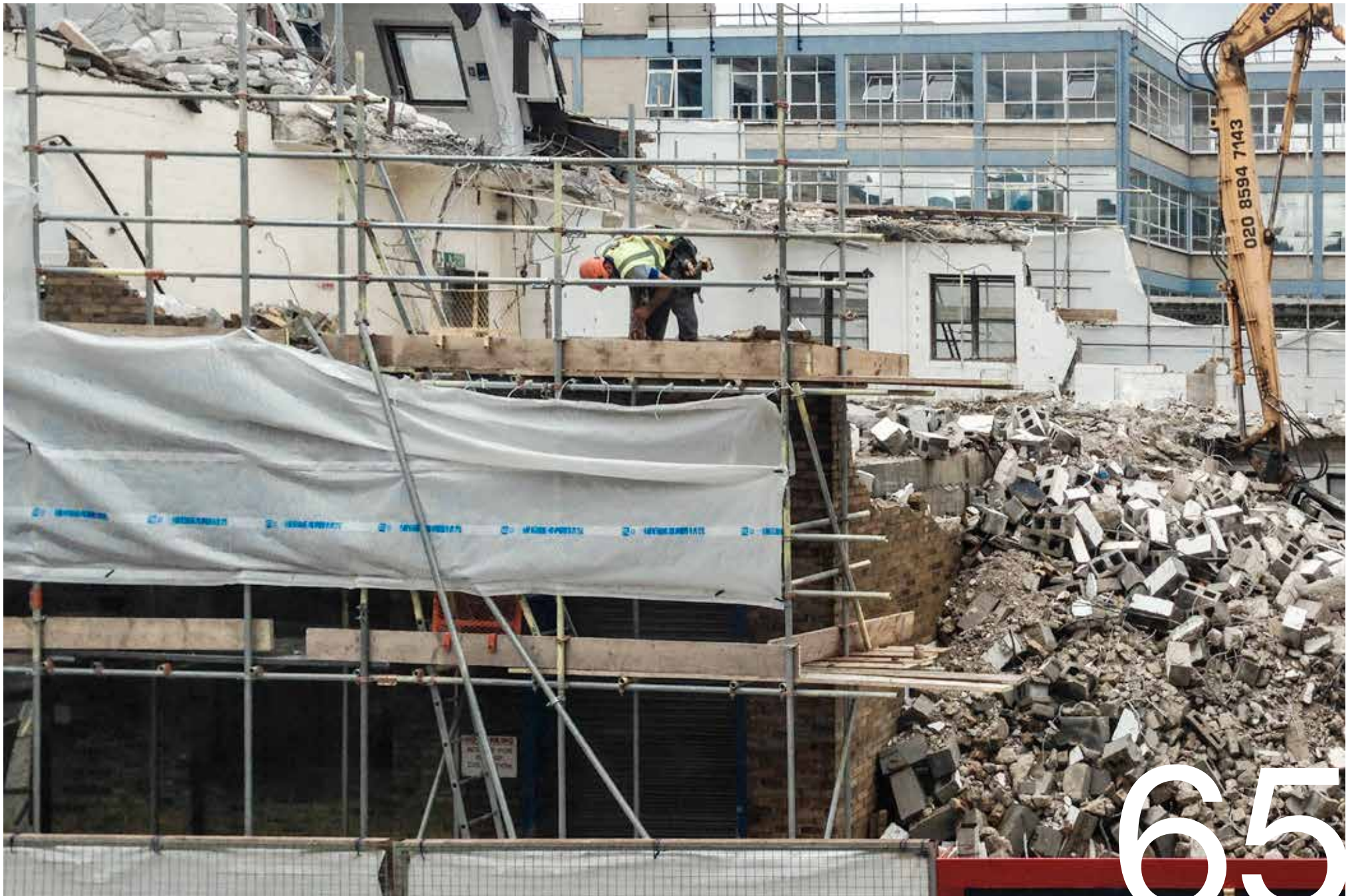


Traditional doner-reciever relationship diagram

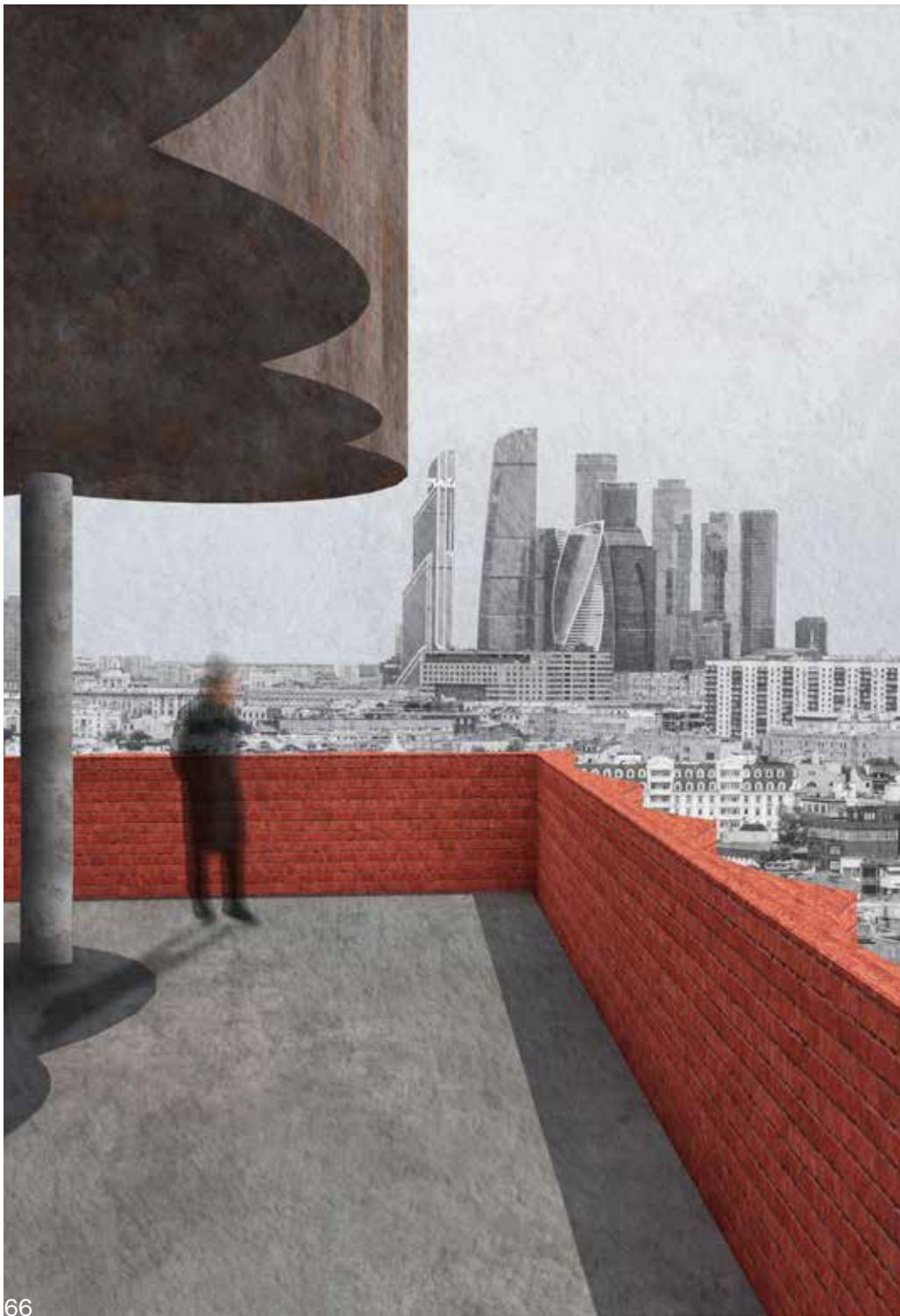


Architect-doner-reciever relationship diagram showing added value





ONE STEP BEYOND



FRASER MORRISON

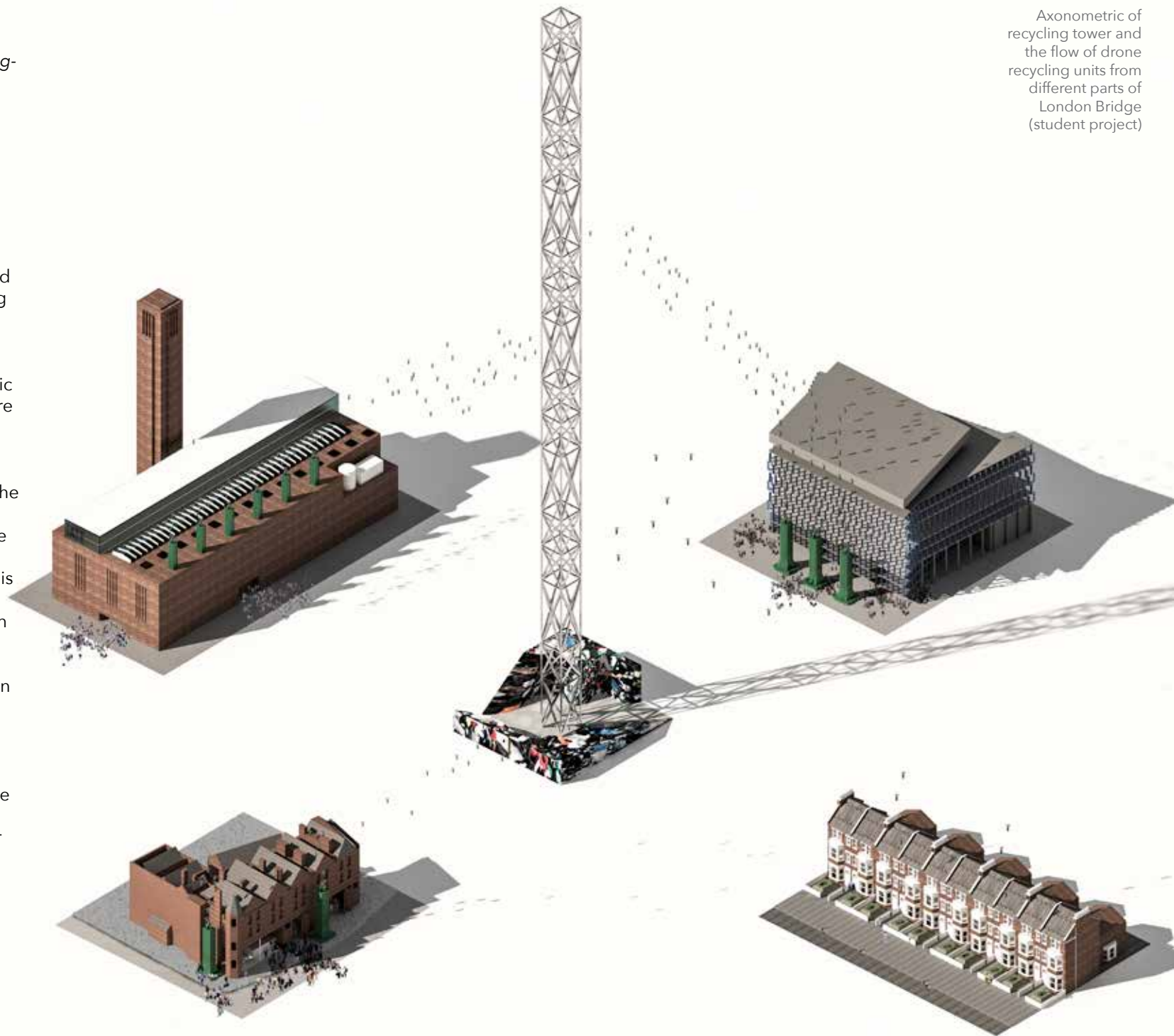
“Even the most lauded engineering masterpieces with natural ventilation and solar panels galore are really just damage control, attempts to do the least harm.”

sus-tain-a-ble adj.

1. Capable of being sustained
2. Capable of being continued with minimal long-term effect on the environment

I joined Project Orange from the upstart architecture school clan named, suitably, The London School of Architecture (LSA). The LSA was set up in 2016 by a group of London practitioners (James Soane, director at Project Orange, included) and headed by Will Hunter, a previous editor at the Architects' Journal. It aims to resist the increasingly self-referential and closed world of architectural pedagogy, moving away from the fantasy worlds of postmodern 'flesh factories on the moon', and refocusing an approach to the job of creating alternative architecture within the neoliberal socioeconomic context we find ourselves in today. My time there was a drastic relearning of imagination and retraining of the mind, to find wonder in radical policy rather than outlandish briefs. Where the LSA had first seemed an outrageous affront to the norms of the architectural world, my reflection after two years is that it was, in fact, an inevitable response. This is not to say that the founding faculty of the LSA coming together to deliver this vision was inevitable, but as the years of paper architecture projects dragged on and education has become increasingly divorced from the reality of a profession marginalised by contract law, something was bound to change. Education has grown unsustainable. Since the LSA's founding, its ideology of connecting academia and practice appears to have found traction in other universities across the UK and beyond. There will be some late adopters, schools whose image is so tied to the old approach that to change would mean to lose, but sooner or later change will come to them too.

Post graduation, my peers and I have moved from being in competition with one another to applying and interviewing as each of us vied for our dream jobs. Some returned to re-live



Axonometric of recycling tower and the flow of drone recycling units from different parts of London Bridge (student project)



Recycled goods distribution level
(student project)

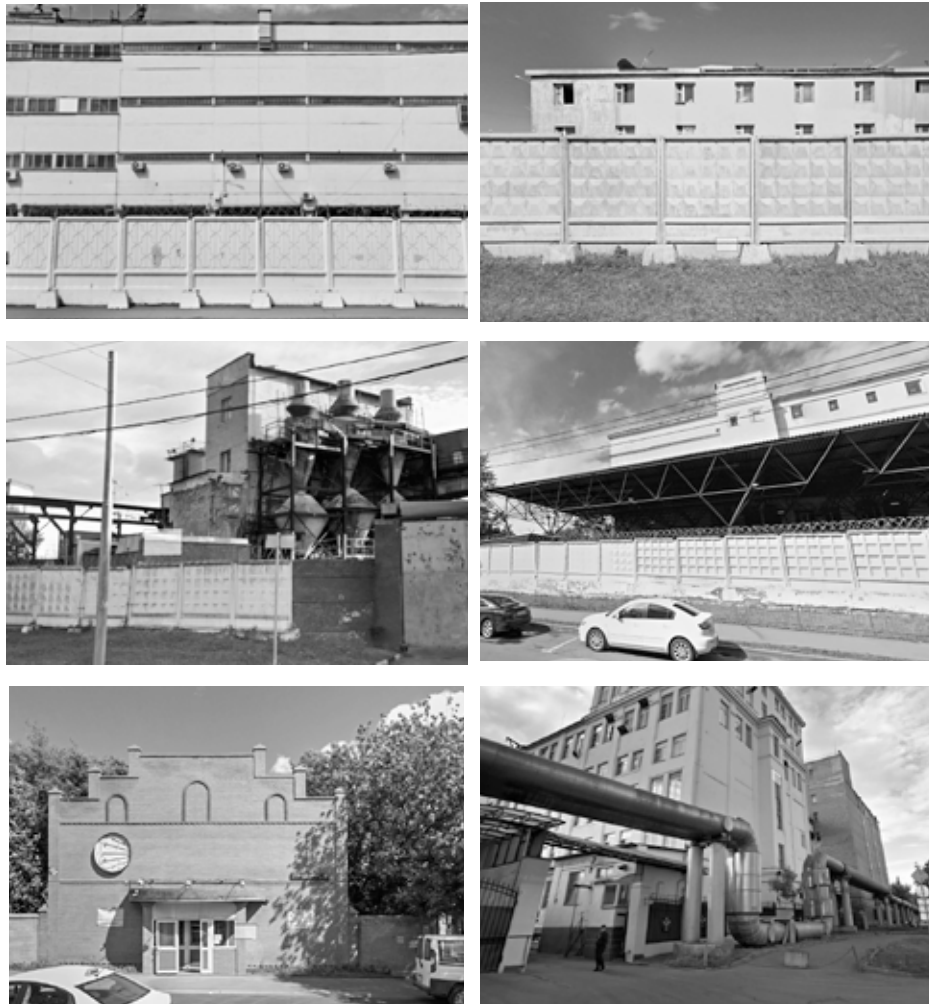
fruitful experiences at past practices, others onto big-name architects, and I to Project Orange. As the studio has a direct connection to the LSA I was keen to see what I could bring from my experience of the school to the practice. My thesis project, 'A Rubbish Tower', proposed a totemic super-tall recycling tower at the nucleus of London Bridge. Acting as a vertical collection site as well as a hybrid factory remaking and repairing materials, the tower was born out of our wasteful, unsustainable present. Inhabited by machines, the autonomous tower orchestrates a sea of drone bin-carriers as they collect millions of tonnes of waste from the city. The Rubbish Tower is a beacon within the city, existing to purge our waste. It alters our relationship with the things we produce and represents a new form of optimistic infrastructure for an environmentally conscious society of the future.

Despite being conceived from concerns surrounding sustainability it was late in the design process before this premise was thoroughly interrogated. Why would anyone build something so material-intensive that could never be changed and would likely be outdated within five years as technology inevitably progressed? The design of the architecture became the design of a life cycle rather than form; a system invented with its own demise in mind. No longer was it a pure, unadorned structure that would recycle our waste ad infinitum; the design acknowledged its eventual passing, ceasing to exist once it had purged the city of waste. The cycle of birth and death within a building, with its impact imagined as a complete loop, begins to dig deeply into the question of sustainability. Can a cyclical architecture

be sustained? Will the impact of its life ever truly net-zero?

The answer to my paper project is 'maybe' but the process of asking that question reframed much of the so-called 'eco' architecture of the last 40 years. Even the most lauded engineering masterpieces with natural ventilation and solar panels galore are really just damage control, last-ditch attempts to do the least harm. As the LSA seeks to challenge paper architecture in favour of real and tangible change, this too could be said about the age-old dogmas of our heavily polluting society. Previous generations have had their fun; enjoying driving, jet setting and, let's not forget, exploiting the huge abundance of fossil fuel resources which has yielded vast fortunes to keep them comfortable into old age. But now it's our turn to enact change. Yet while paper architecture can literally be thrown in the bin (sorry Archigram), the task of dealing with the environmental disaster left before us is less concrete. Read any book about sustainability, the climate crisis, or whatever new phrase is being concocted to encapsulate how broken the planet is, and the conclusions tend to be ambiguous at best or doomsday at the very worst. I understand that PO Box could potentially fall down at this point, but it has to start somewhere, and in my short period at the practice so far it is promising that changes are being made and difficult conversations are being had, that could have real long-term benefits and enable change.

My first assignment at Project Orange was to propose a tower in Moscow. It was clear professional life had begun: bye-bye to fictitious clients and



Moscow site views
from Google Maps

scenarios, let's build a tower in Russia! Here was an opportunity to design a building from the very first concept and to bake sustainability into its very being. Located in a heavily industrial area just a short drive from the business district and the Kremlin, the site sits at the end of the new motorway in the area. Comprised of predominantly manufacturing and distribution warehouses, the environment is particularly horizontal and therefore contextually challenging for the placement of a 20 storey tower.

Why should it not just match its surroundings and be a five-storey tin shed or an inhabitable series of pipes linked to the street infrastructure? The excitement of designing in a context as alien as this is challenged as we learn that there is already an outline design for a concrete slab tower covered in glass. The site diagram had already been monetised in the most efficient manner, with a triple-level parking garage which defines the entirety of the structural grid above ground; less a grid, more dot-to-dot. We were presented with three basic options to work with for the concept design. We could propose something in glass, composite panel, or clinker brick. Immediately the efficiency and durability of the glass and composite options are questioned and quickly discarded. We decide instead to design three options exploring the potential of brick and how we could use it to create a building that is meant to last, unlike the surrounding tins sheds.

Lingering in the back of our minds was the question of how to introduce sustainable credentials to such a building. We had already been given the footprint with its multi-level parking.

How were we going to develop an ounce of sustainability in this building? It began with a list - not a long one, more like a Christmas list - with the one thing you really, really want in big letters at the top, and everything else ranked accordingly: sustainability, high-quality materials, natural ventilation, power re-use systems, water collection and recycling, ground source heat pumps, solar shading.

In developing a critical sustainable agenda for the project, our gauge was set by the criteria that have become so entrenched in our design culture. It then became a question of whether we were going far enough and how do we have this conversation with our client? Russia may have signed the 2016 Paris Agreement, but on discussing the project locally it became clear there were different interpretations as to what this meant. Our check-list received ticks for; natural ventilation, ground source heat pumps, water collection and façade materials. Yet the term 'sustainability' was seen as problematic.

We, therefore, substituted the word sustainable in favour of 'longevity', making the case for better materials to decrease overall maintenance costs, finding other cost benefits to offset the larger upfront costs of the additional systems. With our own metrics for what sustainable is and should be, it became apparent that we needed to sneak in as much as we could in order to recalibrate the project. In other words, adopting the Trojan Horse model. Throughout the design process, I returned to the definition of sustainable and came to terms with the fact that there is no absolute interpretation, and that the honest position is not to build at all. That said, the arguments

presented managed to offer previously unimagined possibilities. The most 'sustainable' solution would have kept the building on the site and found a way to utilise it or recycle it. The materials would all need to be sourced as locally as possible or pre-fabricated from suppliers with impeccable credentials and the embodied carbon in every component would be calculated taking into account where it was removed from the ground or manufactured, all the way to the end of its life cycle to understand the impact on the environment.

But there is no such thing as a net-zero building. Even if there was, you'd have to use your imagination to truly define it as such because as soon as you manufacture, dig-up, or move anything, you've changed the material state of that situation and thus altered the environment in which it has grown and sustained itself.

Significantly the client agreed to the use of locally-sourced brick along with our servicing strategy. The preferred option employed a form of scalloped facade to lessen the need for additional shading devices, louvres, etc. With openable windows the building becomes breathable and the two cores coupled with the shallow plan allow for passive cooling throughout the summer months. The proposal differentiates the top portion of the building which steps back to allow for a generous rooftop space and lowers the overall material use of the project. Lastly, the use of brick creates a facade capable of dealing with the hugely varied climate and could eventually be reused elsewhere.

From my time at the LSA it became clear that sustainable design is about your own ideals and how you apply those ideals through critical reflection and everyday decision making. Whilst the school encourages this at the initial stages I became one of a small group of people exploring this in detail for my thesis and so even in a new school of Architecture, there is still much to be done to embrace the environmental constraints we find ourselves in. Returning to the Moscow project, it has become evident that the only way to successfully create a building that benefits the environment, is to bake in sustainable principles from the very beginning. Whilst the brief for the project in Moscow was never envisioned as an environmentally friendly icon, reflecting on what we have learned from that process has given us the tools to discuss these vital questions with clients in a different way. It is clear that we need to develop a new form of dialogue to effectively convince developers that this is a vital consideration for all projects and that these strategies need not be expensive and will save money in the long run.

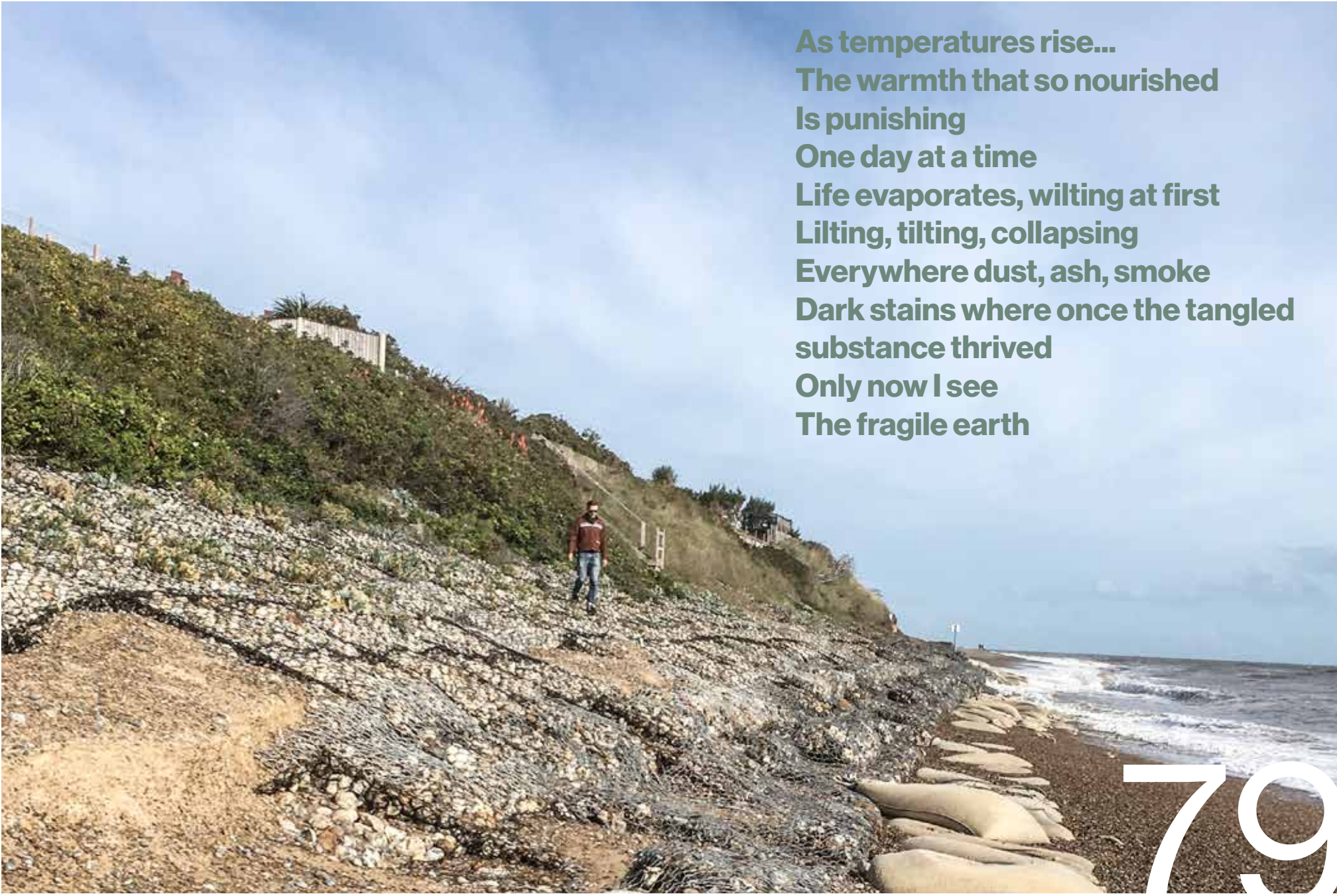
At Project Orange we understand sustainability should not be a pre-determined metric, but more a sliding scale. As we discuss these issues more frequently and implement strategies to deliver environmentally positive buildings, it has become a question of how far we are able to push to achieve this goal. I am confident we will.



Moscow tower
Environmental diagram



Night view
Three brick options

A photograph of a coastal cliff. A person in a red jacket and blue jeans is walking on a rocky, uneven path that runs along the base of the cliff. The cliff face is covered in green vegetation and exposed rock. The ocean is visible in the background with waves breaking on a dark beach. The sky is blue with some clouds.

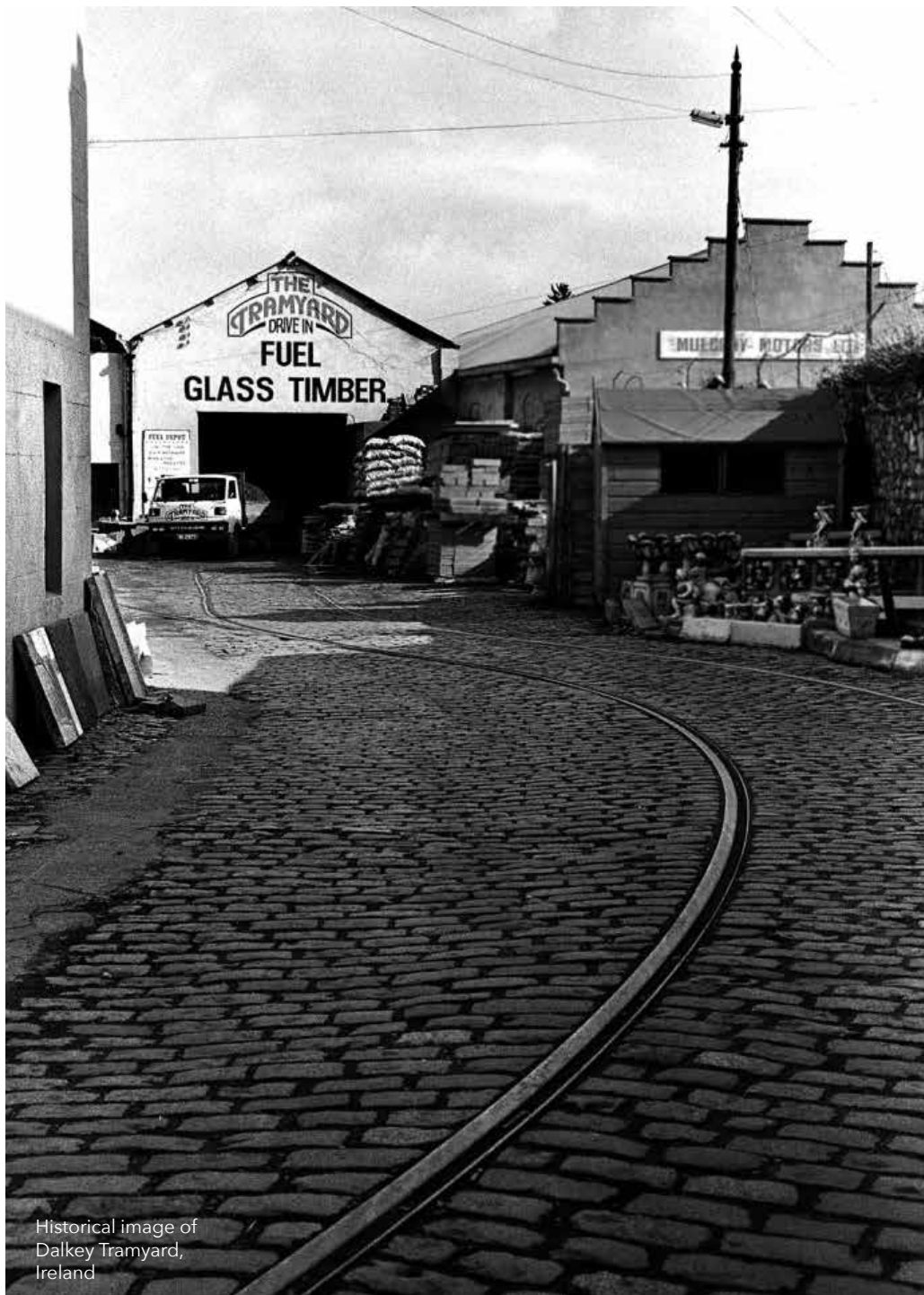
**As temperatures rise...
The warmth that so nourished
Is punishing
One day at a time
Life evaporates, wilting at first
Lilting, tilting, collapsing
Everywhere dust, ash, smoke
Dark stains where once the tangled
substance thrived
Only now I see
The fragile earth**

CLIMATE CRISIS AND THE CRISIS OF CONSCIENCE

“Architects in particular carry considerable responsibility as agents of the construction industry. The construction, operation and maintenance of the built environment accounts for 45% of total UK carbon emissions.”

CHRISTOPHER ASH





Historical image of
Dalkey Tramyard,
Ireland

To the economically engaged consumer and socially aware citizen the climate crisis can be a source of personal conflict. Every purchase made and choice taken requires the tempering of desire with conscience if a model of ethical and sustainable consumption is to evolve. So much easier would it be however to abdicate such individual responsibility and turn a blind eye to the inconvenient truths regarding our actions and their consequences. The problem is not one for the individual, but one for the state, for the politicians, for governments, we tell ourselves. Yet whilst this machinery of state has failed us, we cannot just lay the blame on others. We are all culpable. It is said that, in a democracy at least, we get the politicians we deserve and it follows that if the state fails we have failed ourselves. As individuals we can no longer hide behind excuses, we have to take responsibility, we have to act and swallow the fact that we are not always going to like it.

In considering the role of the architect and how this might change in the context of the climate emergency it is easy to be overwhelmed by the enormity of the problem. What can you do? What difference will it realistically make? A sense of futility can prevail in the face of so vast and seemingly intractable a crisis and be invoked as a pretext for maintaining a position of blind-eye 'business as usual'. If we are unable to effect change then just flow with the status quo.

Architects in particular carry considerable responsibility as agents of the construction industry. The construction, operation and maintenance of the built environment

accounts for 45% of total UK carbon emissions. The UK Green Building Council says that around 10% of the UK's carbon dioxide emissions are directly associated with construction. This is where things get tricky. As an architect it is natural for primary preoccupations to be qualitative - spatial, material and aesthetic. So long as timber is FSC certified and Building Regulations are met the conscience is clear. After all, it is the State's responsibility to legislate through such instruments to meet its climate change obligations. However, this clearly is not enough and in the absence of a sufficiently rigorous legislative framework, a large part of the sustainable agenda remains elective rather than compulsory and a challenge therefore to the individual conscience.

The first and most fundamental question we need to ask ourselves when reviewing a new project is should we be building at all? Is it the right thing in the right place, is it a responsible use of that most finite resource, land? Can we respect the aspirations of the client and collaborate in the creation of a socially and environmentally responsible project that also meets the commercial imperatives of the brief? Difficult questions indeed when the answers prove uncomfortable and the principled position might be to refuse the commission. In such a situation, have we the courage to eschew the expedient defence that, where we may decline, others will doubtless accept and that therefore better we do what we can? Better to bring our conscience to bare in improving the outcome than leave it to chance in the hands of the unscrupulous?

This is the first and most significant

of the tumbling series of questions to be asked and decisions to be taken at every step of a project that transcend the traditional core preoccupations of the architect. The challenge becomes one of developing a quasi-algorithmic process which can be embedded in the design methodology of the studio. This sees a progression from macro to micro, from concept to detail through a staged checklist designed to assess the holistic sustainability of a project. From prioritising brown field sites over previously undeveloped land and promoting creative re-use, adaptation and extension over wholesale redevelopment, through exploring passive environmental control and minimal energy consumption and down to assessing the embodied energy and recyclability of a door handle, sustainability needs to be brought to the top of the agenda.

We must also be designing for resilience in both our existing and new build environments. Where new technologies and approaches can effect a reduction in the CO2 emissions there remains nevertheless a net positive contribution to greenhouse gases in all but the most exceptional cases. With the growing consensus that tipping points may already have been reached and consequential climate change an inevitability, there is pressing need to address the impacts of heat, drought, flood and population displacement and migration that lie ahead.

Project Orange is unusual for a small studio in the diversity of its work. With a portfolio spanning houses and housing, interior design, community led co-design, hotels, restaurants and mixed-use redevelopments we

are adept at turning our hand with a proactive optimism that sees every project as an opportunity, but one in which the environmental agenda has rarely been front and foremost. We have now therefore made a shift in this position that sees the dial on our ethical filter turned up from low to high, a shift however that is not without risk to this established and, to date, successful business model.

The practice of architecture is, except for a privileged minority, a commercial endeavour. Work must be won in an extremely competitive market place, to earn the fees and sustain the business which supports the team generating the creative and professional output. Architectural firms are no less beholden to the holy grail of growth than the architects of our capitalist economies, a frequent question on meeting other practitioners: "How many are you now?" carrying the subtext that bigger is always better. We are service providers, cogs in a bigger machine and beholden to our clients in the market economy of supply and demand development. The inertia within this system is immense and resistant to change but there is no excuse for failing to try. The innovators that have gone before us - other architects, scientists and engineers - have pioneered new ways of thinking and building and it is incumbent on us to follow. The wealth of data on the sustainability of materials and technologies is vast and ever expanding, a resource that renders ignorance inexcusable. We must answer the call to arms.

In the aforementioned context where many sustainable strategies remain optional rather than mandatory this



Elevations of
Dalkey proposal

shift to a more overtly ethical and environmentally responsible position may however be a challenge to the resilience of our own model. As we commence this process to reframe our practice and find markets attuned to this new position it will engender a period of de-growth, a concept that re-frames the process of becoming smaller as a positive response.

The first steps have been taken. Whereas a series of previous schemes by reputable architects had proposed the wholesale redevelopment of an old tram yard in Dublin into a mixed-use enclave of restaurants and shops, it was the emphasis placed by Project Orange on the creative reuse and adaptation

of the existing buildings, sustainability and the support of community functions that secured the commission. Having set out our stall at the inception of the project, it now seems natural and, more significantly expected, as the design develops, that we should champion sustainability at every turn.

This is the beginning of a journey where the destination is in clear sight. We remain under no illusion that getting there will be easy and that there will be detours along the way. We are however of the conviction that it is the only way to go.

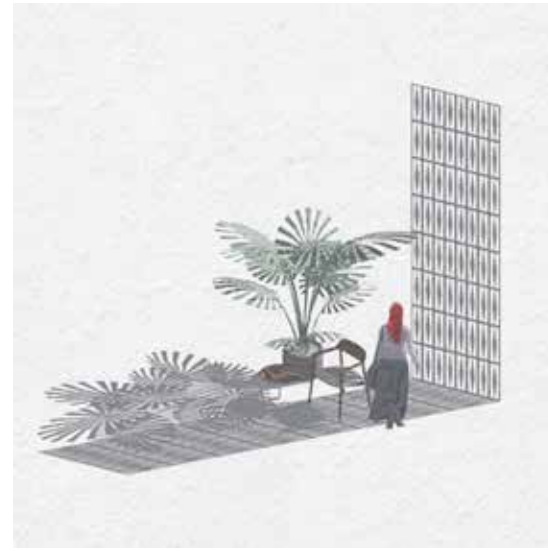


View of Tramyard,
Dalkey

PROJECT MOSS



ACCOMMODATING THE EARTH THE PARK PUNE EVA KERR



(Left) Early screen pattern tests
(Below) Hotel entrance

This hotel project aims to be at one with its physical and cultural context. Known as the 'Oxford of the East', the city of Pune has a rich legacy in education. As the cultural capital of Maharashtra, the city has always had an intrinsic connection with theatre, music, arts and literature and been a centre of learning and research in all fields. The Park Pune is a new cultural landmark that promotes well-being, exchange and an engaging guest experience.

The design of the hotel reflects an ethos that respects the earth using crafted materials and local traditions to create an ambience that is thoughtful and inspiring. It is born of India and welcomes the world in. The power of place is felt within all areas of the hotel, along with a feeling of 'made to last'. The value of local natural materials and know-how are contained within the very walls. We are inviting the Earth to stay.











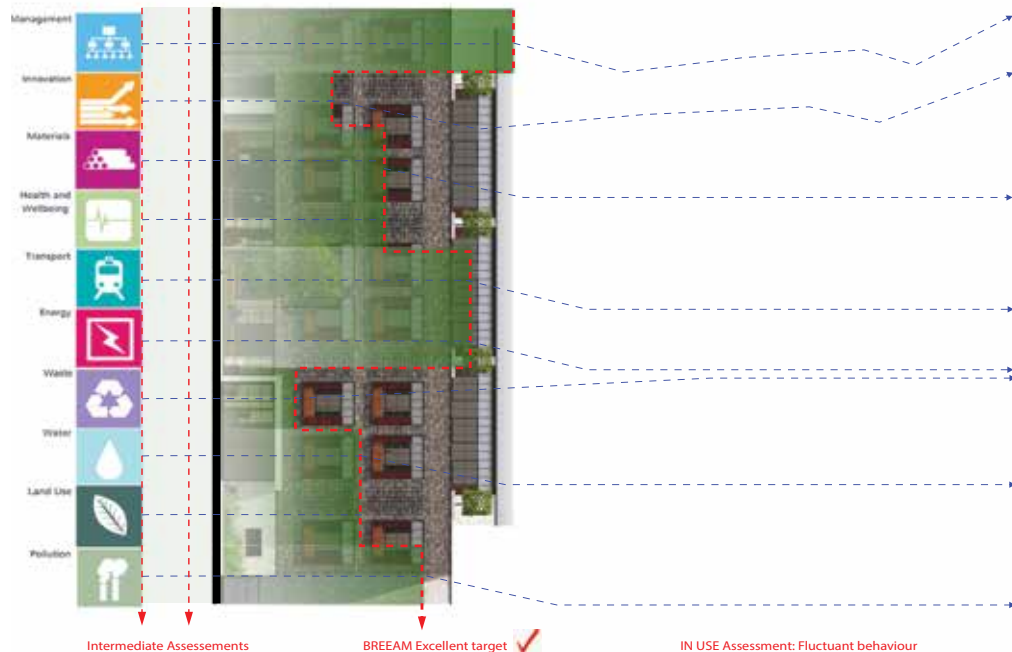
The Going...

I leave my sword outside, with the others in
the dark, and step inside
Here, alongside, a learning, a leaning an
altogether
Facing up, facing in, face to face, faceless

In meditation and makings I am undone,
redone, remade
Woven into a bright golden precious stitch
Visible as the stars in the tapestry of time
Never again can this moment be caught
To be remembered with care, with love

I step outside into hot sun and
pick up my shield

BREEAM IS NOT A WASTE OF TIME!



IRINA DUMITRESCU

Responsible sourcing in construction starts with design. As lead designers, Project Orange have the opportunity to take a sound approach to sustainable procurement, based on fairness, openness and transparency, non-discrimination and competition; essentially advocating for an ethical approach across the board. It is equally a risk/opportunity assessment type, looking to identify impact and solutions at all stages of products and their life cycle.

For a hotel building, a building typology that produces so much waste as part of day-to-day operations once construction works are complete, the most important assessment applies from the 'in use' life stage. Considering that a BREEAM assessment is based on a pick and choose system from a comprehensive list of criteria, with each criteria valuing very few credits when compared to the sum of credits that are required to achieve a specific rating. This is particularly relevant for the 'Lifecycle costing' criterion that can only score up to 4 credits out of 70 if aiming for a BREEAM 'Excellent' target rating.

Therefore, what BREEAM criteria are important not to ignore or value engineer when assessing a hotel to ensure the building is as efficient as possible in-use?

Early Design Assessment

BREEAM is one of the UK's most commonly used third party certifications providing a comprehensive set of tools assessing a building's performance from an environmental, social and

economic perspective. The assessment involves a comprehensive list of criteria that can be selected in order to obtain a designated targeted score.

Room 2 is a new build 86 room apart-hotel in Chiswick, London that Project Orange has been appointed to work on from concept through to completion. The BREEAM assessment implied a pre-assessment during stage 0 that set the overall BREEAM target for all work stages of 77%, achieving the 'Excellent' rating, whilst allowing for a 5% buffer. The Room 2 pre-assessment process avoided targeting credits that felt at this stage unachievable due to either incomplete specification of products at that point in time, irrelevant credits for the building programme or those that were simply difficult to achieve a specific target for. However, the assessment did consider key items that felt relevant for the project at that time, such as energy, water, waste, materials noise, air quality and emissions; criteria relevant for a hotel operation.

A waste producing building

A hotel is a 24-hour operational building, producing waste through the nature of the building itself. Given that 75% of hotels environmental impacts can be directly related to excessive consumption, including water and energy and that by 2030, the world could face a 40% global demand and supply gap of accessible, reliable water supply for commercial development (Modern Hotel Operations book, Michael Chibili, Shane de Bruyn), an alarm should

be raised when specifying the right services for a hotel building to achieve low consumption levels.

In most cases, the Client is the driving force in achieving a sustainable strategy for the hotel, most of the time based on previous experiences. For Room 2, the energy factor was highly important and consequently the team proposed a highly efficient energy HVAC system from producing company ABB. This system, as proven by the IHG Green Engage system assessing building environmental impacts on hotels, showed energy cuts of 40%.

With regard to future energy usage monitoring, Room 2 targeted and complied with the Aftercare - MAN 05 - criterion that looks at making a commitment to evaluate the hotel's performance for 3 years post-completion.

Post-Construction

Lifecycle cost models can be a useful tool throughout the design process particularly in the early stages when it has the power to influence decisions relating to the building strategy and environmental systems, such as whether to select passive or mechanical ventilation. They are also helpful during technical design and construction as a tool for specifying products.

The Management/ Elemental Life Cycle Cost criterion – Man02 - of BREEAM, encouraging the use and sharing of life cycle costing and service life planning to improve design, specification and through-life maintenance and operation. This

helps deliver whole life value on a project. This criterion can however only achieve 4 credits: 2 credits at RIBA Stage 2 for an elemental life cycle cost plan, 1 credit at Stage 4 for component level option appraisals, 1 credit at any RIBA stage for reporting the capital cost in £/m².

Even if this criterion was included in the BREEAM pre-assessment and aimed to be met at Construction stage, it was dropped at early construction stage as the information that had to be provided, on building materials and products life span over 50-60 years seemed difficult and for some items, impossible to obtain.

Dropping a credit not only affects the BREEAM score of a project but it is also costly. As the building design progressed and different work stages are approved, the design and specification became more and more fixed; recovering lost credits can therefore be expensive due to required design changes.

A BREEAM focused design team

A BREEAM assessment done at an early stage does not necessarily involve the main contractor of a construction project. At early Construction stage, not all specifications have been made, however, it is possible to conclude a BREEAM assessment based on information from suppliers that could still be changed further down the line. Also, when undertaken at a different stage, the criteria may be difficult to comply with, opportunities may be missed, and options or costs may become prohibitive.

The initial assessment therefore has the potential to become merely a tick box exercise unless the vision of the client and the proactive approach of the project manager can set clear benchmarks from an early stage. In addition, good communication is required throughout all stages of the project to ensure that the main contractor does not make value engineering decisions that have the potential to affect BREEAM credits. To avoid these situations, the client should consider maintaining a relationship with the same assessor throughout the project duration.

Materials Bank: a strategy for the Future

BREEAM represents an important exercise and given the current climate, a thorough assessment is definitely needed. BREEAM can sometimes be a maths exercise, purely aimed at getting the required number of credits whilst disregarding the actual importance of the criterion for the future of the building (both cost and usage).

A relevant working method has been recently introduced in the form of a Material passport, already implemented in mainland Europe and pioneered by RAU Architects, headed by Dutch architect Thomas Rau. The passport is effectively a digital document containing information on all the parts in a particular product or material or, in this case, a building. Duncan Baker-Brown, of BBM Sustainable Design, specialising in circular economy, explains that a material passport lists the 'ingredients' of a structure, which can be useful to manage a facility or to make changes if it is redeveloped or extended.

"The problem we've got at the moment is we tend to crush buildings into pretty useless rubble. In a circular economy you keep the value and sophistication of the products and systems when you reuse them. That's why material passports are an excellent idea because they're going to make the likelihood of good deconstruction, or even keeping a building, higher." Duncan Baker Brown.

Unfortunately, no BREEAM credits are allowed for reduced life cycle costs, however, should Project Orange implement a material passport working method, the life cycle costs would be easier and more accurately assessed. A material passport system would therefore complement BREEAM and if implemented on future hotel projects, would help assess better certain BREEAM criteria and help put together a solid project database of product information. This would further down the line enable the design team to consider alternative design options that deliver lower life cycle costs and higher value to the project.

GROVE COTTAGE



BLACK BARN



FERRY ROAD

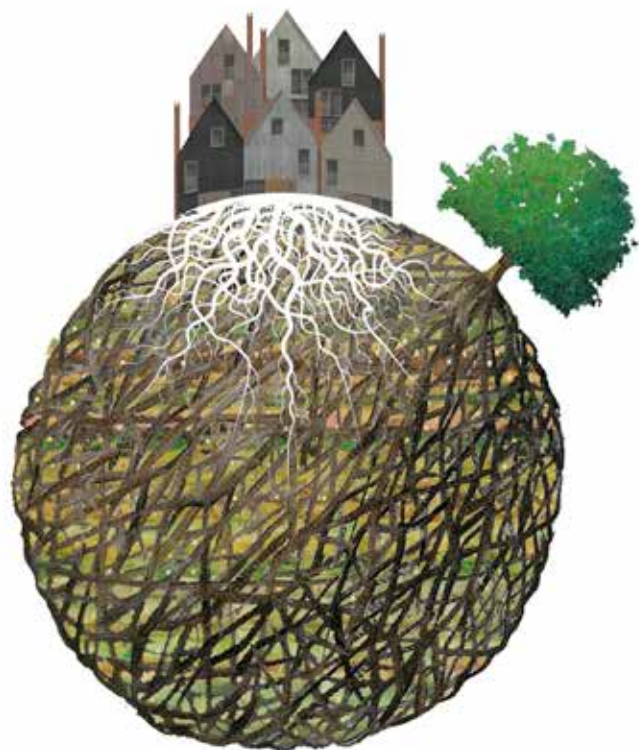


1ZHUKOV



LEISTON HOUSING





PROJECT ORANGE WOULD LIKE TO THANK

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