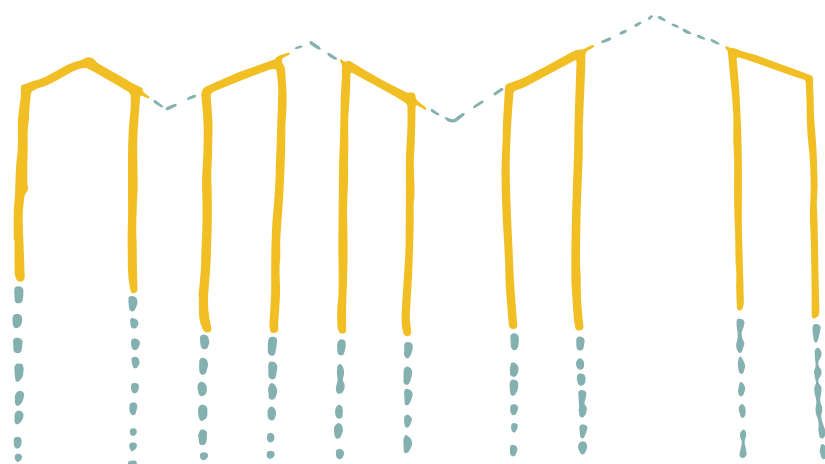


*the architecture
of degrowth*



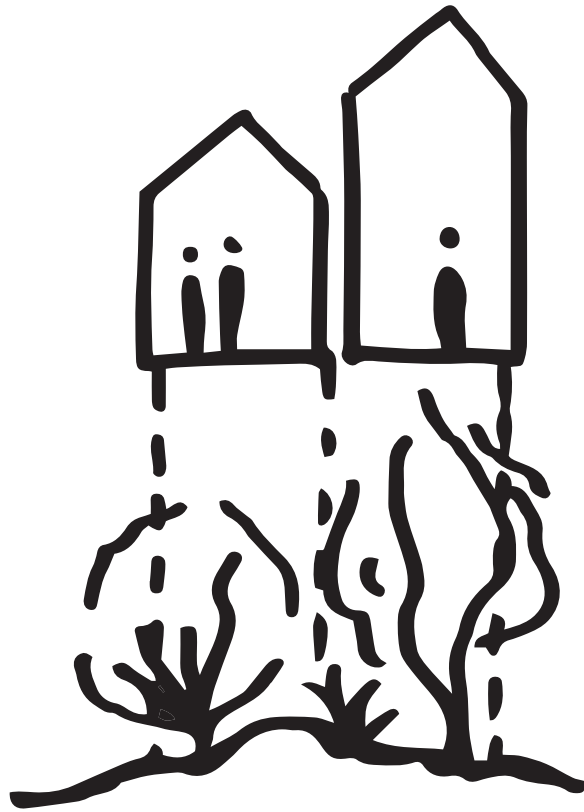
connolly wilkins

university of sydney
2022

abstract

The Architecture of Degrowth is a developing and under-discussed method to design and urban planning. We live in a society that revolves around over-consumption and capitalism, *‘homes have become vehicles of capital speculation, galleries have become billboards for attracting investment, streets have become the infrastructure of consumption, universities export enlightenment for profit.’*¹ As we continue to overproduce and overconsume, we contribute further to the climate crisis. Architecture plays a part in creating both responsible and resilient affordable housing as the number of environmental migrants increases and ‘Climate Apartheid’ begins.² The Oslo Triennale in 2019 titled *Enough* explored the theme ‘Degrowth’ and asked the question: *‘how should architecture respond to a time of climate emergency and social division?’*³ Sustainable architecture often utilises technological solutions to address the climate crisis, but what we face in addition is ‘an inclusive ethical problem, a problem of capacity, of resources and of mere honesty and morality towards the commons’.⁴ Through the exploration and analysis of key Degrowth principles, a housing scheme will be proposed on the site of the abandoned White Bay Power Station in Roselle. This thesis aims to explore a possible socio-ecological approach to the climate crisis through the elements of Degrowth design parameters.

Key Terms: *Degrowth, Anthropocentrism, Planetary Boundaries, Care, Sufficiency, Autonomy*

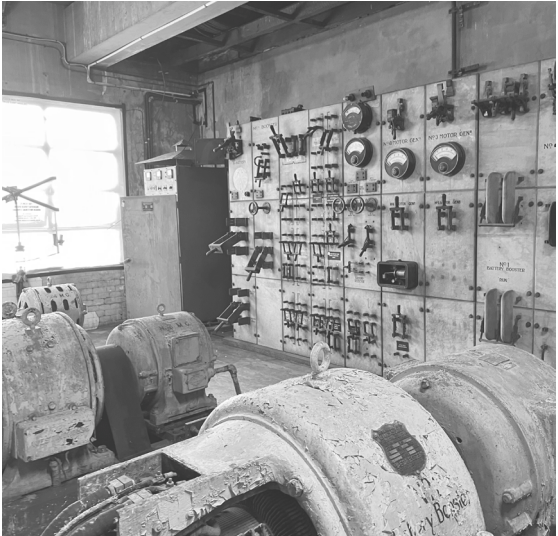


1 Matthew Dalziel, “The Oslo Architecture Triennale”, *Atelier Dalziel*, accessed 14 November 2022, <https://www.dalziel.no/oslo-architecture-triennale/>.

2 Sasha Plotnikova, “Designing for Degrowth: Architecture Against Climate Apartheid”, in *Design for Climate Action (AIA/ACSA Intersections Conference*, ACSA Press, 2020), 26–33, <https://doi.org/10.35483/ACSA.AIA.Inter.20.3>.

3 Matthew Dalziel, “The Oslo Architecture Triennale.”

4 Antoine Prokos, ‘This Changes Everything: Architecture of the Commons’, accessed 14 November 2022, <https://www.carthamagazine.com/2016/05/21/0-0-07-this-changes-everything-architecture-of-the-commons/>.



studio brief

This studio, titled “Country Climate Carbon”, aimed to use the site of White Bay Power Station as a tool to explore architecture’s role in combatting climate change. Through exploring the site’s indigenous history (country) and its industrial past (carbon), the studio investigated themes of heritage conservation and sustainability. The brief was to identify a major concern related to climate change and design a program that will actively combat this challenge.

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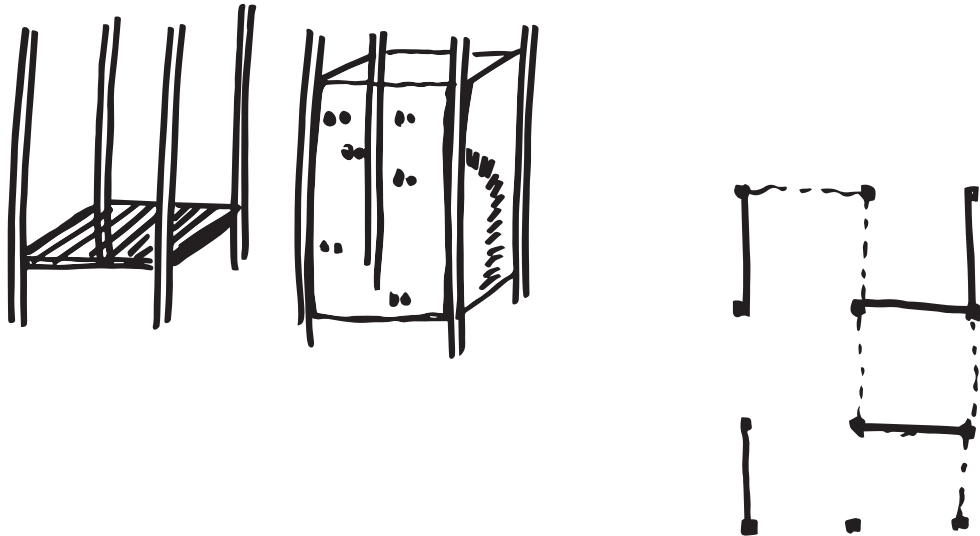
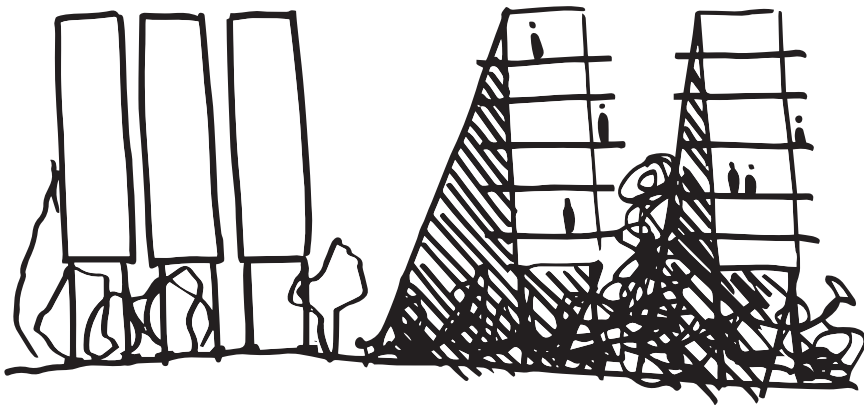
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introduction

We have all heard the word ‘sustainable’ used in almost every context – written on products to pull us in. In our capitalist society, the word sustainability has become a commodity among everything else. Even in architecture, incorporating sustainable aspects into the design has become a given. We are under the assumption that all these sustainable designs and decisions will help with the climate crisis. We live in a market-driven economy that defines sustainability as growth but green. We have been led to believe that if we make sustainable switches, we can continue to overproduce and overconsume without consequence. However, we know that this is not the case. As we fail to meet deadline after deadline of various sustainable development goals and must reassess the gravity to which we need to change, it becomes more apparent that the way we are doing things now isn’t working.

The economic concept of ‘Degrowth’ suggests an alternative approach to tackling our climate crisis. Degrowth is defined as *‘a planned reduction of energy and resource use designed to bring the economy back into balance with the living world in a way that reduces inequality and improves human well-being.’*⁵ This holistic approach ensures we look at social and ecological problems simultaneously. The idea has been slowly gaining traction through into the 21st century, and slowly again into the architecture field with events such as the Oslo Triennale in 2019. Titled *Enough*, it explored the theme of ‘Degrowth’ and asked the question: *‘how should architecture respond to a time of climate emergency and social division?’*⁶

Three key aspects of Degrowth thinking are: Care, Autonomy, and Sufficiency. Care in a Degrowth context relates to the fact that *‘buildings give shelter, but they do not provide Care by themselves. The relationships between the building, its location and context,*

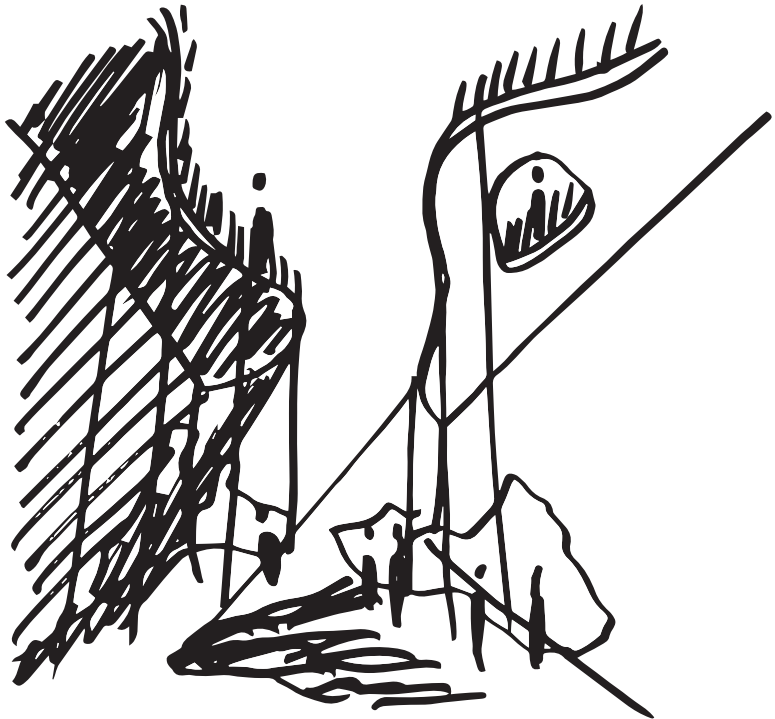
⁵ Jason Hickel, “What Does Degrowth Mean? A Few Points of Clarification”, in *Globalizations* 18, no. 7 (3 October 2021): 1105–11, <https://doi.org/10.1080/14747731.2020.1812222>.

⁶ *Oslo Architecture Triennale*, accessed 13 November 2022, <https://www.oslotriennale.no/archive/2019>.

*how it was built, and who it will house or displace are all aspects that fundamentally affect the nature of the caring that the building does.*⁷ Autonomy relates to the bottom-up approach to Degrowth, allowing the user to have the right to decide rather than top-down planning from ‘experts’. Finally, Sufficiency relates to the mantra of ‘waste not, want not’ where we only use and take what we need rather than living with a scarcity mindset controlled by greed.

Architects often propose housing schemes with a top-down approach where the architect is the master of all – deciding how kids play, where people relax or when people collaborate. In *Housing for Degrowth*, housing under Degrowth enables the residents and their relationship to their home environments to emphasise lay knowledge and interpretations rather than expert top-down planning.⁸ Instead of prescribed places for activities, architects need to create spaces that *‘facilitate experimentation, reskilling and conviviality.’*⁹

Through extracting important architectural principles from key texts surrounding Degrowth and incorporating them into a housing scheme, this thesis has created a catalogue of elements key to creating Degrowth-aligned housing. The proposal will be retrofitted into the White Bay Power Station in Roselle. Exploring how Degrowth principles can be applied to architecture will aid in understanding how architects and urban planners can better design future housing projects to assist in cultivating a Degrowth lifestyle for its residents.

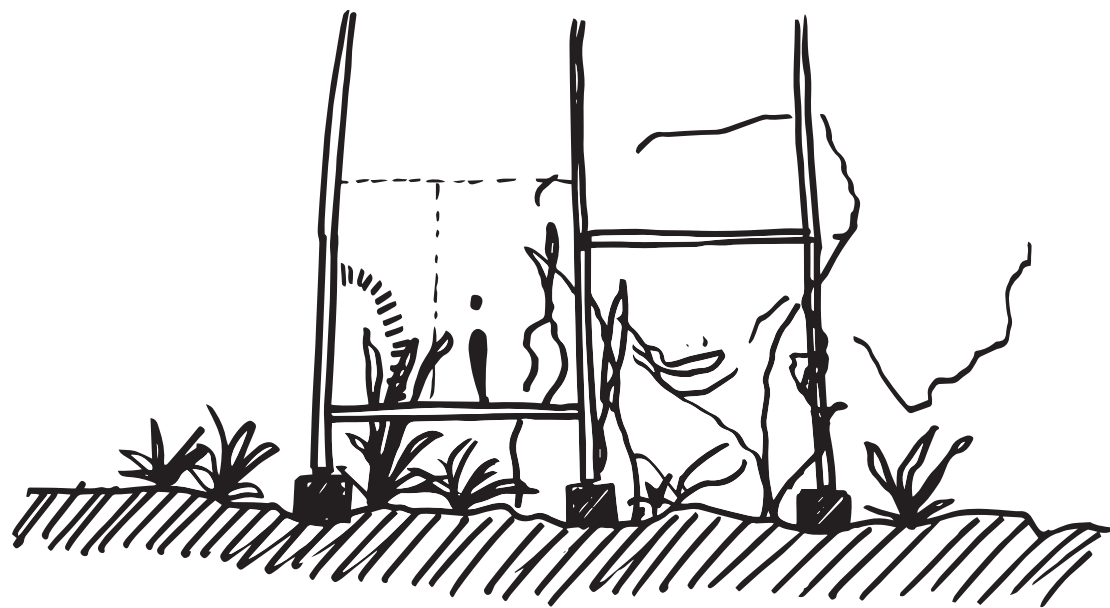


*How can the architectural design of
housing assist in creating a Degrowth
lifestyle for its residents?*

⁷ Joan C. Tronto, “Caring Architecture”, in *Critical Care : Architecture and Urbanism for a Broken Planet*, ed. Angelika Fitz, et al., MIT Press, 2019.

⁸ Francois Schneider, “Housing for Degrowth Narratives,” in *Housing for Degrowth: Principles, Models, Challenges and Opportunities* ed. François Schneider, and Taylor and Francis, Routledge Environmental Humanities (Boca Raton, FL: Routledge, 2018).

⁹ Pernilla Hagbert, “Rethinking Home as a Node for Transition,” in *Housing for Degrowth: Principles, Models, Challenges and Opportunities*.



degrowth

Degrowth is defined by Francois Schneider at the “Degrowth Declaration of the Paris 2008 Conference” as ‘an equitable downscaling of production and consumption that increases human wellbeing and enhances ecological conditions at the local and global level, in the short and long term’.¹⁰ The word ‘Degrowth’ originally comes from the French term ‘La Décroissance’ founded by Nicholas Georgescu-Roegen in the 1970s.¹¹ After being only known to experts for some time, the notion of Degrowth has become more recognition recently with academics, politicians and intellectuals as we search for answers to our climate crisis.¹² Degrowth addresses what our current capitalist thinking does not - our planet’s finite resources. It calls for a drastic reduction of resource and energy use to bring back into balance the Earth Systems of our planet. As our ‘*Planetary Boundaries and social limits to growth are being surpassed*’ we must instate new ways of thinking.¹³

‘Our economic system and our planetary system are now at war’¹⁴

The concept of Planetary Boundaries creates a way to visualize and explain how we are beyond the ‘safe operating space’ in many of the Earth’s Systems. These nine Planetary Boundaries are: climate change, stratospheric ozone depletion, atmospheric aerosol loading, ocean acidification, biogeochemical flows, freshwater use, change in land use, biodiversity loss and chemical pollution.¹⁵ These Earth Systems have remained relatively stable for nearly

¹⁰ Research & Degrowth, “Degrowth Declaration of the Paris 2008 Conference”, in *Journal of Cleaner Production* nr.18, issue 6, pp. 523–524.

¹¹ Anca Elena Gheorghicã, ‘The Emergence of La Decroissance,’ in *CES Working Papers* 4, no. 1 (2012): 60–75.

¹² Gheorghicã, ‘The Emergence of La Decroissance.’

¹³ Schneider, *Housing for Degrowth*.

¹⁴ Naomi Klein, *This Changes Everything: Capitalism vs. the Climate* (New York: Simon & Schuster 1014), 11, quoted in Boehner, op. cit., 10.

¹⁵ ‘Planetary Boundaries | Department of Economic and Social Affairs’, accessed 14 November 2022, <https://sdgs.un.org/statements/planetary-boundaries-10765>.

12,000 years. Through this time, the Holocene epoch has been able to support contemporary human societies in the balance of the Earth's Systems. This epoch could now be over as humans have begun to shift the state of the Earth's Systems so drastically that we have moved beyond the 'safe operating spaces.'¹⁶ Due to our anthropocentrism, some have begun to label our current epoch as the Anthropocene, a 'term introduced by atmospheric chemist Paul J. Crutzen together with Eugene F. Stoermer in 2000'.¹⁷ We have made such a significant impact on the Earth's Systems that we could be the driving force of this new epoch.

The Science Journal explains that *'the Planetary Boundaries framework arises from the scientific evidence that Earth is a single, complex, integrated system—that is, the boundaries operate as an interdependent.'* This relates to Degrowth's multifactored approach as the journal continues to state that *'this has profound implications for global sustainability, because it emphasizes the need to address multiple interacting environmental processes simultaneously.'*¹⁸ We cannot look at environmental and social issues independently as everything is intertwined.

Planetary Boundaries also express the limits to our resources. Despite the belief under which our economy currently runs, our planet's resources are finite. *'Developing countries rightly yearn to catch up with the living standards enjoyed in developed countries'* and this further exacerbates the problem we are already facing.¹⁹ If developing countries continue their current trends, they are investing in technology, infrastructure, and human capital etc and this means a further increase in resource consumption.²⁰ But the already developed countries have pushed the limits of our resources so immensely that the planet no longer has the capacity. The planet cannot grant us all the level of consumption those who live in the developed world experience currently. For all 7.8 billion people on this Earth to live comfortably, we need to dramatically shift our trajectory. *'Global sustainability has become a prerequisite for human development at all scales, from the local community to nations and the world economy,'* concepts like Degrowth try to address this through its holistic approach.

¹⁶ Will Steffen et al., 'Planetary Boundaries: Guiding Human Development on a Changing Planet', *Science* 347, no. 6223 (13 February 2015): 1259855, <https://doi.org/10.1126/science.1259855>.

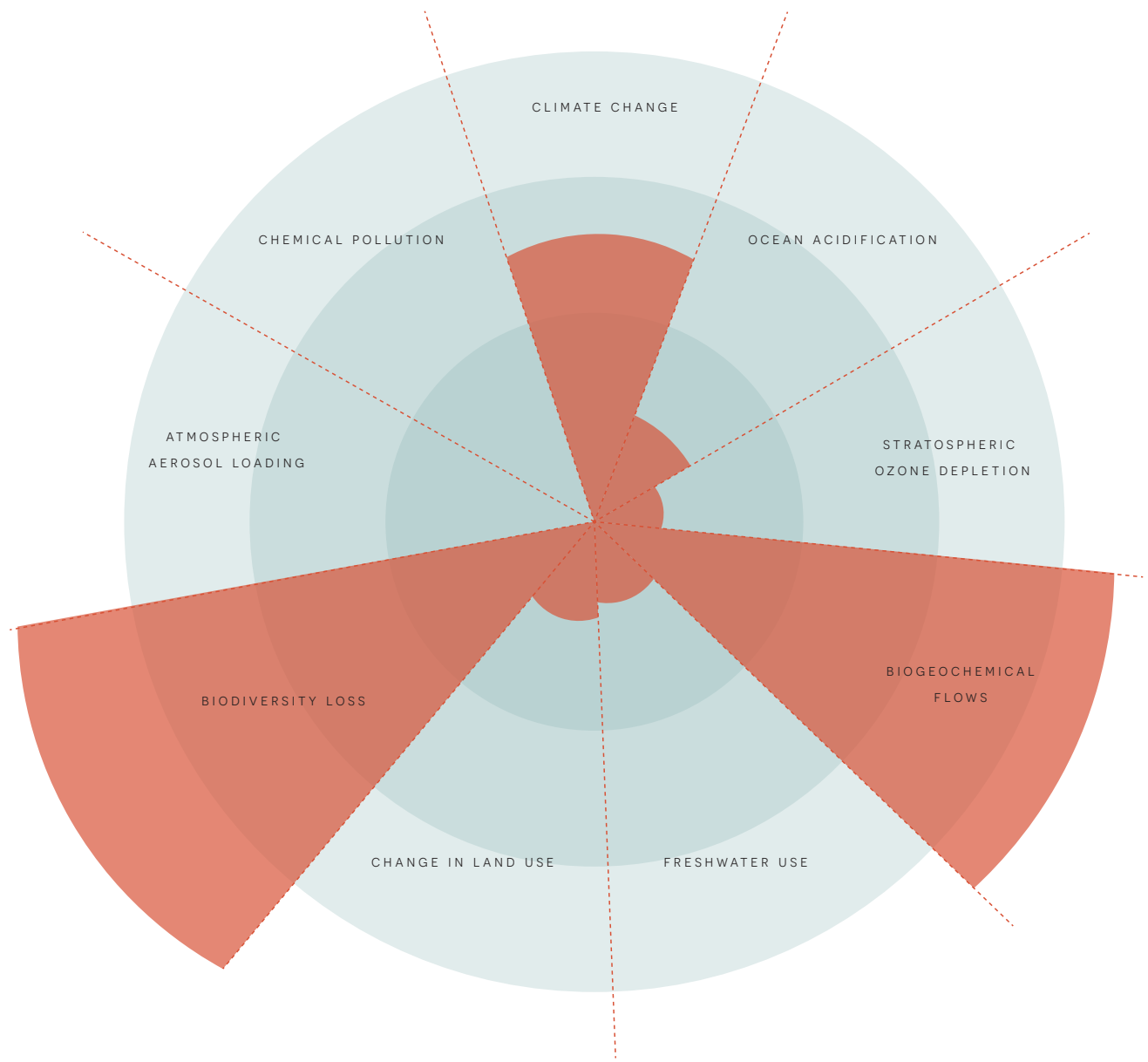
¹⁷ Fitz, and Krasny, *Critical Care*.

¹⁸ Steffen et al., 'Planetary Boundaries'.

¹⁹ Johan Rockström et al., 'Sustainable Development and Planetary Boundaries', vol. Sustainable Development Solutions Network Report, 2013.

²⁰ Ibid.

As well as its focus on environmental issues, Degrowth also addresses social issues. Schneider explains that Degrowth involves *'values typically encompassing the search for more justice,..., care for future generations, preference for convivial, non-utilitarian human relations, the deepening of democracy, the importance of well-being and giving full meaning to our lives.'*²¹ The concept of Degrowth could only be possible with shifts in our societal thinking. There are three key principles of Degrowth: Care, Sufficiency, and Autonomy.²² These three principles will be explored in relation to architecture and urbanism in the following chapter.



planetary boundaries

²¹ Schneider, *Housing for Degrowth*.

²² Timothée Parrique, 'The Political Economy of Degrowth' (phdthesis, Université Clermont Auvergne ; Stockholms universitet, 2019), <https://theses.hal.science/tel-02499463>.

degrowth + architecture

Just as Degrowth itself has only recently become more widespread, the literature on Degrowth and its relationship to Architecture and Urbanism is limited. The first mainstream use of the word Degrowth in relation to Architecture was in the Oslo Triennale in 2019. Titled, *Enough. The Architecture of Degrowth*, explored the ‘*the notion of Degrowth and its possible consequences and opportunities for our cities*’ as ‘*a response to the on-going climate crisis and a global society with growing social inequality*’.²³ The essay, “A Becoming of Something”, discusses the complexity of designing for Degrowth in architecture rather than how to design for Degrowth. Dalziel and Olsen describe the Triennale as ‘*unplanned, considering change not as a ‘solution’ or an ‘answer’, but as a becoming of something yet to be defined*’.²⁴ As The Architecture of Degrowth is not situated in our current reality, it becomes difficult to explore realistic and practical solutions. This is because it requires a shift in lifestyle and thinking which is uncomfortable for most and unimaginable for many.

Part of this shift will be to disregard colonial attitudes in architecture and urbanism. Western methods of construction and design often ignore the existing and treat land as if it is a ‘blank slate’.²⁵ This method of design and construction is destructive and situated in our ‘*ideology of progress with its promise of building a better future*’.²⁶ In *Critical Care: Architecture and Urbanism for a Broken Planet*, it is suggested that ‘*the future was built on the annihilation of the existing*’ and that ‘*this erasure inflicted its wounds on the planet*’.²⁷ If we continue to design and build without a holistic approach that looks at societal as well as ecological issues then we will continue to face this issue.

²³ Oslo Architecture Triennale, accessed 13 November 2022, <https://www.oslotriennale.no/archive/2019>.

²⁴ Cecilie Sachs-Olsen and Matthew Dalziel, “A Becoming of Something”, OAT 2020, accessed 11 November 2022, <https://2020.oslotriennale.no/essayserien/tilbake-til-byens-livsformer-2000-1-1-1-1-1-1>.

²⁵ Fitz, and Krasny, *Critical Care*.

²⁶ Ibid.

²⁷ Ibid.

To bring the concept of Degrowth into practicality, it is useful to look at the three key principles to Degrowth: Care, Sufficiency and Autonomy.²⁸ These three principles can be used in architectural and urban design to begin to suggest how architecture can guide a Degrowth lifestyle.

Care

Care is defined as ‘*a species activity that includes everything that we do to maintain, continue, and repair our ‘world’ so that we can live in it as well as possible*’.²⁹ Despite being a broad description, it combines ecological themes surrounding maintaining and repairing as well as social themes in its description of living as well as possible. *Critical Care* states that an ethics of Care is the most important perspective for architecture and urbanism in ‘*our times of catastrophic ruination*’.³⁰ Care in a Degrowth context relates to the fact that ‘*buildings give shelter, but they do not provide Care by themselves*’.³¹ The context in which a building sits provides the Care. In understanding the people being displaced, how the building was built, who it will house etc. then the building can provide Care.³²

‘*When people live in communities where such caring seems a part of their ongoing life together, they feel safer, pay more attention to their environment.*’³³

Sufficiency

Sufficiency can be defined by the mantra of ‘waste not, want not’. Architecture and communities depend on each other for this principle. Architecture can house shared

²⁸ Giacomo D’Alisa, Federico Demaria, and Giorgos Kallis, eds., *Degrowth: A Vocabulary for a New Era* (London: Routledge, 2014), <https://doi.org/10.4324/9780203796146>.

²⁹ Joan C. Tronto and Berenice Fisher, “Toward a Feminist Theory of Caring,” in *Circles of Care*, eds. Emily K. Abel and Margaret K. Nelson (Albany, NY: SUNY Press, 1990).

³⁰ Fitz, and Krasny, *Critical Care*.

³¹ Tronto, “Caring Architecture.”

³² Ibid.

³³ Tronto and Fisher, “Toward a Feminist Theory of Caring.”

communal resources, but if people do not wish to adopt the mindset of Sufficiency, then this will not work. This is interconnected with the concept of the commons. In “Tragedy of the Commons: Reframing Architecture,” Schrijver explains that *‘individual interests often take precedence over collective interests, and that some level of policy or regulation is necessary to correct this behaviour’*.³⁴ However, under a Degrowth economy when production and therefore consumption is reduced (or vice versa) people are forced to share more, *‘everybody can access resources they need, ecosystems flourish and the economy is sustained’*.³⁵

Autonomy

Initially, the principle of Autonomy might seem as though it opposes the principle of Care. One implies independence and the latter dependence. However, Autonomy is not referring to being a sole being. It refers to having the right to decide, it is defined as *‘the ability to give laws and rules to ourselves independently and consciously’*.³⁶ This is in contrast against heteronomy which refers ‘to conditions in which laws and rules are imposed by others.’³⁷ In a growth economy and capitalist society, we are led to believe that we would rather have possessions over our Autonomy and freedom. We prioritize the material aspects of our world. Marco Deriu explains in his chapter on “Autonomy” that we believe that as our society grows more powerful economically and technologically that then that will lead to powerful individuals.³⁸ He argues that the opposite is true, *‘the more powerful a society is – in its facilities and its technological means – the more an individual feels powerless and experiences anxiety about his condition and therefore has to find someone, or better yet something, to lend himself to’*.³⁹ This perpetuates our capitalist society as we continue to feel obliged to find something or someone to lend ourselves to.

*‘The path toward Degrowth can be thought of as a journey of integration to restore Autonomy as well as a process of liberation from dependence on alienating and heteronomous systems.’*⁴⁰

34 Lara Schrijver, “The Tragedy of the Commons: Reframing Architecture”, in *Architecture in the Netherlands* (NAi010 publishers, 2017), 98–105.

35 Schneider, “Housing for Degrowth Narratives.”

36 Marco Deriu, ‘Autonomy’, in *Degrowth* (Routledge, 2014).

37 Ibid.

38 Ibid.

39 Ibid.

40 Ibid.

degrowth housing at bays west

*‘Architecture needs to redefine the value it contributes to society and promote Degrowth’*⁴¹

The Bays West and the White Bay Power Station are on gari gurad/nura (saltwater Country) and nattai gurad/nura (freshwater Country).⁴² With saltwater and freshwater coming together to create Sweetwater, people came together for trade, exchange, gathering etc. The site also exists as a reminder of the trauma, distress, pollution, and colonisation that occurred here.

The Bays West area lies adjacent to the suburbs of Rozelle and Balmain. The White Bay Power Station was the longest-serving power station in Sydney.⁴³ It was used to support the entire Sydney tram network until the lines were all pulled up in the 1950s.⁴⁴ The power station was finally decommissioned in 1983.⁴⁵ After contaminating and polluting the land and water on this site from 1912 onwards, the site has now been left abandoned as a ‘brownfield’ for 40 years.

With the site's proximity to the city centre, development of nearby public transport and large areas of unused space, this brownfield's location would be ideal for housing. In

41 Phineas Harper, “On the Money: The Merits of Degrowth”, *Architectural Review*, 30 August 2019, <https://www.architectural-review.com/essays/on-the-money-the-merits-of-Degrowth>.

42 COX, TURF, and NSW Government, “Bays West Stage 1 Draft Master Plan and Urban Design Framework: White Bay Power Station (and Metro) and Robert Street Sub-Precincts”, 2022.

43 ‘White Bay Power Station | The Dictionary of Sydney’, accessed 12 November 2022, https://dictionaryofsydney.org/entry/white_bay_power_station.

44 Mike Ticher, “Erased from History: How Sydney Destroyed Its Trams for Love of the Car”, *The Guardian*, 27 July 2019, sec. Australia news, <https://www.theguardian.com/australia-news/2019/jul/28/erased-from-history-how-sydney-destroyed-its-trams-for-love-of-the-car>.

45 “Historical Analysis”, Power Plants Phytoremediation, accessed 12 November 2022, <https://powerplantsphytoremediation.com/historical-analysis>.

site context



Schneider's chapter on 'Housing for Degrowth', he explains that *'this change of function might mean rezoning derelict urban and industrial areas...this change of function expresses the principle of recognising limits.'*⁴⁶ In taking advantage of this site to create housing, this changes the state of the land use and returns it to collectively managed land rather than deserted, industrial land.

With the commodification of the home, we are experiencing a housing crisis. James Goodhue, the founder of ORA – an urban regeneration company, writes in *ORA Strategic Growth Plan* that *'it occurs when housing is treated as a commodity, a vehicle for wealth and investment, rather than a service, necessity, or social good.'*⁴⁷ In creating more social and affordable housing that is proximate to the city and resident's existing communities, we can address Degrowth's principles of Care, Autonomy and Sufficiency. In Pernilla Hagbert's "Rethinking Home as a Node for Transition", it is said that *'as a platform for engaging in low-impact Degrowth practices, the home is a starting point for change bridging the segmentation of home life from other societal areas.'*⁴⁸ The home is where we can implement change. People's days begin and end at home. As Degrowth addresses societal change as well as ecological, the home could play a large role in acting as a catalyst for change elsewhere.

⁴⁶ Schneider, "Housing for Degrowth Narratives."

⁴⁷ James Goodhue, "ORA Strategic Growth Plan", 2022.

⁴⁸ Hagbert, "Rethinking Home as a Node for Transition."



axonometric

designing for degrowth

Through structure, materials, programme and modularity, this proposal was guided by Degrowth aligned principles and parameters. In letting Degrowth parameters guide the design of this housing scheme, it creates the opportunity for this new way of living to emerge. It also enables the exploration of a possible and approachable socio-ecological approach to the climate crisis. This scheme works under the assumption that in a Degrowth economy, the government would fund this project and would not require profit to be an outcome.

In recognising the White Bay Power Station's purpose-built qualities from its industrial past, this proposal sits on top of the existing building. This allows for the optimisation of views, light and air. In having the bulk of the form sit above the mass of the existing building, this opens up the ground plane.

The lowest floor uses fibre reinforced polymer (FRP) that floats about 3 metres above the ground level on a glulam structure. These limited contact points allow for the opening up and rewilding of the ground plane. This allows flora and fauna to return. Projects like 'The Power Plants Phytoremediation Garden' have proposed which species would remove toxins found in the soil and air on this site. Through research on phytoremediation, they matched '*appropriate species with the known toxins found on site.*'⁴⁹ The floor is made up of four modules, some punctured to allow for plants to come through the floor level without obstruction.

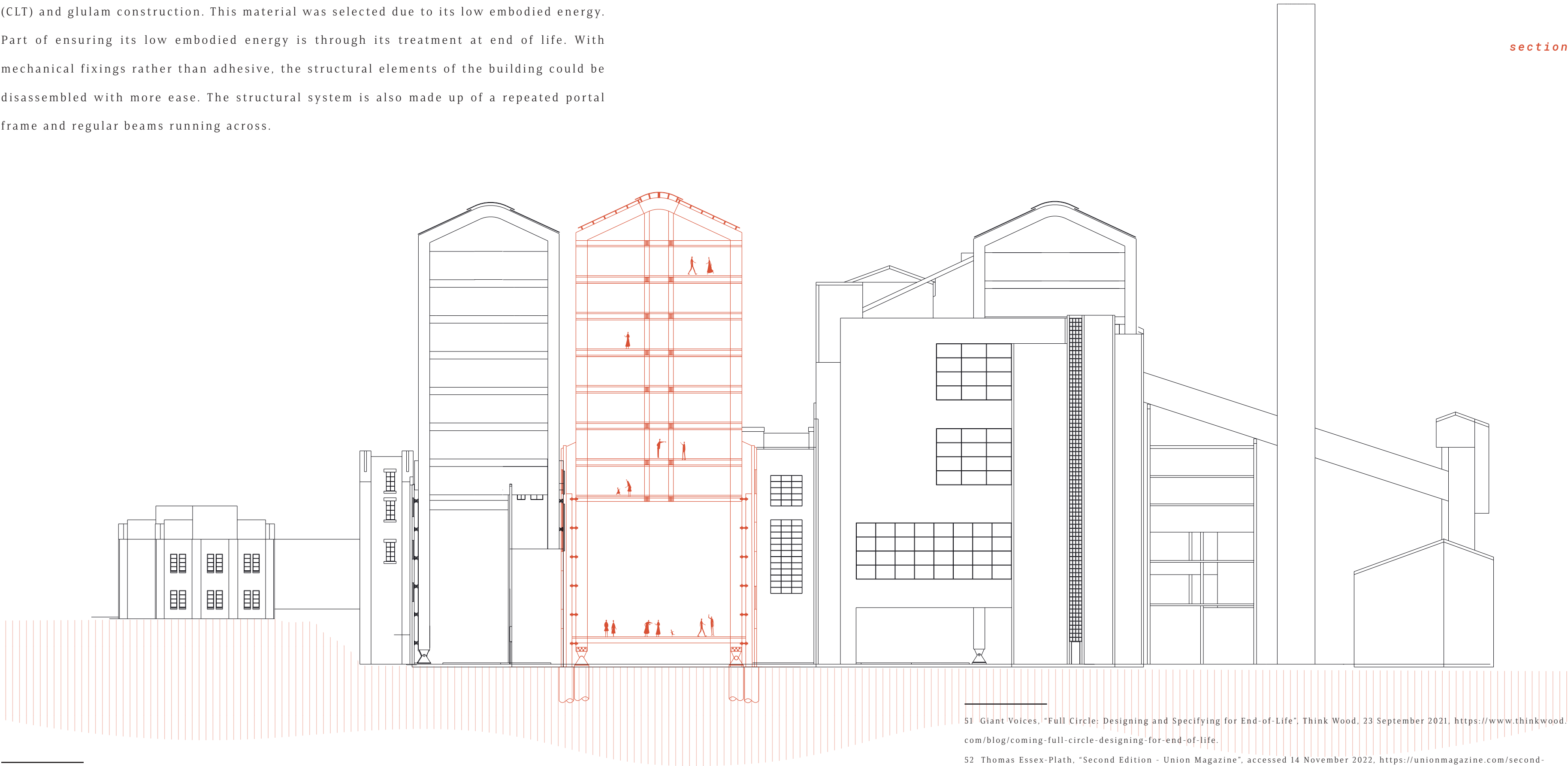
The brick façades of the central building housing this FRP level will also be punctured to allow for further light and air to travel throughout the building. The openings would not be

⁴⁹ "Garden Design," Power Plants Phytoremediation, accessed 13 November 2022, <https://powerplantsphytoremediation.com/powerplants-garden-01-1>.

infilled with glazing to reduce the area of glazing needed as glass is difficult to recycle and repurpose. The leftover brick from these perforations in the façade would be used by the community to create garden beds and landscaping. These decisions address the rebalancing of some of the Planetary Boundaries including change in land use, biodiversity loss and chemical pollution.⁵⁰

The new and existing parts of the building will be supported by cross-laminated timber (CLT) and glulam construction. This material was selected due to its low embodied energy. Part of ensuring its low embodied energy is through its treatment at end of life. With mechanical fixings rather than adhesive, the structural elements of the building could be disassembled with more ease. The structural system is also made up of a repeated portal frame and regular beams running across.

This simplicity and regularity would aid in the repurposing and dismantling of these materials.⁵¹ Companies such as Unbuilders in Canada and Second Edition in Australia, centre their work on collecting and repurposing materials. Second Edition succeeds in *‘positioning deconstruction, recovery and reuse ahead of more high-tech, highly visible and ‘heroic’ sustainability solutions.’*⁵² The glulam and CLT in this project will be recycled or repurposed into non-structural elements at the end of its life cycle as structural CLT or Glulam through programs such as the ones created by Second Edition or Unbuilders.



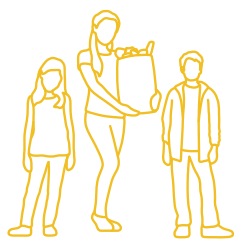
⁵⁰ "Planetary Boundaries | Department of Economic and Social Affairs."

⁵¹ Giant Voices, "Full Circle: Designing and Specifying for End-of-Life", Think Wood, 23 September 2021, <https://www.thinkwood.com/blog/coming-full-circle-designing-for-end-of-life>.

⁵² Thomas Essex-Plath, "Second Edition - Union Magazine", accessed 14 November 2022, <https://unionmagazine.com/second-edition/>.

care

To look at this scheme through the first principle of Care, it's important to understand the context in which this proposal is situated. In Waterloo, a new metro and urban precinct have been proposed alongside multiple others of a similar kind in other suburbs in Sydney. Among others, this new precinct will demolish twin 30-floor social housing towers in Waterloo – Turanga and Matavai. These towers were built in 1977. Some of the original residents still reside there today, almost 800 of the 2600 residents are over 70 years old. Through analysis of census data and articles from current residents, four representative resident profiles were created: Amy, Brian, Charlie, and Dayna. Creating these profiles helped humanise the data and helped define the number of apartments. In thinking through their family structures, a 3-bedroom, 2-bedroom and single bedroom apartment were designed.



amy

age: 37 years
gender: female
marital status: divorced
family: 2 children
employment: admin/clerical worker



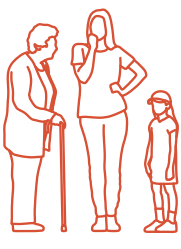
charlie

age: 78 years
gender: male
marital status: widower
family: -
employment: retired



brian

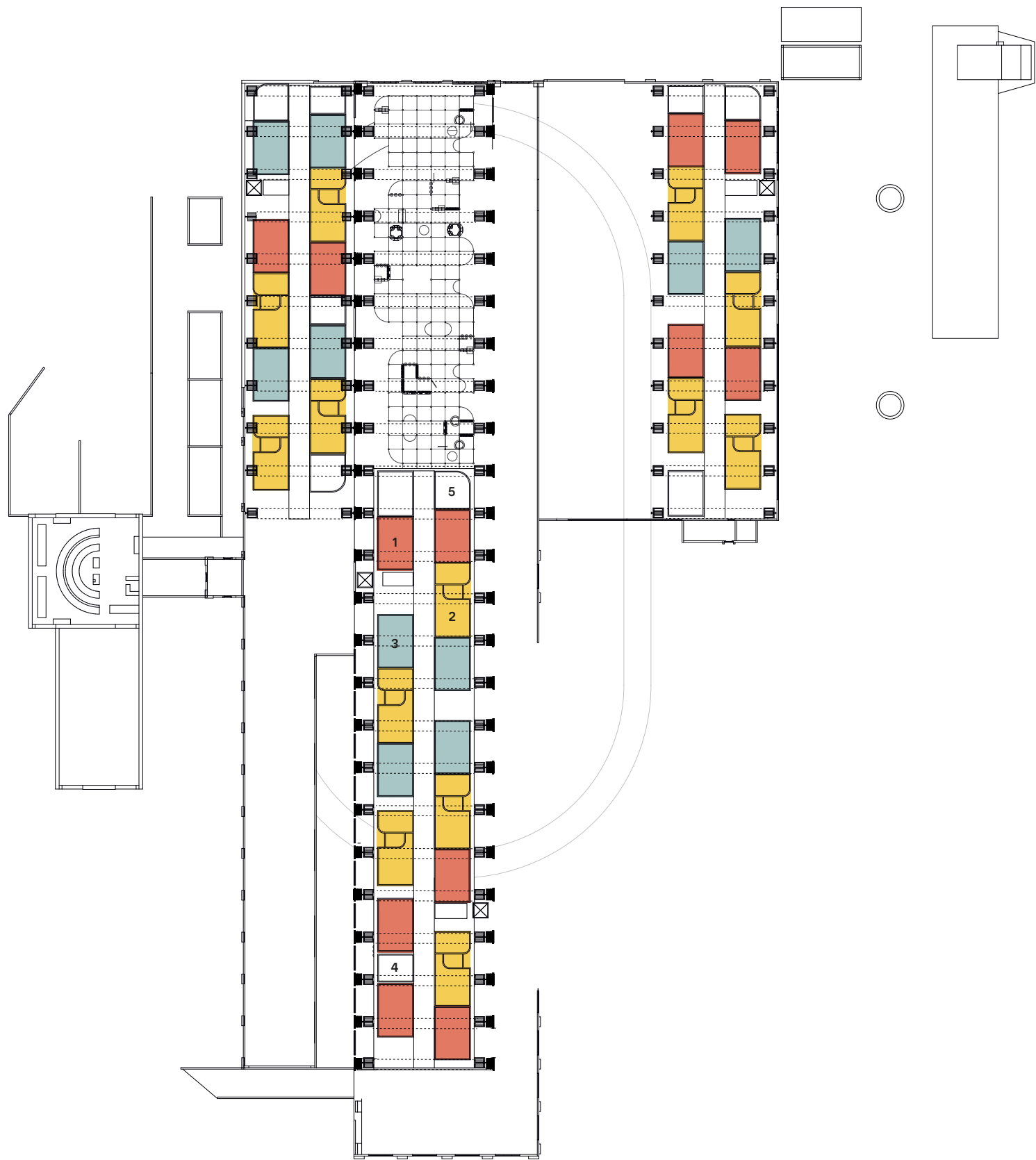
age: 32 years
gender: male
marital status: married
family: -
employment: pharmacy assistant



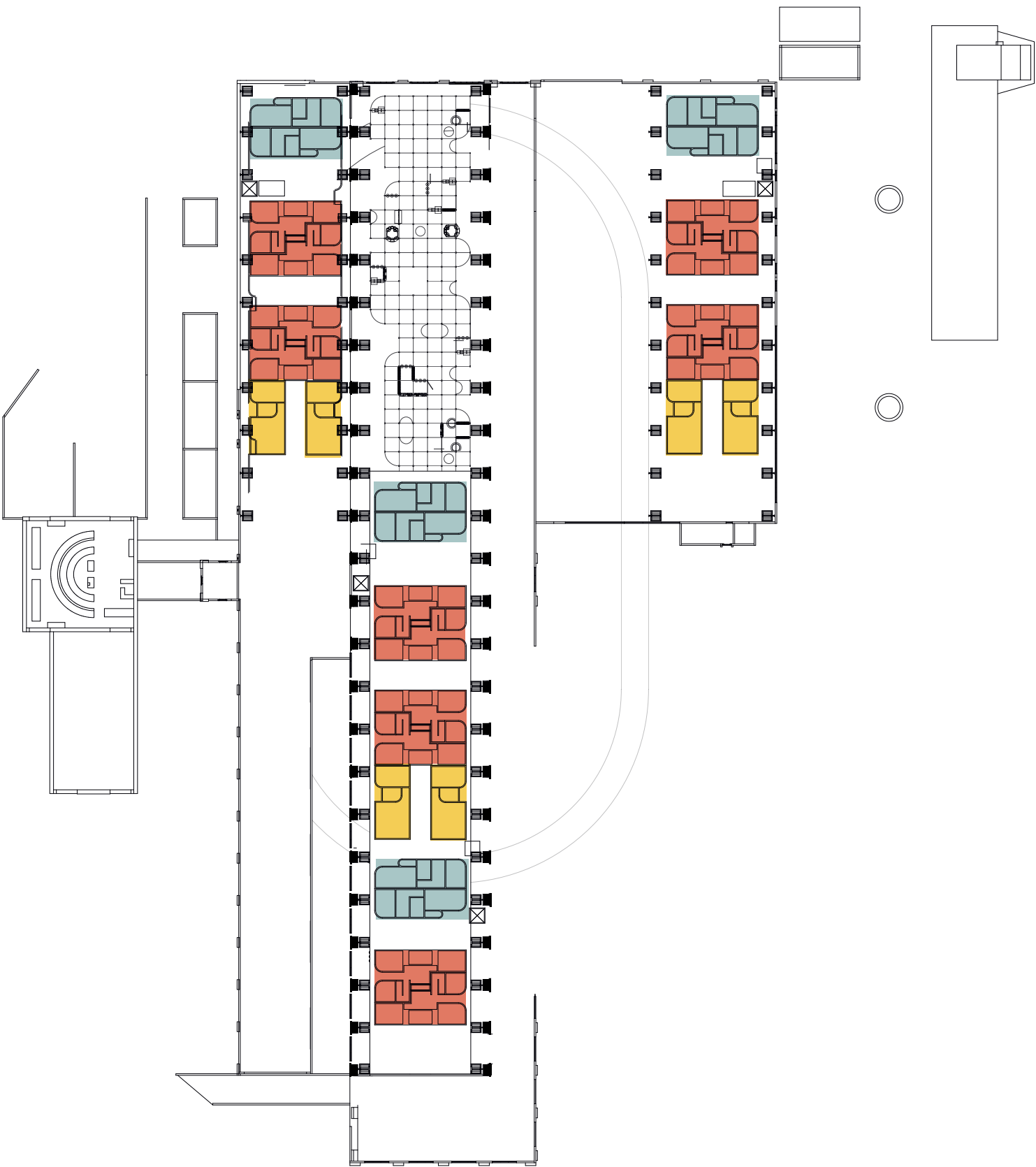
dayna

age: 53 years
gender: female
marital status: unmarried
family: 1 child + 1 elderly
parent
employment: cleaner





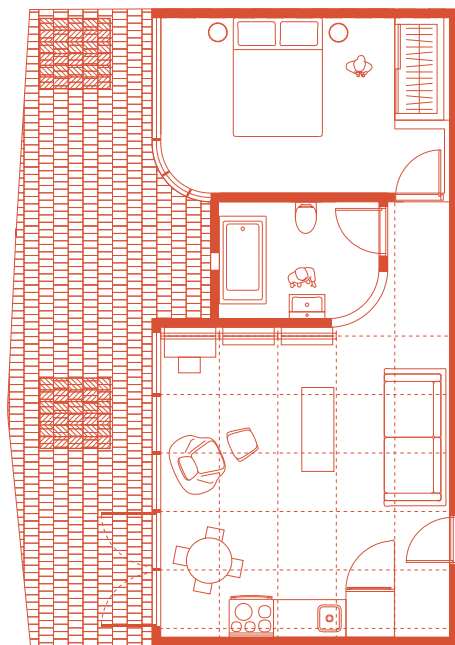
first floor plan



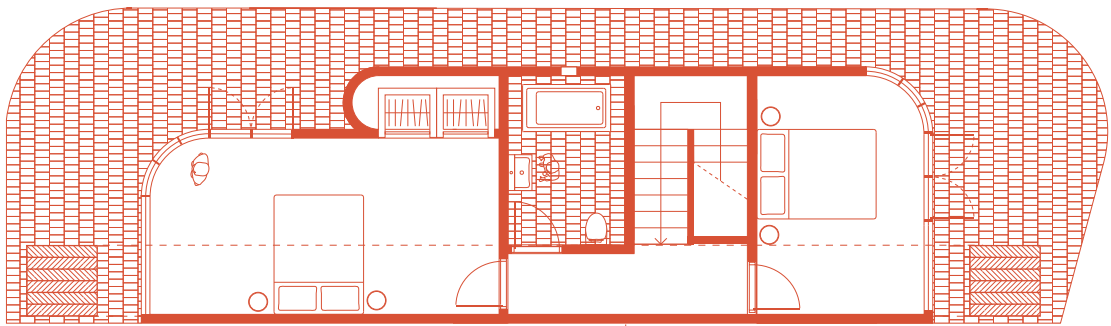
second floor plan

sufficiency

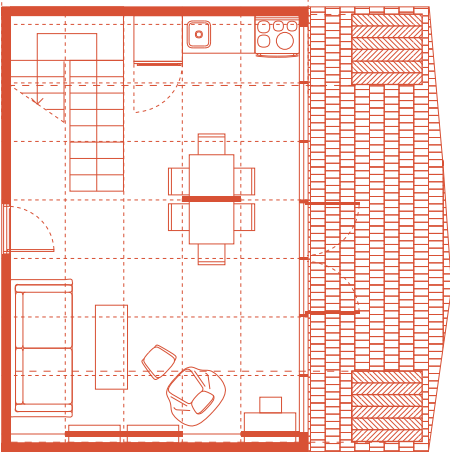
The programmatic division of the scheme was guided by the principle of Sufficiency. The ground plane hosts the public amenities and the levels above house the private. To create an environment where people can practice Sufficiency, shared amenities and resources have been introduced. These shared amenities include common laundries, communal kitchens, art studios, fitness areas, co-working spaces, shared guest bedrooms, childcare areas, bike repair room, car and bike sharing, dog parks, dog washing areas, event rooms, cinema, conference spaces etc. Having these services allows for the private equivalents to be eliminated from the individual private apartments. Not only would your services be reduced within your apartments, but your storage could also be used with the help of loaning libraries. A loaning library allows you to borrow things you would use more infrequently such as blenders, games, food processors, sports equipment, gardening tools, cleaning equipment etc. This eliminates the need for everyone to own each of these items, which in turn reduces the consumption of the residents as a community.



1-Bedroom



2-Bedroom



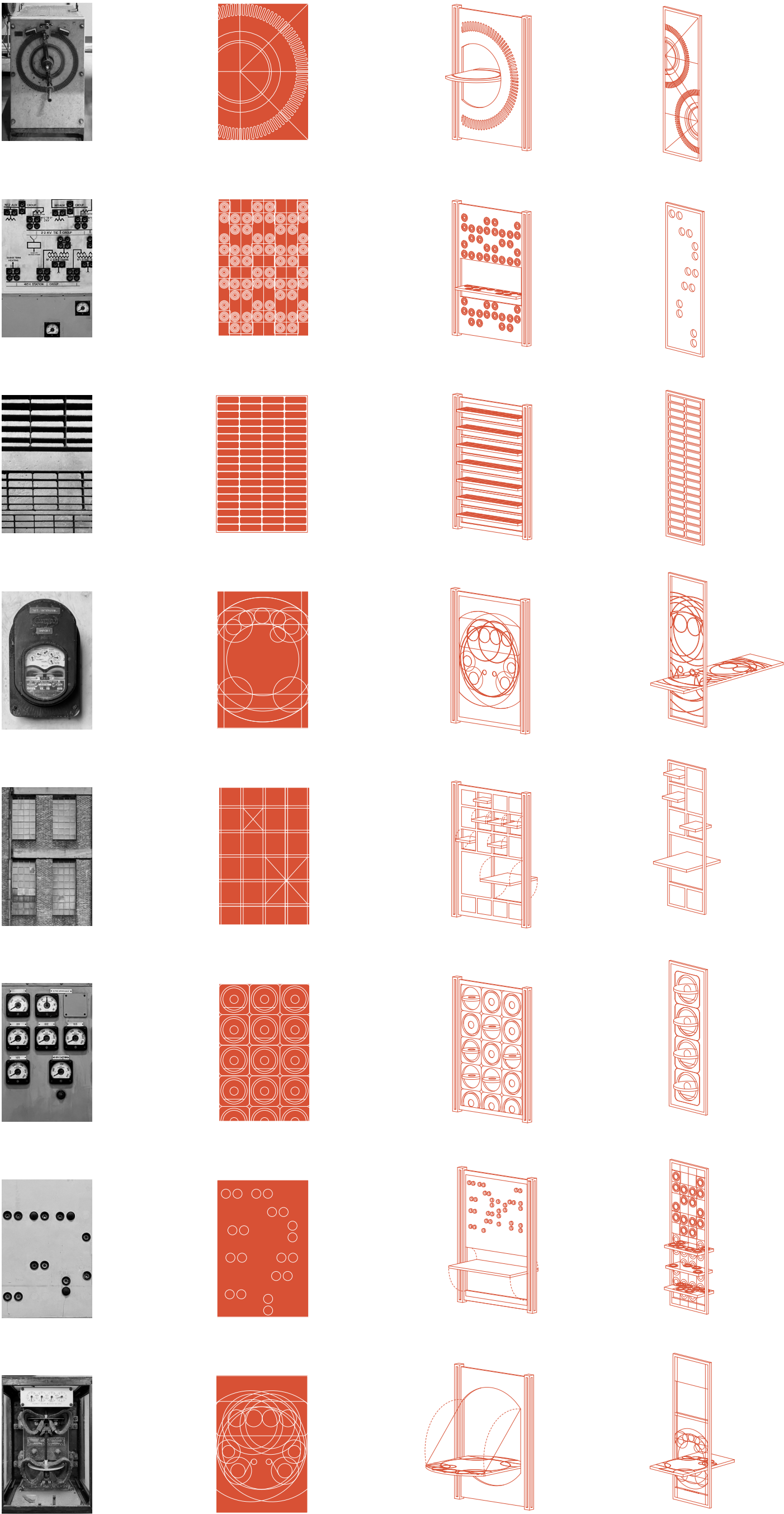
3-Bedroom



apartment interior

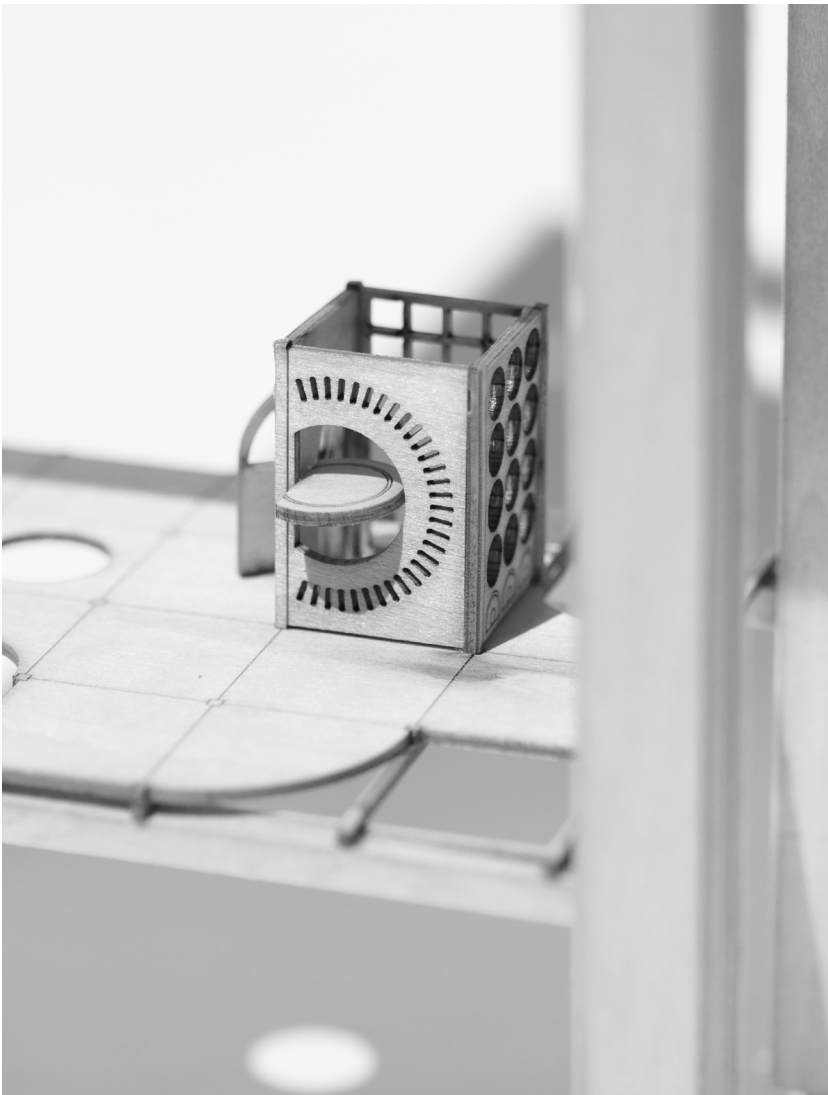


apartment interior



autonomy

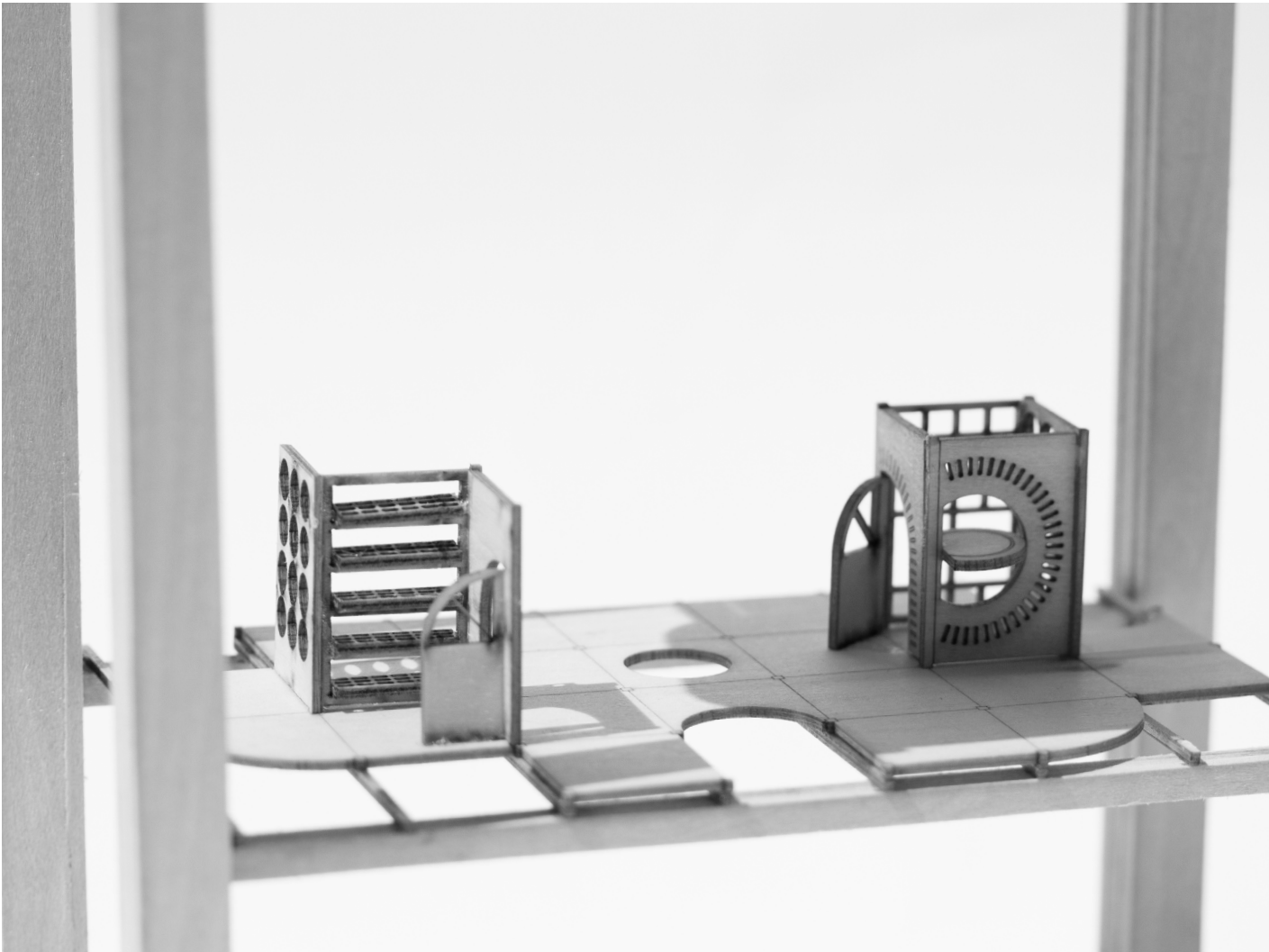
In a Degrowth economy, Autonomy would be prioritised. As the third key Degrowth principle, Autonomy relates to the right to decide. This is achieved in this scheme through an underlying grid and modules. These modules were designed through the detailed analysis of elements of the White Bay Power Station. These extracted patterns were then iterated to create functional modules. A full 2m width module for the ground floor and a half width module for the apartments. The apartment's main living area has a 1m x 1m grid track on the floor and ceiling. This allows for residents to customise their living spaces by deciding which modules they include and how they arrange them in their living spaces.



market hall

On the ground plane through the central building, residents can set up stalls to create a sort of market hall. By selecting modules to create the walls, the stalls can scale as they grow by adding or removing modules. This supports the community in creating what you call ‘prosumers’, *Collins Dictionary* defines a ‘prosumer’ as ‘*a person who both consumes and produces a particular commodity*’.⁵³ This is where individuals are involved in the production of the product, rather than purchasing it through a broker. This way the community is involved in creating and consuming what they create. This cyclical process means any profit made in this process remains within the community. The market hall could house bakeries run by residents, fruit and vegetable stalls using the community’s own gardens, ceramics stalls using work created in the communal art studio and so on. This resident involvement nurtures a sense of community. This in turn creates a sense of belonging which can often lack in those who rent rather than own where they live.

53 ‘Prosumer Definition and Meaning | Collins English Dictionary’, accessed 13 November 2022, <https://www.collinsdictionary.com/dictionary/english/prosumer>.



interior views of market hall

principles

planet | people | profit



free up ground
plane

minimal footprint on
Earth + enables planting
and naturalising under
building



loaning library

reduces the number
of belongings
individuals require
(e.g. borrow blenders,
food processors,
slow cookers, sports
equipment, gardening
tools)



not-for-profit
business

only allow businesses
that put the profit
earnt back into the
community within the
precinct



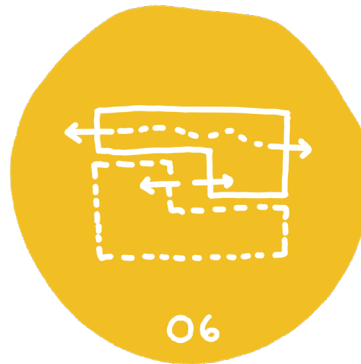
staged community
involvement

government funded labour
from the community would
enable labour intensive
material recycling +
community involvement



multi-generational
homes

apartments tessellate
creating opportunity
to add to or divide
apartments dependant on
tenants requirements.



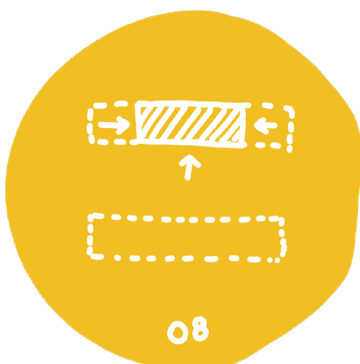
interlocking e/w
apartments

enables cross
ventilation and private
balconies facing both
east and west - enabling
Passivhaus design
strategies



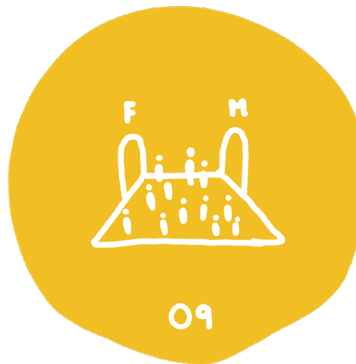
creative/flexible
studio space

spaces for creating and
making without confines
of their apartments and
encourages collaboration
between residents



optimised services

with extensive communal
services (laundry,
loaning libraries,
co-working spaces,
guest rooms, etc.) the
built in areas can be
optimised - creating
more flexibility



childcare

relating to the
imbalance of men and
women responsibilities
- placing areas such as
childcare equidistant
from male/female
bathrooms



priority balloting

for key community
contributors (e.g.
teachers, nurses, social
workers); individuals
with a disability,
carers, single women 55
and over, and Indigenous
Australians and Torres
Strait Islanders.



accessible
apartments

each floor will house
2 accessible apartments
without a split level
yet still obtaining
east-west ventilation/
light/views



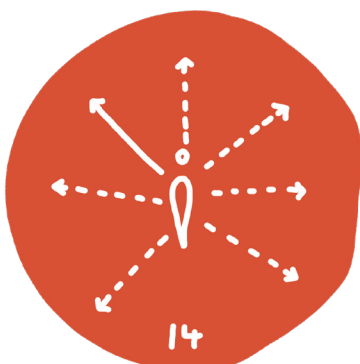
shared guest
bedrooms

instead of always
having a spare room -
communal spare rooms
can be borrowed for the
duration of residents'
guests' stays.



car sharing

eliminates the need for
a large carpark and for
individuals to each own
a vehicle



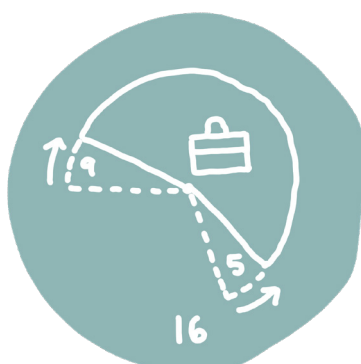
autonomy

giving individuals the
right to decide



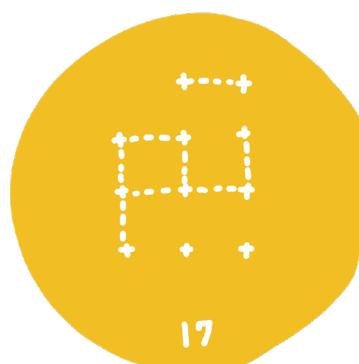
sufficiency

take or use only
what you need - not
exhausting resources



shorter work day/
week

in a Degrowth economy
we would work less
hours as productivity
would be reduced as our
consumption reduces
(vice versa)



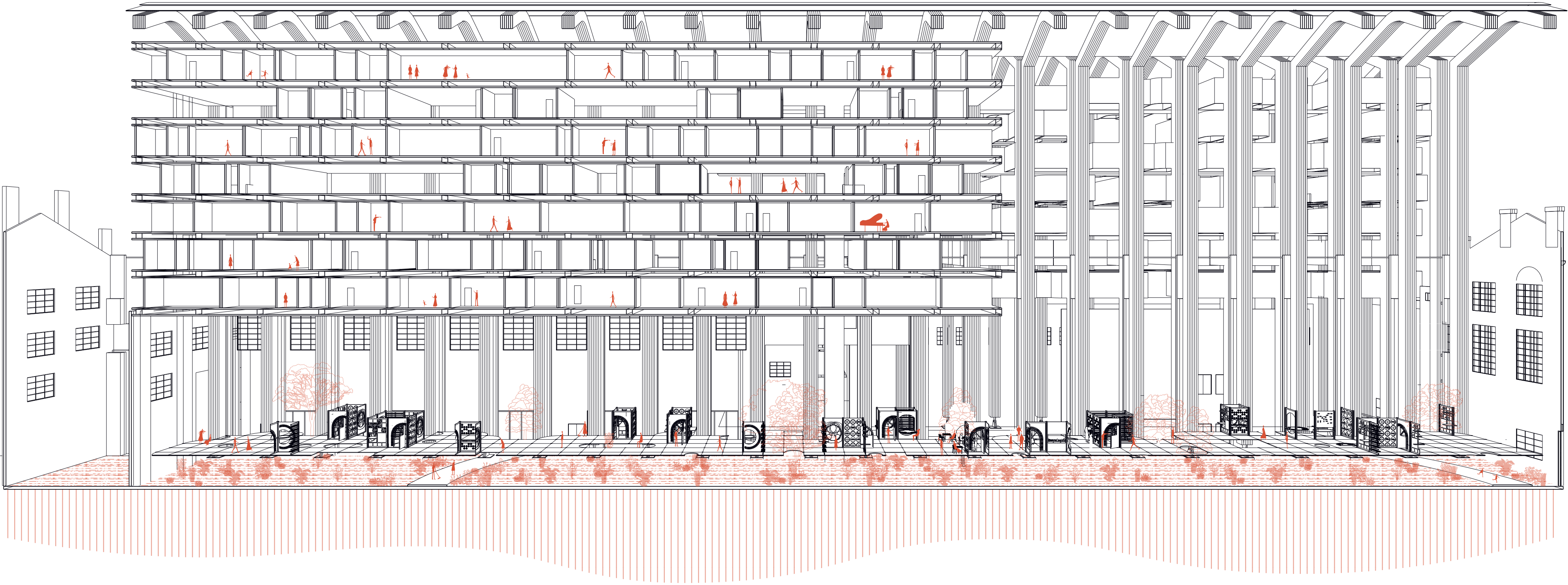
modular grid

in the unprogrammed
flexible space there is
an underlying grid into
which modular pieces can
be inserted to customise
the space



build to rent

home ownership becomes
less important when you
participate and feel
as though you belong to
and are supported by the
community



sectional perspective



conclusion

The Architecture of Degrowth is underdiscussed yet emerging in the field of architecture. The concept of Degrowth is confronting and uncomfortable. Green growth has been marketed to us as the solution. Stating that if we only change what we buy rather than when we buy and that we invest in tech to help solve our problems rather than looking at the problems at their core. Degrowth demands a restructuring of our societies and our consumer habits. These deeply ingrained ways of thinking cannot be changed overnight and require communities to work together. Housing could act as the tool to establish this new way of thinking. This alternative lifestyle could be achieved through these architectural principles outlined throughout this thesis. Through prioritizing key principles such as Care, Sufficiency and Autonomy, housing could become the impetus for more Degrowth aligned design and planning.

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