Cultivating the Habits of Coolth

Abby Mellick Lopes and Stephen Healy

1. Introduction: positioning design

This chapter extends the discussions of habit to the process of adapting to anthropogenically induced global warming. We reveal the role of designed practices, products and infrastructures in habituating urban populations to a changing climate. Our central concern is the 'world within the world' design has helped to create. In the rapidly densifying city, atmospheric commons are shaped and reshaped by human design; climate change is lived and felt in hostile heat islands and polluted, particulate-laden city air. Design offers a critical perspective on the dynamics that have shaped the city and organised the civic practices of its inhabitants. We apply 'defuturing'as a critical deconstructive mode of reading, derived from the work of Tony Fry (1999), to point to the designing relations shaping city atmospheres, infrastructures and modes of habituation. Design's ontological capacity is a second order agency rarely considered in the contexts in which design is most powerfully deployed to shape the materiality of the city. We argue as a practice involved in deliberately shaping future sociomaterial contexts, design is a crucial factor in climate adaptation and the forms such adaptation takes. Climate-aware modes of dwelling must be both cultivated and habituated by design.

Adaptation is a term seemingly split between the long duration temporality of biological evolution, where exogenous disturbances generate selection pressure inducing an organism to conform to a particular habitat, and the shorter time frame of social life where adaptability is a synonym for flexibility or resilience. Since René Descartes, human adaptation has been

shaped by technology's 'promise' to disburden human effort and conserve health (Borgmann, 1984). This cultural thematic has underpinned design and the 'invention of an infinity of devices' enabling enjoyment without labour. Design has exercised evolutionary agency in creating ever more novel ways to relieve physical effort, which, argues Fry (2005), have been at odds with the slower evolutionary time of our physicality. Over time, the process of designing our shared environment was also a process of dehabituating us. We see evidence of this in so-called 'obesogenic' city environments prioritising mobility by car or escalator, and more recently smart-phone postures that inure people to the immediate environment, creating further opportunities to delegate orientation to screen-based applications. Such maladaptative conditions emerge, argues Ezio Manzini (2003), from a negative reinforcing cycle of innovation: they give acceptability to a context of life that is degraded i.e., unhealthy, energy intensive, wasteful, unsustainable.

The example we explore in this chapter, fascinating for its natural and naturalising qualities, is cooling. In a rapidly warming world, cooling is a primal need. However the systems and infrastructures producing and characterising cooling in our designed worlds are also contributing to heating at local and global scales. Standing in the way of recogising this paradox is the entrenched path dependency of practices made durable by designed infrastructures, which 'embody and carry historically specific ideas about normal and appropriate ways of living, effectively transporting these from one generation to the next.' (Shove, 2015: 280). We concede the coming changes will sometimes require rapid, adaptive responses to ensure survival when current conditions turn hostile, such as in a heat wave emergency. However they also present an opportunity to position design beyond technocentric remediation, as a practice of 'making time' for the future (Fry, 2012). This means creating the conditions for ongoing life exchange that call on different styles of

attunement, thinking and habits of practice (Fry, 1994). Following Fry, our aim is to make time by actively responding to the relationship between design, habitutation and the longer process of adapting to a much warmer world.

The context for our exploration of the design of cooling is the explosive development of Western Sydney, a extensive region located to the west of the iconic harbour city. Three things converge in this place to call to mind the differential time frames of adaptation — all are critical for understanding how we might respond. First, in relation to the path-dependency described above, a habituated pattern of development: the unthinking way the same old-city is being stamped out neighbourhood after neighbourhood, generating built forms where artificial air-conditioning is both a necessity for survival and unequally distributed (Bambrick et al., 2011). Second, Sydney as part of the continent of Australia appears to be warming faster than predicted, where summer heat seemingly forces us to become ever more dependent upon shifting life indoors. There are estimates we are now spending 90 per cent of our time indoors, to the detriment of our health (Wakefield-Rann & Fam, 2018). Indoors is the designed air, excessively cool and severed from the earthly strain of producing it; outdoors is the air of consequence, the price paid for the 'entropic manufacture of coolth' (Prins, 1992). Third, and finally, the next phase of Sydney's development in the west may prove a salutary moment for shifting practice as future residential development is co-occurring with infrastructural mega-projects — new rail and transportation corridors as well as a second airport with a surrounding precinct for 250,000 people. In our view these grand plans will either repeat the maladaptive design of the past or present an opportunity to think with the coming community, their knowledges and aspirations, so the shape of the city supports our rehabituation in the face of a climate changing world.

‘Cooling the Commons’ is an ongoing research program exploring how to develop a shared capacity to re-build cities like Sydney as liveable environments in a warmer world. We envisage this city not as a collection of private spaces, but as an environment for shared convivial social life. While not eschewing air-conditioning entirely, we seek to decouple air-conditioning from the private enclave and to recognise its tendency to represent and replicate ‘command and control’ climate governance, as urban standards are continually exceeded in a changing climate (Marvin & Rutherford, 2018).

Coolth

Our alternative approach is to resuscitate the nineteenth century term ‘coolth’ associated with moments of coolness, feeling cool and *being* cool — the Oxford English Dictionary defines this latter usage as the ‘quality of being relaxed, assured, or sophisticated in demeanour or style’ (O’Conner & Kellerman, 2013). A pleasantly low temperature goes together with a ‘cool’ demeanour. It is also an embodied style or disposition: in African American jazz culture for example, being cool means to be at home in the world, well-adapted, comfortable in one’s skin. Research has shown the opposite is also true, the heat can bring harm and hot heads — writes Craig Anderson (cit. McKenzie, 2017), measured by assault rates, spontaneous riots, and domestic violence, aggression is higher during hotter days, months, seasons and years. There are histories to be written connecting climate to the volatility of human actions.

Coolth

We've lots of warmth, indeed
I vow
Coolth is our greatest need
Just now.

–*Wall Street Journal*, late August 1908

In amongst the columns of tightly packed financial news in the *Wall Street Journal* (echoing the hot, tightly packed buildings the paper was being read in and the high collared attire its readers were undoubtedly dressed in), this piece of double-spaced verse appears to offer its stressed readers a moment of respite, demonstrating how the therapy of 'coolth' has linked habits of mind to styles and habits of practice in an urban context for over one hundred years.

'Coolth' is currently more present as an automatised and standardised commodity, delivered by a device (Borgmann, 1984). Whilst in the technical literature on air-conditioning, the term has lost its scare quotes, its meaning settled as a technical competence, 'coolth' is still jarring to say and to hear. It's never shaken its 'odour of facetiousness' according to etymologists (O'Conner & Kellerman, 2013), possibly due to the twinning of style and temperature. But also, according to Salvatore Basile (2014), because in shuttling between bodies and machines, 'coolth' captures the embarrassing, puffed up hubris of human beings making a world within a world, ignoring the wider, shared world.

Here, we reclaim the social sensibility of coolth and deploy it as a critical term to describe and defend the experience and sensation of feeling cool in the hot city. Coolth conjures the feeling of a walk by the river, the relief of moving under shady canopy on a hot day, an evening picnic in a park, or even a window thrown open to catch an evening breeze. Through these examples we can see thermal comfort as a habit attuned to physical environments (Shove, 2003; Roberts & Henwood, 2019); it's something we *do* rather than a commodity delivered by a machine. Rather than pursuing a standard of thermal comfort, we agree with Yolande Strengers and Cecily Maller (2011) it's more helpful to aim for tolerable and manageable conditions in line with the goals of climate adaptation. Our aim is collectively to envision, remediate, build, inhabit and care for coolth, and the convivial urban commons that cultivate these habits, enabling the circulation of air and people and a shared life outdoors.

We pursue coolth in the context of the commons — the 'outside' extending to the city-assemblage we ineluctably share — that we could access, use, benefit from but also care for *collectively* and deliberately in a suite of new practices. Commons are 'places, resources, practices and knowledges shared (and cared for) by a community' (Gibson-Graham et al., 2013). The term 'commons' is frequently associated with distant places and times — the fields and forests of feudal Europe prior to enclosure. Contemporary commons theorists note many material and immaterial things are effectively accessed, used, maintained and shared by commoning-communities including knowledge, services and software. Rather than depleting the commons, this 'commoning' improves and strengthens a commons (Gibson-Graham et al., 2016). Commons require management, care and sometimes even defence. Communities must be active collaborators, as any commons can also be 'uncommoned': destroyed, privatised, depleted or stolen.

The possibility of cool commons emerges from a design-diagnostic practice of noticing and framing patterns across the natural, built and social environments of the city. Patterns are habituated practices, so deeply ingrained they can be difficult to discern without a deliberate practice of critical interrogation. Defuturing (Fry, 1999) is a mode of inquiry aiming to disclose the directional and ontological impetus of design, in this case the future-negating practices destructive of cool commons. We seek to identify patterns that close down or throw open the possibilities for coolth in relation to rhythms and cadence of social life over time. Accessing and using coolth, benefiting from it and caring for it, actually asks something from us as members of a community and citizens of a city: it requires us to become commoners, a process of following a different 'historical trajectory,' breaking from the ruinous path we are presently on towards new habits of thought and practice (De'Angelis & Harvie 2013).

In the following section we elaborate the history of air-conditioned coolth as a history of defuturing by design, the making of a world within a world that negates the shared terrestrial world and thus the future. When coolth is recoded as a quality of individuated buildings, the indoors becomes the primary territory for living at the expense of the 'negative space' outdoors, a turbulent and potentially hostile territory (Marvin & Rutherford, 2018). The routinised approach to urban planning ignores temporality and produces bodies habituated to stillness and thermal monotony (Healy, 2008). Survivability could be threatened should this city stop working, as volatility of energy supply and the threat of blackout has the potential to turn the city on its inhabitants.[i] In section three, we describe our intervention in this trajectory through an ongoing engaged research program that relies upon a particular conception of commons to identify other approaches to thermal comfort, which we frame as a

pattern language (learning from architect, mathematician and design thinker Christopher Alexander's influential work). For us, these two ideas — commons and patterns — constitute technologies for re-habituation, helping to engender a different approach to the forms and temporalities of urban development. In equal measure they also make different 'asks' of us as citizens. In the fourth and final section, we speculate on what it might look like to move Sydney from a place composed largely of new-comer citizens assimilating the alienating patterns of city life, to communities of cool-commoners.

2. From coolth to AC, Sydney as a de-futuring city

Air-conditioning (AC), writes Basile (2014) 'changed everything' creating the capability, at least for some, to be able to escape from rather than have to endure the hot world. With the introduction of manufactured cool air, 'coolth' lost its association with embodied experience and was recoded as a technical term, associated with fans, slabs, storage devices, labyrinths, units and volumes of space. Paul C. Stern (1992) writes the technical disciplines 'freed' society from a responsibility for 'a preference for coolth', hardwiring this into the city. Architecture as well as many other human territories including clothing, food and furniture were freed of their climate obligation. Stephen Healy (2008)[ii] traces the history of air-conditioning from its origins in climate-controlled manufacturing into office-space, apartments, private dwellings. AC's control and precision triumphed over other technologies emphasising ventilation and air-exchange. Over time, the expansion of AC has contributed to what Ronald J. Horvath (1974) termed the expanding 'machine space' of the city. Following Fry, we see the spread of air-conditioned spaces into buildings and vehicles, which are increasingly uninhabitable without artificial air, as a form of defuturing, a subtraction of future life exchange. Living, working and travelling in these spaces, we not only habitually

delegate the governance of our own experience of comfort to the machine, but also participate in the logical expansion of machine space, that as it rolls out covers over other ways of being in the world.

The il-logic of the machine city

Architectural historian David Gissen (2006) shows how the history of the design of modern buildings and cities from the late nineteenth century on, can be understood as an effort to thermally disconnect interior and exterior space. Gissen argues the largely ideological divide between inside and out is achieved at enormous cost, as the shared territory continues to insist itself in the circulation of people, pollutants, animals, smells, noise and so on, such that 'climate control' and the 'seemingly innocuous desire for a cooler city' (52), is a continually tested and volatile proposition. With attention and resources focused on the interior environment, the exhalations of buildings and the thermal relation of buildings to each other remain unconsidered.

Simon Marvin (2020) argues cooling technologies will increasingly be a matter of survival in hot cities. However, in Singapore and Dubai, air-conditioners are oriented to the street in the wealthiest areas to sustain the practices of the privileged, like shopping and eating *al fresco*, doubling down on commoditised coolth.

Across the world, technically cooled air is inequitably distributed. Those boxed in without air conditioning push their bodies to the limit of coping. During the Chicago heatwave of 1995, hundreds of people lost their lives as a result of the entrenched logic of spatial and social division governing the metropolis (Klinenberg, 1999: 240). In an important

work of ethical redress, Eric Klinenberg performs a 'heat autopsy' to demonstrate this entrenched logic, as city officials were blaming the victims of the heatwave, and their families and friends, for failing to take care of themselves during a so-called 'natural disaster' (274). Far from a natural disaster, Klinenberg shows it was the cumulative impact of climate, poor-quality housing, entrenched social disadvantage, and ineffectual government working together to inflict damage and disaster in the lower socioeconomic precincts of Chicago. The elderly and socially isolated, living in poorly maintained single-room hot boxes, made up a significant percentage of the people who died. In many cases they were too afraid to leave home or even to open their windows to let in cooler night air, as they lived in neighbourhoods with high levels of violent crime, and where degraded parks, streets and commercial areas were completely unviable as community spaces. Klinenberg reveals the heatwave as a structural, architectural and political failure (1999: 274), a pattern repeated in communities with few options the world over. He notes the city government neglected to learn from the adaptive practices of its residents, for example, some building managers employed staff to usher the alone and frail to cooled lobbies and provided them with food, water and medical assistance. This incident reveals both the inequities of private air-conditioning and a blindness to the possibilities of collective action in the face of the common peril of heat emergency.

Sydney following the template straight to hell

The city we are focusing on is far from Chicago with its worn spatial arrangements and grooves of practice layered in historical time. Rather, our focus is on the dynamic conurbation of Western Sydney, with its linearity, aspirational narratives of growth and

constantly shifting boundaries, which like many other expanding cities under the guise of business-as-usual, cover over and destroy other living ecologies and histories.

In a relatively short period of time, Greater Western Sydney is being composed of rapidly densifying centres and suburbs connected by roads exposed to the searing sky, where once woodland stood. These developments don't start small and slowly emerge. Rather, from levelled ground, they spread and 'surge'. Neighbourhoods are conceived on the basis of normative patterns arriving from elsewhere and on the basis of which the new neighbourhoods are imagined and delivered. This is the city constructed around an image of the 'boomtown', replete with twentieth century aspirational ideals of home ownership. Rather than commons being an essential infrastructure for a future community of commoners, commons are negative spaces, leftover from those designated for 'dwelling yield'. In this context, open spaces such as parks are an afterthought by developers responding to incentivised Voluntary Planning Agreements (VPAs). They are frequently designed to zero maintenance standards predictably creating unshaded, uninviting and unused spaces.

Sydney is presently a city of 5 million with a projected population of 8.3 million by 2050. As Sydney grows it will get hotter; climate change predictions have 50 degree days as a regular occurrence in Sydney with months above 35 degrees (Lewis et.al., 2017). The present landscape of Western Sydney is already hot, amplified by the habituated-logic of the machine city playing itself out in the city's built forms. How to challenge these habituated patterns and provoke coolth?

3. A Pattern Language

‘Cooling the Commons’ is a research program aiming to turn built environment futures away from a reliance on indoor air and toward alternative forms of habituation in the city. We employ a pattern language to identify the design grammar of the hot city with the political aim of revealing, intervening in and redirecting business-as-usual planning toward shared ways of living in cool commons.

In 1977 Alexander, along with his students, devised *A Pattern Language* — an extremely influential volume describing enduring patterns recurring in architecture and urban design and which together compose a coherent and socially connected city (Alexander et al., 1977). Each of the 253 patterns are arranged in a network described as a language of patterns, based on nesting relationships between individual patterns. Itself influenced by early developments in computing, *A Pattern Language* has had a far-reaching influence beyond architecture and urban design, for example in information systems and project management and in design for social innovation and sustainability (Jégou & Manzini, 2008; Lockton et al., 2013). Alexander et al. (1977: xiii), write:

> When you build a thing you cannot merely build that thing in isolation, but must also repair the world around it, and within it, so that the larger world at that one place becomes more coherent, and more whole; and the thing which you make takes its place in the web of nature, as you make.

In spite of the demiurgical tone of the discourse, very much of the time, Alexander’s innovation was in framing discrete patterns linking built form and social practices, understood as recurrent social performances. Patterns are not blueprints for specific designed things, but rather observed social and technical assemblages demonstrating how social life is

shaped by the design of the city; how these are grooved together. As Silke Helfrich and David Bollier (2019) write, 'patterns are identified, not invented. Identifying them is meant to make something latent visible.'(351) Identifying patterns makes a contribution to knowledge about the designed and designing relations constituting a city, and offer means of redirection.

To identify patterns, Alexander and his students conducted 'walkabouts', which aimed to ensure urban spaces were well designed at a human scale (Salingaros, 2018) and felt good to be in. As they wrote, 'In order to discover patterns which are alive, we must start with observation' (Alexander, 1977: 254). Part of this skill is making explicit the tacitness of the material conditions affording everyday social practices and the bodily performances of which they are composed. They also named patterns as another form of making-explicit — 'accessible green', 'quiet backs', 'connected play', 'public outdoor room', 'paths and goals' — resonating with the oft-repeated, somewhat ironic aspiration to create 'liveable cities' in the midst of the city as lived. Designers are adept at pattern recognition, as they inductively extrapolate general conditions and principles from specific observed examples, including the *style* of social practices (Tonkinwise, 2011) — how these are organised and performed. The technical poetics of the pattern language can thus be understood as an exercise in designing. The point of mobilising a pattern language is to propose alternative forms of habituation for city spaces from which commons have been erased or eroded.

In our study we and cohorts of students from Planning at Western Sydney University and Design at University of Technology, Sydney, applied this hermeneutic in walking new and renewing neighbourhoods in Western Sydney, including Macarthur Heights, Campbelltown and Green Square, to research the development of a collection of patterns for

cool commons. The sites offered examples of different densities and trajectories of development from which we discerned three pattern types:

- *Problem patterns*: legacies of the past that continue to be reproduced, specified or selected, and which are challenged by new social and environmental conditions and emergent values.

- *Remedial patterns*: ways to adapt or retrofit existing environments that leverage forms and processes already in place to make the lived-in world more habitable for the future. Here we are recognising ways to ameliorate a 'degraded context' with design interventions.

- *Ideal patterns*: which are associated with practices of master planning cool commons, but also with bringing recognition to commons needing defence into the future.

Going beyond Alexander's form focus, we also analysed the decision-making architecture of planning — *why*, *how* and *where* problem patterns are reproduced, but also where opportunities for redirection lay. These emerge across the moments of masterplanning, and handover of a development, where civil works and construction overlap with sales and initial settlement, as well as in the post-occupancy or 'lived in' stage, when residents have move in and a community is established (Mellick Lopes et al., 2020).

As an analytical tool, the pattern language helps us to imagine how cities habitually govern and manage the reproduction of patterns. The force of habit engenders a conservatism

and path-dependency in planning practices (Matthews et al., 2015); for the most part, what is done tomorrow, is prefigured by what was done yesterday. New social and environmental conditions demand ambitious innovation in planning and design processes, and new sensitivities in relation to what people want and need from their neighbourhoods in the much warmer Sydney of the future. So, in addition to analysis and illumination, the pattern is also a tool of intervention and redirection toward cool commoning.

Across the sites, but also in the tools of design decision-making and planning, the coordinates of the familiar development territory can be discerned as a set of problem patterns, colonising the future with the past, by design (Fry, 1999). We respond with remedial and ideal patterns, framed by real cases:

The greenfield site is designated as undeveloped land. A site earmarked for future development is often closed to public access due to this future use. In spite of its seeming openness for redirective opportunities, we found the greenfield site is 'pre-settled' in many respects, its value mapped in advance in master planning documents and 'requests for proposals' to show the maximum residential 'yield' to the detriment of public space and amenity. In response, and learning from the city of Stuttgart (Rehan, 2014), we propose patterns of thermal master planning and 'cool slopes' attending to natural wind patterns through fresh air corridors that enable ventilation throughout the city; undulations enabling shady places to rest or gather, and construction bans to protect these corridors over time, even as the city grows and densifies.

The automobile network. Designed on patterns of car-dependency, new neighbourhoods rarely grow from a base of pedestrian accessibility and walkability, even

while these features are prized indicators of social wellbeing in government strategic plans and resident sentiment surveys. The car is the dominant inhabitant — essential infrastructure. Roads go first, and often together with shopping centres and car parks; proximity to essential services is measured in drives, houses are designed to shelter cars and people, trees are planted in road-flanking rows keeping sight-lines open, rather than in heat-reducing groves; footpaths go last, and often without any real commitment to providing extensive, logical linkages for the pedestrian. The human character of a place is obscured by a machinic landscape. The infrastructure put in place represents a long game, a decision about the habituated practice of daily life, for decades to come. In addition to cool master planning, we propose the pattern of 'shaded pedestrian linkages', which recognises trees and footpaths as essential infrastructure, of equal standing to buildings, roads and services (Hogg & Armstrong, 2019). While Western Sydney's new suburbs have few mature trees to preserve, the future growth of young trees needs the policy protection of tree preservation orders.

Figure 1: Machine space in the hot city. Photo: Helen Armstrong

Home as enclosure. Home is understood as the material envelope of the house, rather than the world as given (Fry, 2012) or as a distributed infrastructure of care enabling circulation through places of respite and movement (Mellick Lopes et al., 2019). Underpinning the design of homes and the orientation of the new-comer is an assumption that the desire for enclosure is a constant, shutting out neighbours and the ever-warming world just outside. Ironically, fences, walls and closed windows negate the capacity for cooling breeze to circulate. Coded as insiders, we might form a habit of closing all the windows and turning the air conditioner on, and thus miss the relief of an afternoon breeze or a welcome southerly buster. A key part of our research was to render this common visible, and propose 'home' as a distributed proposition, oriented to the breeze, furnished with amenities to support comfortable mobility and resources to guide the manipulation of houses to maximise access to coolth.

The narrative of 'choice.' Sovereignty is an imaginary suffusing the discourse of planning and the sales pitch to the prospective buyer of 'lifestyle as choosing this and not that' (Maycroft, 2004: 65; Southerton, 2012). Prospective residents are positioned as individual homemakers, offered a series of aesthetic options realised as model homes. The homeowner as sovereign over his castle is for feminist theorist Joan Tronto (2017), one place among many where *homo economicus* has displaced other political imaginaries. Home choice in this sense is key to functioning independently, as a sovereign caring for oneself, with implications for everything from our children's education to our old-age retirement. This 'sovereignty' makes us dumb to all the other choices being made in the design of the built environment, including those promoting so-called 'lifestyle disease'. Often, the options are 'off the plan' or in a nascent stage of development, where the visual language is of 'what will

be' (for example billboards showcasing future shady, vital public spaces). The city as projected conceals the city as delivered. In response, we propose an expanded role for community liaison agents in the delivery and post-occupancy phases of a development, who would welcome newcomers as commoners, and where the longer-term impacts of aesthetic choices such as building form, materials and colour on thermal comfort, might be presented.

These problem patterns have played themselves out in the development of Sydney in the last three generations as the city moves west, suburb by suburb and, now, precinct by precinct. As the much warmer world of today and other sustainability challenges become widely shared concerns, they have been incorporated into these existing patterns, which shape and constrain imagined responses to these challenges. The patterns inform 'bodily intelligence' (Hynes & Sharpe, 2015) and are ontologically significant. While habit is an ontological force carrying the potential for redirection, our styles of life, of being, take shape in relation to the materials and spaces of everyday encounter, where habits of practice are inaugurated and sustained. If habits are often held to become like a 'second nature' this is, we argue, a designed nature. In this sense, the patterns are coordinates, forms of ontological orientation reinforced by assumptions about human behaviour such as those repeated by representatives during our site visits – 'people only care what hits the hip pocket', 'people don't want to use the parks in the evening', 'people prefer to move around by car' – as though these were fixed constraints. These habitual assumptions derived from framing people as self-interested consumers (who can only be tricked or nudged through what behavioural scientists call 'the choice architecture'), have developed the character of 'common sense' in its interlocutions across sales narratives, literatures and spaces. Once realised, these coordinates are difficult to break. But difficult isn't impossible. The Cooling

the Commons research program seeks to follow a thread connecting ontological design, planning, and habits of practice towards a cooler, common future.

Strengers (2014) provides an excellent example of how such a designed ontology takes shape. She identifies a home-owner called *Resource Man* as a relative of *homo faber* and *homo economicus*. Strengers notes the world resource man inhabits is predicated upon technologies of habituation — peak power pricing acts as a stick to push him towards judicious use of power in his smart home, while smart grids allowing him to on-sell solar power, act as a carrot. The implication being that designing for 'resource man' prefigures our becoming 'resource men'. The breathless enthusiasm surrounding the smart home obscures crucial realities of household space, most notably overlooking 'almost entirely, what people actually do in their homes. We don't see the daily domestic dynamics and routines involved in preparing meals; cleaning the body, clothes, and homes… many of which are still predominantly performed by women' (Strengers 2014: 28). What solutions do we miss when these realities are ignored? Strengers explores what adaptive design approaches attuned to the household divisions of labour, and to the external environment, might look like — including sunny days for laundry, windy days for bread baking, and hot days as a time to slow down. (30)

We are inspired by Strenger's attempts at rethinking how thermal adaptive responses inside the home could provide a template for a broader process of adapting suburban environments. This is an imagined possibility, dependent upon both recognising and shaping the habits of daily life — the labours performed there, and the pleasures enjoyed.

'Coolth and the commons'?

The habits of coolth we seek to cultivate return responsibility for governing thermal comfort to our bodies, claiming the right to trust again our senses (Prins, 1992) and requiring the ability to read environments for patterns delimiting or enabling coolth. Unless we think about how people access, use, derive benefits but also care for an urban environment, we're only looking at part of the picture. We propose 'cool commons' as a design approach and framework for evaluating, permitting access to, and taking responsibility for the availability of coolth in warming cities across generations. The qualities of coolth are not single properties but a result of patterns in the urban environment's natural, built, and social features. Responsibility for maintaining coolth would therefore need to be widely distributed — involving developers, the state, and residents livinge with and using it. Sociable coolth requires a mobilisation of collective social practice and governance.

In our view, the possibility of a cool commons depends upon being able to think in common with planners, architects and policy makers responsible for making large-scale decisions about the future Sydney. It means injecting a sensibility for cool commons into guidelines and practice. In the following section, we speculate on what forms of social practice and habitation might call forth the cool commoner.

4. The Sydney Already on its Way: Commoning by Design

We begin this section with a reminder; things are already on their way: 1) Western Sydney is growing rapidly, 2) much of this development is occurring at the precinct level, and 3) the heat. While 50 degree days aren't yet a regular feature of Sydney's climate, by

2050 they are likely to be. The convergence of these three things in our shared immediate future are the context for thinking about thermal adaptation across time. This includes the possibility of redesigning planning so planners are capable of 'thinking in common' and intergenerationally, and how pattern-recognition might shift habits of thought in professions, opening new possibilities for thinking and action.

In equal measure this means there is a need to reconceptualise city dwellers, citizens, as people who are (in spite of the erasure of commons and infrastructures of care) thinking and acting like commoners. One way of thinking about this ontological shift comes from a radically different context. Neera Singh (2017) describes how villagers in Odisha India — mainly women — came to think of themselves as the custodial commoners of the forests surrounding their village only after illegal logging impinged on their daily use of the forest for food, fodder, medicine, and building. These incursions rendered explicit the relationship between the forest and the women who accessed, used and cared for it. Singh describes how new habits of practice emerged such as families sharing the task of walking the bounds of the commons with a stick as an emblem of authority, and the pleasure of a shared meal in the forest. These activities produced an awareness of what they already were: forest commoners — a pattern recognised, not invented.

These elements — a catalysing imperative and an adaptive response, a set of practices constituting custodial care, and new forms of collective pleasure — offer a way of understanding how design can call forth the commoner in Western Sydney. Ultimately what's required here isn't a definitive common-design, but rather creating the capacity to think like a commoner, including a capacity to make use of the tacit knowledges and commoning-experience Sydneysiders already here and those to come, possess.

Making the commons visible, thinking in time, activating the commons

From our perspective, while it's true problem patterns define cities like Sydney, habituating us to certain ways of being individuals, city space is, nonetheless, shared. Like the women of Odisha, we are already commoners. The pattern language we elaborate makes us sensitive to both what constitutes the city as a space while enlivening our imagination to how it might be otherwise, including how it might be shared and commoned both immediately and into the future.

One object-lesson we received was through a visit to the Macarthur Heights Development, a thousand-home subdivision nearing completion next to Western Sydney University's Campbelltown campus. In the centre of the new suburb's only park, we encountered a playground that appeared initially as an exemplar of bad design in the warmer world to come: no shade, sparse young Eucalypts with pendulous leaves, shining metal play surfaces in full sun, dangerous-looking climbing structures, and soft-fall playground surfaces can reach a scorching 80 degrees during the summer months in full sun.

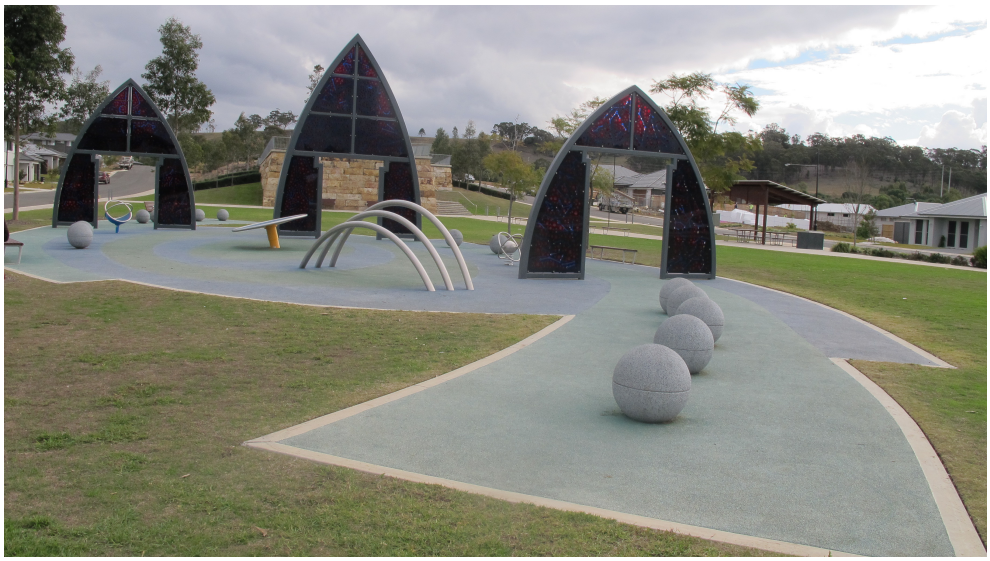

Figure 2 Main Ridge Park during the day Macarthur Heights Campbelltown NSW.

Photo: Helen Armstrong

It was only later when we learned what the park was intended for, we began to see it for what it was. Built atop observatory hill, the park was designed to complement observation of the night-sky from the observatory platform behind it. This was a park for stargazing, designed in response to feedback from the community, Macarthur Astronomical Society and Aboriginal elders.

Our initial reading of the park, informed by the familiar pattern of outdoor play spaces in hundreds of parks across Western Sydney, wasn't adjusted through signage to indicate what the intended use of the space was, or indeed through what we were told about it by site managers, foreclosing on the possibility of it being shared as a cooler night commons. For us, this speaks of the disconnect between the technical/material design of any feature in the built environment and the frequently unacknowledged sociality of its use.

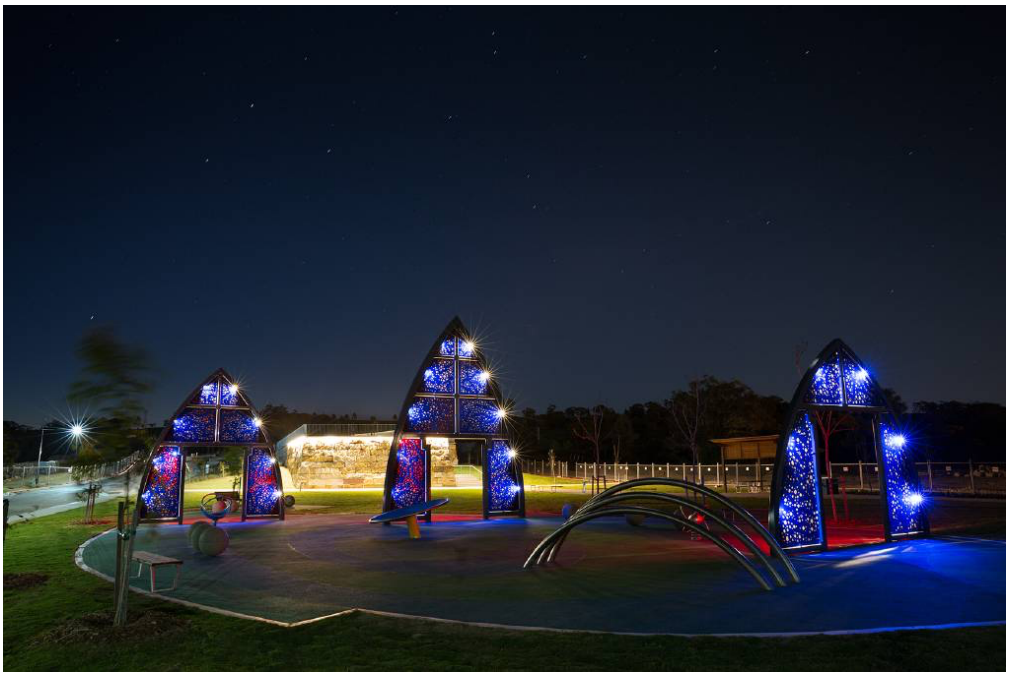

Figure 3 Main Ridge Park at night. An art installation by Khaled Sabsabi (2014).

The residents who are to use this park as intended need induction into the possibilities of its use. While the night park might be a somewhat unfamiliar concept in the context of Western Sydney, it's not totally unfamiliar either — there are a number of lively night spaces in Sydney, of a permanent and intermittent sort. Night markets are a thriving common in South East Asia. But of course, what comes with darkness are concerns around safety, noise, lighting and light pollution. This night commons *could* work in this part of Western Sydney because many of the people living there come from hot parts of the world where night time is social. The viability of a night commons may revolve around transposing and reactivating this cultural-capacity and connecting it to other patterns — appropriate night-lighting balanced with alternative provisions for safety, social/cultural activities for the whole community, transportation considerations, and much else.

If patterns aren't so much invented as recognised, then a first step is an intervention that facilitates pattern recognition to cultivate new habits for those involved in development,

who in turn lay the groundwork for differently habituated patterns of life. Following Fry (2019) and Gibson-Graham (et al., 2013) an equally important second step is thinking in time — in relation to the design of cool commoning as social practice, indeed as a style of life, into the future. Part of repatterning is identifying timely interventions such as:

- Commoning solutions that remediate maladaptive patterns (for example, design features blocking the circulation of breeze),
- re/development attuned to spatial context (for example, designing with contours to maximise wind flow, tree selection and planting arrangement to maximise shade),
- transitional patterns providing cool socialisation while landscape features mature (for example, mobile play parks), situating cool commoning as a process occuring in time, and making time.

Conclusion

We began this Chapter by drawing out the mutually constitutive relationship between habits of practice and the world shaping power of design to inform the habituation of the city. The designed city as the spaces we inhabit, and that habituate, may, by design, re-habituate us to adapt to new realties. We define cities as common spaces both in the sense that their use is ineluctably shared, but also in the sense that the patterns composing city space are distributed properties existing only in sharing.

We propose cool commons as an adaptive response to climate change. Cool commons depend upon habit as a style of thought and bodily practice. Thinking like a commoner can only mean acting like one too, as citizen-commoners, planners, developers, and policy-makers — not only their present actions but their capacity to think in time, on an

intergenerational time-scale (Fry, 2019). In our view one immediate task for these commoners is the development of culturally appropriate heat-emergency planning coupled with the designation of emergency cooling refuges (including repurposed buildings) for vulnerable populations, an extension of the actions of those few buildings managers in Chicago in the mid-90s. What is new here is our application of the pattern language, a design proposition for cultivating the habits belonging to cool commoning, disrupting the il-logical defuturing of the machine city. Premised on living practices, we contend these can support the adaptive capacity of communities of commoners in the uncertain and unsettling times to come.

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[i] 'Passive survivability' was a term coined by Alex Wilson in the wake of Hurricane Katrina in 2005. It refers to the need for buildings and cities to be able to maintain critical life-supporting conditions in the event of extended loss of power, fuel or water (Wilson, 2006).

[ii] We note that this Stephen Healy is a history of science scholar based in Australia who shares a name with one of the authors of this paper.